|       | CKET        |
|-------|-------------|
| DATE  | MAR 30 2011 |
| RECD. | MAR 30 2011 |

State of California State Energy Resources Conservation and Development Commission

| In the Matter of:         | ) |
|---------------------------|---|
| Oakley Generating Station | ) |
|                           | ) |
|                           | ) |
|                           | ) |

Docket # 09-AFC-04 Exhibit 412 Pipeline Testimony of Robert Sarvey Footnote # 6

# REPORT OF PACIFIC GAS AND ELECTRIC COMPANY ON RECORDS AND MAXIMUM ALLOWABLE OPERATING PRESSURE VALIDATION

http://www.cpuc.ca.gov/NR/rdonlyres/98DC029C-6A77-4AB4-9E3B-3721A004F28F/0/01MAOPValidationReport\_final\_March152011.pdf Page 16, Appendix A page 13, 14,15

# **BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking on the Commission's Own Motion to Adopt New Safety and Reliability Regulations for Natural Gas Transmission and Distribution Pipelines and Related Ratemaking Mechanisms

R.11-02-019 (Filed February 24, 2011)

# REPORT OF PACIFIC GAS AND ELECTRIC COMPANY ON RECORDS AND MAXIMUM ALLOWABLE OPERATING PRESSURE VALIDATION

STEPHEN L. GARBER JONATHAN D. PENDLETON Pacific Gas and Electric Company Law Department 77 Beale Street, B30A San Francisco, CA 94105 Telephone: (415) 973-2916 Facsimile: (415) 973-5520 E-Mail: J1PC@pge.com

JOSEPH M. MALKIN Orrick, Herrington, & Sutcliffe LLP The Orrick Building 405 Howard Street San Francisco, CA 94105 Telephone: (415) 773-5705 Facsimile: (415) 773-5759 Email: jmalkin@orrick.com

Attorneys for PACIFIC GAS AND ELECTRIC COMPANY

# **BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking on the Commission's Own Motion to Adopt New Safety and Reliability Regulations for Natural Gas Transmission and Distribution Pipelines and Related Ratemaking Mechanisms

R.11-02-019 (Filed February 24, 2011)

# REPORT OF PACIFIC GAS AND ELECTRIC COMPANY ON RECORDS AND MAXIMUM ALLOWABLE OPERATING PRESSURE VALIDATION

Pursuant to Ordering Paragraph 3 of the Commission's Order Instituting Rulemaking, Pacific Gas and Electric Company (PG&E) submits this status report on the first phase of its efforts to validate its gas transmission records and the maximum allowable operating pressure (MAOP) of each of its gas transmission pipelines.<sup>1</sup>

# I. INTRODUCTION

Since the September 9, 2010 accident in San Bruno, PG&E has taken significant steps to improve the operations and safety of its natural gas system. We are committed to learning from the San Bruno tragedy, incorporating the lessons learned into our operations, and sharing those lessons with the rest of the industry. PG&E's efforts include, among others, taking steps to validate and enhance its record-keeping practices, as reported here. This report also describes

<sup>&</sup>lt;sup>1</sup> The Commission directed PG&E to validate its records for its gas transmission lines in Class 3 and Class 4 locations and Class 1 and 2 high consequence areas (HCAs). This is not the definition of HCAs that PG&E uses for its integrity management program. Nevertheless, for ease of reference, in this report PG&E uses "HCAs" to refer to all the pipe segments in Class 3 and Class 4 locations and Class 1 and 2 HCAs, and phrases such as "HCA pipelines" and "HCA miles" to refer to the pipelines covered by the records validation, not PG&E's integrity management program.

PG&E's plan to inspect and field test its pipelines, including hydrostatically testing or replacing approximately 150 miles of HCA pipeline segments this year.

Effective July 1, 1961, with its first gas pipeline General Order (GO) 112, the Commission required new pipelines in California to be pressure tested before being put into service. Federal law adopted a similar requirement in 1970. Thus, all PG&E pipelines installed after July 1, 1961 would have been pressure tested under the California or federal requirement.

To date, PG&E has identified records of pressure tests for 91% its post-July 1, 1961 HCA pipeline segments, and more than 30% of the HCA pipelines installed before that date. While we have made good progress, we are not satisfied with these results and will continue to search for and review our files for the remaining pressure test records and provide the Commission with regular updates on our efforts.<sup>2</sup>

PG&E establishes the MAOP of its pipelines pursuant to the Pipeline and Hazardous Materials Safety Administration (PHMSA) regulations, which the Commission adopted unchanged in General Order (GO) 112-E. Under the state and federal regulations, MAOP may be determined in three ways: (1) by use of design pressure information on all pipeline components, where such information is available; (2) by a pressure test; or (3) for pipelines installed prior to July 1, 1970, by means of 49 C.F.R. § 192.619(c) (Section 619(c)).<sup>3</sup> Section 619(c) provides for the determination of the MAOP of a pipeline segment based on the highest

<sup>&</sup>lt;sup>2</sup> Following the Commission's January 3, 2011 directive, PG&E mobilized hundreds of employees and external resources to gather, scan, and analyze approximately 1.25 million records. Many of these teams have worked in shifts, 24 hours a day, seven days a week. PG&E also contacted more than 37,000 current and former employees and contractors in an effort to determine whether they had any relevant documents that were not in PG&E's possession. While we have made significant progress, our efforts are ongoing.

<sup>&</sup>lt;sup>3</sup> Although the January 3, 2011 urgent safety recommendation of the National Transportation Safety Board (NTSB) called on PG&E to review its records and validate the MAOP of its gas transmission lines, nothing in the NTSB's public reports to date suggests that the MAOP of the segment of Line 132 that ruptured was not properly established under Section 619(c).

actual operating pressure between July 1, 1965 and June 30, 1970. PG&E has identified pressure test records and/or other records reflecting the historical operating pressure for nearly 92% of HCA pipeline segments installed prior to July 1, 1970,

During the NTSB hearings on March 1 - 3, 2011, it was suggested that it may be appropriate to reevaluate Section 619(c). PG&E supports a thoughtful review and enhancement of existing safety standards, including phasing out the use of historic operating pressure to establish MAOP of pipelines in California and nationally. PG&E believes the Commission should use this Rulemaking to consider adopting new pipeline testing standards and methods of establishing MAOP. Any new regulatory standard should include a reasonable transition period to avoid potentially significant impacts to customers.

PG&E plans to aggressively inspect, field test, and potentially replace many of its pipeline segments within HCAs. This year PG&E will hydrostatically test or replace approximately 150 miles of HCA pipeline segments with records similar in vintage or other characteristics to the records for the segment involved in the September 9, 2010 accident in San Bruno.

PG&E will expand its field action and inspection program to certain other HCA pipeline segments as rapidly as possible. Tests will include in-line inspections with "smart pigs" and new camera inspection technologies, as well as pressure testing. When indicated by field testing or engineering analysis, PG&E will excavate, further inspect and/or replace pipelines. This plan will be informed by the final NTSB report and this Rulemaking, and may be further refined as appropriate.

The next section of this report outlines the relevant requirements for documenting MAOP. Section III describes PG&E's MAOP validation approach. Section IV contains the

results of the MAOP records validation in more detail. Section V sets forth a timeline and plan for PG&E's validation field work, testing or pipe replacement activities, and discusses the potential customer impacts of additional pressure reductions.

PG&E will be posting on www.pge.com maps showing its gas transmission pipelines, the HCA pipelines subject to this record validation, the pipelines for which PG&E has not yet located records, and the pipelines PG&E plans to hydro test or replace this year.

# II. APPLICABLE REQUIREMENTS FOR DOCUMENTING MAOP

Neither the federal regulations in 49 C.F.R. Part 192 nor the Commission's GO 112-E specify what records must be maintained to substantiate MAOP.<sup>4</sup> Both PHMSA and CPUC regulations establish recordkeeping obligations with specificity in various areas,<sup>5</sup> but none are specific to MAOP documentation. Instead, the applicable pipeline safety regulations allow for a practical evaluation of what records are deemed sufficient, using a common sense "best information available" standard, on a case by case basis.<sup>6</sup>

 $\frac{5}{2}$  See, e.g., 49 C.F.R. §§ 192.491(a) – (c); 192.517(a), (b); 192.553(b); 192.709(a), (b); 192.807(b), all requiring certain records to be maintained for either five years or the useful life of a pipeline.

<sup>&</sup>lt;sup>4</sup> The PHMSA regulations are silent with respect to what records must be retained to substantiate MAOP under any of the three permissible methods, other than the broadly stated requirement to "keep records necessary to administer the procedures established" in each company's Operations Manual. 49 C.F.R. § 192.603(b). The Commission's regulations in GO 112-E are similarly general, requiring utilities to "maintain the necessary records to ensure compliance with these rules and the Federal Pipeline Safety Regulation, 49 CPR [sic], that are applicable." Until the adoption of GO 112-E in 1995, the Commission's former requirements extended to "[p]lans covering operating and maintenance procedures, including maximum actual operating pressure to which the line is intended to be subjected. . . ." In D.95-08-053, adopting GO 112-E, the Commission that remains in the GO today.

<sup>&</sup>lt;sup>6</sup> In guidance on integrity management, PHMSA stated: "Operators should use the best information they have available . . ." PHMSA FAQ-205 (issued in response to the question of whether original pressure test recording charts or other source documents must be provided; raised in the context of implementing integrity management programs).

Of the three methods to establish MAOP, only pressure testing is associated with any express recordkeeping requirements, and PG&E has already identified pressure test records for more than 93% of its post-July 1, 1970 HCA pipelines. Where a pressure test has been performed under Subpart J of the regulations, a specific PHMSA recordkeeping provision applies (without reference to MAOP). That provision, first effective in 1970, states that operators shall create and retain "for the useful life of the pipeline," a record of each pressure test that contains at least the following information: (1) the operator's name, the name of the operator's employee responsible for making the test, and the name of any test company used; (2) test medium used; (3) test pressure; (4) test duration; (5) pressure recording charts, or other record of pressure readings; (6) elevation variations, whenever significant for the particular test; and (7) leaks and failures noted and their disposition. 49 C.F.R. § 192.517(a). Until it adopted the 1970 federal regulations, the Commission did not require retention of pressure test records.

The regulatory requirements applicable to gas transmission pipe have changed over the years. The requirements fall into three general vintages: (1) pipe installed prior to July 1, 1961; (2) pipe installed between July 1, 1961 and June 30, 1970; and (3) pipe installed July 1, 1970 and later. Pressure testing was not required by either State or federal law prior to 1961; for pipe installed between July 1, 1961 and June 30, 1970 the Commission required pressure tests; and after 1970 federal law required pressure tests on all newly constructed pipe. As described in more detail below, PG&E has undertaken extensive efforts to collect all relevant records, and these records have been organized in accordance with the applicable legal requirements by installation date. For those segments where MAOP was established by pressure test, the relevant records may include a variety of materials meeting 49 C.F.R § 192.517(a). Where MAOP was

determined pursuant to Section 619(c), the relevant records may include a variety of documents that support the actual operating pressures experienced in the five years prior to July 1, 1970.

When it first adopted pipeline safety rules in 1960, this Commission made clear that the rules in GO 112 were not to be applied retroactively to existing installations "insofar as design, fabrication, installation, established operating pressure, and testing are concerned."<sup>7</sup> Congress made a similar policy decision in the Natural Gas Pipeline Safety Act of 1968 by precluding the application of new design, installation, construction, initial inspection and initial testing standards to existing pipelines.<sup>8</sup> The NTSB and Commission request for "traceable, verifiable and complete" records supporting PG&E's MAOP determinations must be viewed in light of the legal requirements applicable at the time the records were created. To do otherwise would be to establish an *ex post facto* standard that no utility could meet.

Although PG&E supports the reevaluation and enhancement of existing safety standards, any new rule should include a reasonable transition period to avoid potentially widespread service interruptions to customers in PG&E's service territory, throughout California and across the United States. Nevertheless, as described below PG&E plans this year to hydrostatically test (hydro test) or replace approximately 150 miles of HCA pipelines. Thereafter, PG&E will conduct field tests on the remaining HCA pipelines that have not been pressure tested.

## III. PG&E'S PHASED MAOP VALIDATION APPROACH

PG&E has approximately 1,805 miles of gas transmission pipeline subject to the current records review and MAOP validation effort. The 1,805 miles are Class 3 and 4 locations and Class 1 and 2 HCAs identified by PG&E's Geographical Information System (GIS) system throughout PG&E's service territory. GIS is the system PG&E uses to determine the class

<sup>&</sup>lt;sup>2</sup> See GO 112, § 104.3 (adopted December 28, 1960).

<sup>&</sup>lt;sup>8</sup> See Pub.L. 90-481, sec. 3(b), 82 Stat. 720 (August 12, 1968).

location of its pipelines and what segments are in HCAs. For the present review, PG&E only used the GIS system to identify the 1,805 miles of HCA pipe to examine. The rest of the review has been done by collecting and examining underlying records.

PG&E's MAOP validation effort is divided into three phases, outlined below.

### A. Phase 1: Records Collection, Review and Validation

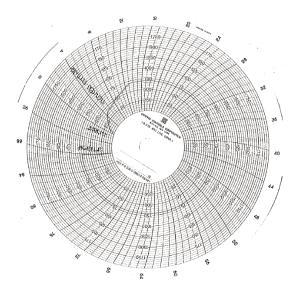
Phase 1 of PG&E's MAOP validation effort has focused on collecting and reviewing pipeline records to determine whether PG&E has "traceable, verifiable, and complete" records of (1) pressure tests on HCA transmission pipelines; and (2) a pipeline's highest actual operating pressure from July 1, 1965 through June 30, 1970, for HCA pipelines installed prior to 1970 where the MAOP was established pursuant to Section 619(c).

Neither the NTSB nor the Commission defined "traceable, verifiable and complete." Nor is that phrase contained in the applicable regulations. PG&E understands the intent to be to identify reliable records confirming the performance of a pressure test or the determination of MAOP based on the historical high operating pressure.

For purposes of this report, "traceable, verifiable and complete" pressure test records are records that 1) contain each of the four elements described below, and 2) correlate to a specific pipeline or section. Consequently, in Phase 1, PG&E first confirmed that a pressure test record exists for a particular job number by focusing on the "Strength Test Pressure Report" (STPR) that is completed for each pressure test. The following is an example of an STPR:

|  |  | S OPERATIO   |  | 6838  | (USE IN ACC)<br>WITH GAS S<br>AND GO (112)  | 20 A-14  |
|--|--|--|--|---|---|--|
| LINE 105   | EASTIBAY   | 687  | 1MATE OF GM N                            | o.   b  | 11-4-71   |  |
|  | "TPLINEIO  | SAL  | LEAN                                     | DRO S   | T. w/a  |  |
| SEMINARY   | AVE PAKLAN   | De-  |  | LOCATION CI                                   | CENTR   | AL ,   |
| 275 PS/  | E REABON FOR USE IF UND  | ER 304   | IF REQUIRED B                            | r GO112                                       | J   | GO112  |
| 244 11 CLASS 3 OR 4 LOC  | TIONS - SEC NULE 401.24  | •<br>•   |  | S PIPELINE<br>ED FROM<br>Rosion?<br>Iot Regid | RULE 401.2 A3 HA<br>BEEN PROTECTE<br>HAZARD37   | NOT REGID  |
|  |  | ST PRESSU  | (IF "NO" EXPL                            | A I N)  | (IF "NO" EXPLA  | (IN)   |
| AX. PETS LOW BLEVATION   | MIN. PBIG (HIG<br>4/3/   | H ELEVATION)   |  | PERIOD OF T                                   | еэт (мін. <mark>(1 ноц</mark>   | a  |
| PIPE S(24' (0. 0.)   | WALL THICKNESS   |  | RW. DSAW, SEA                            |   | IN FIELD)<br>FOOTAGE T  | ESTED  |
| 30"  | .312   |  | LX GNX.                                  | 52  | 57'   |  |
| DATE, TIME REACHED TES   | T PRESSURE   | TEST DATA  | FLUID USE                                |   |   |  |
| ATE. TIME TEST ENDED   | OO Pm  |  |  | ST PRESSUR                                    | (E  |  |
| 4-20-722 - 72  |  |  | REPERENC                                 | E DRAWING N                                   | 0.  |  |
| CHEMATIC SHETCH SHOW L   | G.C. GAS   | TED. MIN. & M  | AX. ELEVATION                            | IN FEET, AN                                   | O INCORPORATED  | AREAS.   |
| F HONE SAY SHONE . USE   | SPACE BELOW  |  |  |   |   |  |
|  |  | <u> </u>   |  |   | 1.<br>  | 1997 (B. 1997)<br>1997 - 1997 (B. 1997)<br>1997 - 1997 (B. 1997) |
|  | (P   | BAM GES  |  |   |   | 59   |
|  | FDM BWA<br>MRL GAS CO  |  | N  |   |   |  |
| 4  | BON APR  | 261972   | DV                                       |   | ele el compositore de la compositore de<br>La compositore de la c |  |
|  |  |  | PB                                       |   | -EL 6.1   |  |
|  |  | FILC   | 2  | i Al  | 4   |  |
| 6 6  | S / JELAS  |  |  |   | -   |  |
|  | V.   |  |  | 45 4  |   |  |
|  | 7 <u> </u>   | 33'  |  |   |   |  |
| DISTRIBUTION   |  | ي.<br>موري وي  |  |   |   | ÷.   |
| DIST AS SUPT JOB FILE  |  | a de la companya de la | 5 - T                                    | •   |   | ·*   |
| DIST AS SUPT - JOS FILE<br>DIST DAS SUPT.<br>SC GAS ASSIGNED JOBS<br>GAS SYSTEM DESIGN (J)<br>FLANT ACCTO (WITH<br>FOREMAN'S COPY OF JOBJ  |  |  |  |   | a tha a second  |  |
| REPORT FALLURES  | and the second states  | n na shina a shina a shina<br>An an  | an a | en e      |   |  |
| Mar of the state o | ىرى بەير <mark>ىيەتىيەتلەر – -</mark> يېزىسىيە <del>سىر</del> يەتىلەتلەكلە | an a   |  |   | GPSOIR0020  | 0165   |

While the STPR was the primary source document for verifying pressure tests, PG&E also used other available records that contain information about pressure tests, including STPR charts such as the following:



In addition to these documents, a 1968 report PG&E submitted to the Commission documents both pressure tests and the establishment of the MAOP based on actual operating The Commission's D.73223 (October 24, 1967) required all California gas pressures. corporations to submit a report describing existing pipelines operating or intended to be operated at or above 20% of specified minimum yield strength (SMYS). The Commission directed that the report include MAOP and corresponding hoop stress, description and physical characteristics of the pipeline, and initial or most recent test data. The following is a sample page from PG&E's report, submitted to the Commission in May 1968:

| <u> </u>   |            | ~             | • •            | · · · ·            | . •          |             |                   |                   |                |     |
|--|------------|---------------|----------------|--------------------|--------------|-------------|-------------------|-------------------|----------------|-----|
|  | MA         | IN <u>101</u> |                |                    | DATE C       | F SUR       | IEY 4             | -20-68.<br>3-1-69 | - `            |     |
|  |            |               |                |                    |              |             |                   |                   | st 1 of        | 4   |
| يونيونيونيونيونيونونونو في دوموكني مورد ميومو<br>د   |            |               |                |                    |              | [           | HOOP              |                   |                |     |
| SECTION  | YEAR       |               | HYSIC:<br>M.T. | L CHAPACTERISTICS  |              | MAOP        | STRESS<br>3 SEYS  |                   | TEST DA        |     |
| Ana amin'ny soratra dia mampina amin'ny soratra amin'ny soratra dia mampina dia mampina dia mampina dia mampina<br>Amin' amin'ny soratra dia mampina dia m | 1 1 2 1 1  | 1 0.0.        | <i>M</i> •1•   | CRADE              | J.F.         | <u>P310</u> | 13 <u>13 1</u> 22 | S UATE            | MEDIUM         | PES |
| MP.0.00-MP.2.30  | . 1965.    |               | .350.          | API 5L X 52        | <u>.00</u> د | _400        | 40                | 1.965             | Water          |     |
| MP 2.30-MP 2.33  | 1956       |               | .344           | AP1 5L X 52        | 1.00         | 400         | 38                | 1956              | ļ              | Lei |
| MP 2.33-MP 2.36  | 1963       | 36            | .422           | API 5L X 52        | 1.00         | 400         | 33                | 1963              | Water          | 108 |
| MP 2.36-MP 2.41  | 1956       | .34           | .438           | API 5L X 52        | 1.00         | 400         | 30                | 1956              |                | Lea |
| MP 2.41-MP 2.46  | 1966       | 36            | .438           | API 5L X 52        | J.00         | 400         | 32                | 1966              | Water          | 108 |
| ₽ 2.46-MP 2.53   | 1963       | 36            | .422           | API 51 X 52        | 1.00         | 400         | 33                | 1963              | Water,         | 10  |
| IP 2.53-NP 3.11  | 1965       | _36           | .350           | API 5L X 52 ·      | 1.00         | 400         | 40                | 1965              | Water          | 970 |
| ₽ 3.11-MP 3.24   | 1956       | 34            | .375           | API 51 X 46        | 1.00         | 400         | 39                | 1956              |                | Lea |
| P_3.24-MP_3.29   | 1965       | _36           | ,350           | API 51 X 52        | 1.00         | 400         | 40                | 1965              | Water          | 9   |
| IP 3.29-MP 3.33  | 1963       | 36            | .438           | API 5L X 52        | 1.00         | 400         | 32                | 1963              | Water          | 101 |
| IP 3.33-MP 9.80  | 1965       | 36            | .350           | API 5L X 52        | 1.00         | 400         | 40                | 1965              | Water          | 97  |
| 9.80-MP 10.64  | 1965       | 36            | .350           | AP1 51 X 52        | 1.00         | 250         | 25                | 1965              | Water.         | 91  |
| 10.64-MP 10.85   | 1958       | 30            | .3125          | API 5L X 42        | 1.00         | 250         | 29                | 1959              | Water          | 80  |
| P 10.85-NP 11.46   | 1929       | 20            | .250           | PG&E Spec. (1)     | .80          | 250         | 38                | 1929              |                | Lea |
| P 11.46-MP 11.75   | Under      | 20% SMY       | s              |                    |              |             |                   |                   |                |     |
| P 11.75-MP 11.88   | 1958       | 30            | 3125           | API 51. X 42       | 1.00         | 250         | 29                | 1959              | Water          | 80  |
| P 11.88-MP 12.69   | 1929       | 20            | .250           | PC&E Spec. (1)     | .80          | 250         | 38                | 1929              | 1.1 10 1.100.1 | Lea |
| P 12.69-MP 13.51   | Under      | 20% SMY       | з.             |                    |              |             |                   | }                 |                |     |
| P 13.51-MP 14.40   | 1929       | 20            | 250            | PG&E Spec. (1)     | .80          | 250         | 38                | 1929              |                | Lea |
| P 14.40-KP 14.57   | 1956       | 20            | 250            | API 5L GRD.B       | 0.0          | 250         | 29                | 1956              |                | Lea |
| P 14.57-MP 14.95   | 1929       | 20            | 250            | PC&E Spec. (1)     | .80          | 250         | 38                | 1929              |                | Lea |
| P 14.95-MP 15.73   | 1955       | 20            | 3125           | API 5L GRD.E       | 1.00         | 250         | 23                | 1955              |                | Lea |
|  | API        | - 4-          | orian          | Fetroleum Institu  |              | •           |                   |                   |                |     |
|  | 424        | - Mi          | la Pos         |                    | 106          |             |                   | •                 |                |     |
| •  | V<br>Maci  |               | lve<br>viruri  | Allewable Operatio |              | /           | :<br>             |                   |                |     |
|  | FSIC       | ) Po          | unda p         | er Souara Inch Cai | 126          |             |                   | i-s' ba           | ige 4)         |     |
|  | SMYS<br>JF | 5 - Sp        | ecific         | d Minimum Yield St | rength       | of pi       | r.e               |                   |                |     |
|  | U.r        | - 20          | 100 17         | ctor for longitudi | nal ke       | ld in       | pipe              |                   |                |     |
|  |            | ·             |                | •                  |              |             |                   |                   |                |     |
| (1) PG&E Spec.   | . singl    | c submer      | ged an         | °c, 33,000 SMYS.   |              |             |                   |                   |                |     |
| • <sup>-</sup>   | -          |               |                |                    |              |             |                   |                   | •              |     |

For the present report, PG&E deemed "complete" pressure test records to be those that contain the following four elements: 1) name of operator, 2) test pressure, 3) test duration, and 4) test medium. If the initial review of the records did not include all four of these elements, additional analysis was required to determine if other sources of information were available to substantiate the prior pressure test. As reported below, PG&E considers those pressure tests identified as "partial record" to be reliable documentation of the completion of a pressure test, even though the currently available records only contain two data elements, generally pressure and operator name. The 1968 CPUC filing contains the year of the test, the test pressure and the medium. The Commission accepted this report without challenge, underscoring its reliability.

49 C.F.R. § 192.517(a) includes three additional recordkeeping elements: "(5) Pressure recording charts, or other record of pressure readings; (6) Elevation variations, whenever significant for the particular test; and (7) Leaks and failures noted and their disposition." With respect to "(5) Pressure recording charts, or other record of pressure readings," the STPR contains a field for contemporaneous entry of the pressure reached, which is "[an]other record of pressure readings." Wherever available, PG&E confirmed that the pressure reached on the pressure chart correlated with the pressure entered on the STPR. Elevation variations, and leaks and failures and their disposition, would not logically exist for every pressure test, but only those where elevation variations were significant for the test or where leaks were found. PG&E documented these elements when applicable and available.

PG&E's validation of records supporting the 1965-1970 highest operating pressure for pipelines with MAOPs established under Section 619(c) used a variety of PG&E business records that represent the "best information available," consistent with PHMSA guidance. The starting point was operating documents, such as the following pressure log:

## MAXIMUM OPERATING PRESSURE

| TRANSMISSION | MAINS - | LINES | 101,1091 | 132 |
|--------------|---------|-------|----------|-----|

|       |       | -      |        |       |         | ANTI  | OCH-BI | RENTWO | OD     |        | 67.5  | SAN     |        |      |     |  |  |
|-------|-------|--------|--------|-------|---------|-------|--------|--------|--------|--------|-------|---------|--------|------|-----|--|--|
|       |       |        |        |       | PR      | ESSUR | ES     | ٧      | OLUME  | S      | ATMOS |         | PRESSU | JRES |     |  |  |
|       |       |        |        |       |         |       |        |        |        |        | TEMP. |         | MILPI  | TAS  |     |  |  |
| TUBE  | TUBE  | TOTAL  | TOTAL  | DIFF. |         |       |        |        |        |        |       | 109     | 101    | 132  | SAL |  |  |
| 21    | 52    |        |        |       |         | -     | 1      |        |        |        |       | 34      | 33     | 34   |     |  |  |
| 82    | 45    | 157    | 16.0   | +3    | 4163    | ø     | 420    | 6.7    | 6      | 7.5    | 13-   | 350     | 3:0    | 350  | 16  |  |  |
| .6    | So.   | 145    | 150    | +5    | 470     | S     | 4:1    | 1,0    | 4      | 16     | 52    | 752     | 35     | 352  | 16  |  |  |
| 40    | 50    | 120    | 124    | +1    | 460     | 6     | (192   | 52     | Er.    | 27     | 54-   | 321     | 3.1    | 3:1  | 14  |  |  |
| 32    | S.    | 110    | 106    | -4    | 451     | 5     | 454    | 27     | 6      | 77     | 13-   | 33.     | 330    | 770  | 16  |  |  |
| 341   | 50    | 44     | 24     | -01   | 453:    | 4     | 4/30   | 22     | 6      | 78     | ist   | 3:1     | 301    | 320  | 16  |  |  |
| 92    | 70    | 27     | 29     | +2    | 41.18   | 1     | 4.2    | 92     | £      | 19     | かさ    | 360     | 3600   | 5.1  | 16  |  |  |
| 24    | 31    | 85     | 83     | -2    | 445     | ø     | 4]3    | 4.3    | 4      | 77     | -14   | 375     | 37.0   |      | 16  |  |  |
| 2.4:  | 22    | 8.3    | 841    | +1    | 450     | 8     | 414    | 47     | 1      | 45     | 742   | 3.90    | 350    | 190  | 16  |  |  |
| 20    | 30    | \$ 2   | 82     | 12    | 4152    | r     | -163   | 44     | r      | 6.8    | 725   | 392     | 39~    | 1392 | 1   |  |  |
| 28    | 15    | n      | 7.4    | 41    | 458     | V     | ullo   | 25     | v      | 678    | 765   | 399     | 3.99   | 395  |     |  |  |
| 4.6   | 2     | 16     | 7.4    | - 2   | 1.00    | r     | NWS    | m      | -      | n      | 72    | 400     | 400    | 402  |     |  |  |
| 431   | *     | 1.3    | 7.5    | 13    | V       | r     | 440    | 48     | r      | 69     | 635   | 392     | 395    | 394  | 1   |  |  |
| 1.8   | r     | 7.8    | 7.6    | 2     | /       | v     | 434    | 151    | in     | 7.0    | 1     | 390     | 340    | 5:40 |     |  |  |
| 47    | v     | 11     | 73     | -4    | 1       | V     | No     | 1 pl   | N      | 22     | 615   | 380     | 333    | 5380 | -   |  |  |
| 17 1  | 1     | 111    | 7.5    | -2    | 162     | r     | 430    | 53     | r      | 24     | 59-   | 376     | 376    |      | -   |  |  |
| 4.2   | SV.   | 22     | 7.1    | )     | 46s     | 2     | NAS    | -      | r      | 74     | 195   | -39.0   |        | 390  | 17  |  |  |
| 37    | -6-   | 6.7    | 6.8    | 4.1   | 4160    | 6-F   | 11:8   | 2.9    | -6-    | 7.1    | 580   | 395     | 395    | 390  |     |  |  |
| 7.2 . | 6     | 63     | 6.3    | 5     | 464     | out   | 440    | 2. 2   | 5      | 7.1    | 570   | -95     | 5.95   | 59-  | 1   |  |  |
| 2.3   | 4     | 6.:    | 6.2    | -1    | 464     | ant   | 440    | 22     | -      | 7.3    | 554   | 791     | 192    | 242  | 1   |  |  |
| 3.5-  | 6     | 6.5    | 6.5    | -6-   | 464     | Gut   | 438    | 2.2    | - semi | 7.4    | 550   | 387     | 287    | 307  | 1   |  |  |
| 3.8   | 4     | 6.8    | 6.7    | -1    | 462     | quit  | 435    | 2.5    | 4      | 7.3    | 52 6  | 290     | 390    | 390  | -   |  |  |
| 4.8   | 6     | 7.8    | 7.7    | 1     | 456     | out   | 140    | 3.1    | *      | 7.1    | 524   | 393     | 39.5   | 1    | 11  |  |  |
| 7.8   | 22    | 40     | 8.7    | 3     | 4155    | ant   | 435    | -      | r      | 7.2    | 52    | 285     |        | 215  | 1/6 |  |  |
| 4.7   | 50    | 12.7   | 12,3   | 11    | 460     | ent   | 126    | 2.4    | æ      | 7.5    | 530   | 250     | 350    | -    | 16  |  |  |
| 40    | 1.8   |        | 1-2-   | *     | L       |       |        | 1      |        |        | 1     | 1       | 376    | -    | -   |  |  |
| CHERS | AND O | PERATO | DRS ON | DUTY  |         |       |        | 84     | - 13   |        | -     |         |        |      |     |  |  |
| MIL P |       |        |        | ANTI  | ERNINAL |       | KETT   | LEMAN  | BRE    | NTWOOD | 3     | AN JOSE |        |      |     |  |  |
|       | Jos   | L      | tes    |       |         |       | Jet :  | UN.    | 9      | 140    | 4     | 0.03    | a      |      |     |  |  |
| 1     | Saw   | 10th   | Lies   | KS_   |         |       | twe.   | NSIN   | Jan    | MIAN   | Cu    | apul    |        |      |     |  |  |
| EN    | 11.   | V      |        | due   |         |       | lid    | tim    | 271    | llean  | 1.1   | ration  |        |      |     |  |  |

The records reviewed also included (a) the 1968 CPUC report, discussed above; (b) a chart of Maximum Operating Pressures (MOPs) and MAOPs compiled between November 1973 and March 1975 by Steven Phillips, then a Gas Engineer in the Codes and Standards Section of PG&E's Gas System Design department, with input from Robert Becken, also a Gas Engineer in the Gas System Design department; (c) the Appendix A to PG&E's Standard Practice 463-8, effective May 1, 1975, documenting MOPs and MAOPs, worked on by Mr. Phillips' successor, James Grinstead, from April 1975 to mid-1976; and (d) Drawing 086868. Declarations from Mr. Phillips, Mr. Becken and Mr. Grinstead, detailing their work, are attached to this report as

Attachments A, B and C, respectively. As described in Mr. Becken's declaration, Drawing 086868 too the place of the MAOP appendix to the Standard Practice in 1979 and has been updated regularly since that time (it is currently issued in Rev. 20). One page from the chart prepared by Mr. Phillips is Exhibit A to his declaration and Exhibit B to Mr. Becken's declaration; a copy of the entire document is being provided separately to the Commission's Consumer Protection and Safety Division (CPSD). Standard Practice 463-8, effective May 1, 1975, is Exhibit A to Mr. Grinstead's declaration, Exhibit B to Mr. Phillips' declaration and Exhibit A to Mr. Becken's declaration. The first version of Drawing 086868 (1979) is Exhibit C to Mr. Becken's declaration. These business records, compiled from other PG&E business records and from reports from employees with personal knowledge of the actual operating pressures are more than sufficient documentation under Section 619(c).

#### **B.** Phase 2: MAOP Validation of HCA Pipelines

From the work completed to date, PG&E has verified that the records it has identified support the MAOP for about 95% of the miles of HCA pipe whose MAOP was established pursuant to Section 619(c). PG&E's Phase 2 MAOP validation effort will focus on completing the verification that the documents identified in Phase 1 support the MAOP of each HCA segment and analysis of not only the pipeline segments but also each component within the HCA pipeline system (e.g., valves, fittings, etc.) to validate the MAOP of the overall system. That process will begin with a more comprehensive examination of the records PG&E has collected and centralized through the Phase 1 effort, in addition to excavation and field testing of pipeline systems as appropriate. PG&E expects to complete this more comprehensive Phase 2 MAOP validation analysis by the end of 2011, and will provide periodic progress reports to the Commission.

## C. Phase 3: Extension of Phase 1 & 2 to Remaining Gas Transmission Lines

PG&E's Phase 3 MAOP validation work will extend the work performed in Phase 1 and Phase 2 to the remainder of PG&E's gas transmission lines. In this effort, PG&E will apply the same rigor initially applied to the 1,805 miles of Class 3 and 4, and Class 1 and 2 HCA lines across its entire transmission system. Phase 3 is forecast to begin in the spring of 2011, and is expected to be completed by the end of 2012.

## IV. RECORDS VALIDATION RESULTS TO DATE

The following table shows the results to date of PG&E's Phase 1 records review:

| Records                          | Installed<br>Before<br>7/1/1961 | Installed<br>7/1/1961 to<br>6/30/1970 | Installed<br>7/1/1970<br>and after | Total  |
|----------------------------------|---------------------------------|---------------------------------------|------------------------------------|--------|
| Pressure Test (Complete Record)  | 88                              | 273                                   | 658                                | 1,018* |
| Pressure Test (Partial Record)   | 79                              | 34                                    | 19                                 | 133    |
| Pressure Test (1968 CPUC Filing) | 56                              | 4                                     | N/A                                | 59     |
| Section 619(c) Documentation     | 425                             | 30                                    | N/A                                | 455    |
| Still Reviewing Records          | 76                              | 12                                    | 52                                 | 140    |
| Total Miles                      | 723**                           | 353                                   | 729                                | 1805   |
| % Pressure Test Records          | 31%***                          | 88%                                   | 93%                                | 67%    |
| % Pressure Test Records or       | 90%                             | 97%                                   |                                    |        |
| Section 619(c) Documentation     | 9                               | 2%                                    | 93%                                | 92%    |

## MILES OF PIPE RECORDS BY INSTALLATION DATE

\* For approximately 270 miles of the lines for which PG&E has verified pressure test documentation, the STPR footage tested does not equal the pipeline HCA footage. PG&E will further analyze all job-related documents such as construction field drawings, sketches, letters, and job notes to confirm that all relevant portions of the line have been pressure tested.

\*\* Total does not sum due to rounding.

\*\*\* Pressure testing was not required before July 1, 1961.

PG&E is providing CPSD with eight DVDs that include all the documents identified in this first phase. Because many of those documents contain employee names, PG&E is

submitting them under Public Utilities Code § 583. PG&E will promptly redact the employee names and then make the DVDs available to all interested parties.

PG&E is continuing to collect and review records for all 140 miles identified in the table as still under review. The 88 miles of pre-July 1, 1970 pipelines still under review should be viewed in historical context. First, no regulation required PG&E to retain the underlying pressure records prior to July 1, 1970. The Commission's first recordkeeping requirements called for gas utilities to maintain "plans covering operating . . . procedures, including maximum allowable operating pressure," but not any of the underlying documents supporting the determination of the MAOP. Second, most of the continuing review of these records involves a painstaking manual process of trying to match the descriptions in documents 35 or more years old with current pipeline segment designations.

## V. FIELD PLAN OF ACTION AND POTENTIAL CUSTOMER IMPACTS

In addition to the continued records validation described in Section III, PG&E is immediately moving forward with a plan of field actions, starting this year with hydro testing or replacing 152 miles of HCA pipelines.

#### A. Field Plan of Action

Phase 1 of the current records analysis identified 699 pipeline segments – approximately 152 miles – for which PG&E has not located pressure test records and for which the records indicate the segments contain either: 1) pre-1962 24 to 36 inch double submerged arc welded (DSAW) pipe or 2) pre-1974 seamless pipe greater than 24 inches in diameter. PG&E selected these criteria for this year's field actions because their records have common characteristics with the records for the ruptured segment of Line 132.

Of these 152 miles, 80 are on PG&E's backbone transmission lines 300A, 300B and 400.<sup>9</sup> The remaining 72 miles are on PG&E's local transmission lines. As discussed in more detail below, PG&E plans to hydro test or replace all 152 miles of pipe this year. PG&E plans to hydro test or replace this pipe because those are the shortest lead-time options. Making a line capable of in-line inspection can take two or more years, and other inspection technologies, which may be suitable in the future are not yet sufficiently proven. After this initial phase, PG&E will perform field work on the remaining 436 miles of HCA pipelines that have not been pressure tested or that have potential issues identified by the industry (as described in subsection 2 below).

### 1. <u>2011 Hydro Testing Or Pipe Replacement</u>

The 152 miles of HCA pipe PG&E plans to hydro test or replace this year are spread over 24 pipelines. Because the miles of each pipeline are not contiguous and are not always located near valves, PG&E's work will extend over more than 250 miles of pipelines. The following table lists the pipeline route, mileages and proposed actions:

///

///

///

<sup>&</sup>lt;sup>9</sup> The "backbone," or mainline transmission pipelines are those that interconnect with interstate pipelines at the Oregon and Arizona border, respectively, to bring natural gas into California from Canada and the U.S. Southwest region. The backbone also includes the Bay Area loop, Lines 107, 114, 131, and 303.

|          |             |                | Pipe Miles to<br>be Tested/ |                                |
|----------|-------------|----------------|-----------------------------|--------------------------------|
|          |             |                | Replaced in                 |                                |
| Route No | # of Tests* | Miles Targeted | 2011                        | Proposed Action                |
| L-021A   | 2           | 0.09           | 3.55                        | Hydro test two sections        |
| L-101    | 4           | 0.29           | 0.79                        | Hydro test four sections       |
| L-105A   | 2           | 3.86           | 5.35                        | Hydro test two sections        |
| L-105A-1 | 0           | 0.004          | 0.004                       | Replace one small segment      |
| L-105C   | 1           | 1.57           | 1.76                        | Hydro test one section         |
| L-105N   | 4           | 4.29           | 14.49                       | Hydro test four sections       |
| L-107    | 2           | 1.86           | 3.89                        | Hydro test two sections        |
| L-109    | 0           | 1.38           | 2.00                        | Replace pipe from 2011 to 2014 |
| L-114    | 1           | 0.06           | 0.06                        | Replace one small segment      |
| L-131    | 5           | 4.53           | 16.61                       | Hydro test five sections       |
| L-132    | 8           | 30.86          | 44.34                       | Hydro test eight sections      |
| L-132A   | 1           | 0.81           | 1.46                        | Hydro test one section         |
| L-147    | 1           | 0.96           | 3.23                        | Hydro test one section         |
| L-153    | 4           | 19.73          | 19.73                       | Hydro test four sections       |
|          |             |                |                             | Hydro test two sections        |
| L-191    | 2           | 3.95           | 7.37                        | Replace one small segment      |
| L-300A   | 23          | 38.36          | 51.63                       | Hydro test 23 sections         |
| L-300A-1 | 1           | 0.61           | 0.61                        | Hydro test one section         |
| L-300B   | 22          | 33.43          | 55.97                       | Hydro test 22 sections         |
|          |             |                |                             | Hydro test one section         |
| L-301G   | 1           | 0.02           | 0.61                        | Replace two small segments     |
| L-400    | 7           | 0.74           | 11.51                       | Hydro test seven sections      |
| L-400-3  | 1           | 0.87           | 4.01                        | Hydro test one section         |
|          |             |                |                             | Hydro test two sections        |
| SP - 3   | 2           | 0.49           | 5.75                        | Replace two small segments     |
| SP - 5   | 1           | 3.05           | 3.87                        | Hydro test one section         |
| 0821-01  | 0           | 0.002          | 0.002                       | Replace one small segment      |
|          | 95          | 151.83         | 258.60                      |                                |

\* The number of tests may change depending on elevation issues of it additional records are found during the engineering phase showing that these segments have already been hydro tested.

PG&E's 2011 plan will require multiple hydro testing crews working simultaneously. PG&E estimates that each hydro test will require approximately two weeks, taking into account set up, testing, clean up and water disposal and an additional period for any potential remedial action the hydro test indicates to be necessary. PG&E anticipates conducting at least 95 hydro tests to cover the 152 miles of pipe. Scheduling this much work will be complex since electric generation loads peak in July and August, limiting the ability to shut down pipelines during those months. PG&E believes this plan, while aggressive, will give it the flexibility to reschedule and rearrange work if necessary due to gas capacity constraints or emergency repairs or replacements on the system. Recognizing the importance of this work, PG&E has already begun to prepare the applications for the necessary permits from the federal, state and local governments (e.g., encroachment, water disposal). Timely receipt of all necessary permits is a key factor in PG&E's ability to execute this work plan this year, and PG&E will use all means available to expedite them.

### 2. <u>Other Field Actions</u>

Beyond this work, PG&E has prioritized for further assessment approximately 435 miles of HCA pipelines for which PG&E has not yet located pressure test records and that meet the following criteria (in priority order): 1) pipelines containing low frequency electric resistance weld (ERW), single-submerged arc weld (SSAW), lap weld or flash pipe installed prior to 1970; 2) pipelines installed prior to 1970; and 3) pipelines installed after 1970.

The field action program on these additional 435 miles of HCA pipeline will be based on further analysis of and tailored to the unique characteristics of each pipeline. In some cases, it will be most appropriate to perform in-line inspections with so-called "smart pigs" equipped with special "crack" tools capable of examining weld seams; this may require physical modifications to the pipeline to allow in-line inspection. In other cases, where the physical configuration of a pipeline cannot currently accommodate "smart pig" technology and modifications are too difficult or time-consuming, a pressure test may be performed. In addition, other emerging technologies, such as advanced camera inspection, may soon be applied to multi-diameter pipelines without taking those lines out of service. These state-of-the-art technologies could become the quickest and most effective method of verifying the weld and seam characteristics on a pipeline. Finally, in some instances, it may make sense to simply replace the pipe altogether. Many pipelines will require a combination of actions that will best serve the overall pipeline system.<sup>10</sup>

In the months since the San Bruno accident, PG&E has worked aggressively to develop its Pipeline 2020 Program. A key component of that program is PG&E's pipeline modernization decision model based on the underlying principles of pipeline integrity management. This model considers for any given pipeline a wide range of factors, including age, manufacturer, size, weld type, corrosion, ground conditions, and class location, among others, in determining the most appropriate field action. PG&E is applying this "decision tree" model to determine the most appropriate field action for the 435 miles of HCA pipeline described above.

These field actions are both ambitious and foundational to PG&E's commitment to operating all of its pipelines at pressures that safely provide reliable natural gas service to its customers. The work ultimately performed will be an iterative process. Some of the work will be determined by the results of other physical inspections, such as excavations, that may indicate, for example, that immediate pipe replacement makes more sense than pressure testing. Other important considerations that will impact both the timing and field assessment method used will include whether PG&E can obtain timely access to the pipeline area to safely excavate and test the line, timely obtain any required land rights, local and state water disposal (in the case of hydro testing) and excavation or encroachment permits, and provide for adequate back up natural gas facilities in order to minimize the impacts on customer use.

PG&E will work with state and local government agencies and officials, emergency responders and customers in the areas where PG&E intends to perform these field actions. To

<u>10</u>

See Kiefner & Associates, Inc., "The Benefits and Limitations of Hydrostatic Testing" by J. Kiefner and W. Maxey, pp 5-6. http://www.kiefner.com/downloads/apihydro.pdf.

provide the Commission and the public with transparency into this work, PG&E will submit periodic progress reports to the Commission updating its progress and the latest schedule of field actions.

In addition, much of this work will overlap with the policies and practices the Commission is developing in this proceeding as well as Phase 2 of PG&E's A.09-09-013 (Gas Transmission & Storage Rate Case). As the Commission considers and adopts rules for all California natural gas pipelines, PG&E may revise the scope and/or timeline of these field actions to be consistent with the Commission's developing policies. This plan will be further informed by and refined after the final NTSB report. PG&E also anticipates that the costs associated with these field actions will be raised and resolved in the Commission's Rulemaking; however, PG&E is not waiting for resolution of cost recovery issues to begin the field actions identified above.

## **B.** Additional Pressure Reductions Could Adversely Impact Customers

As noted above, PG&E has documented pressure test records or historical operating pressures for over 90% of the 1,805 miles of HCA pipelines on its transmission system. PG&E has already reduced pressure to 80 percent of MAOP on over 190 miles of 10 pipelines and distribution feeder mains. Additional reductions could compromise PG&E's ability to execute substantial planned pressure testing this year. Even more significant, further pressure reductions could jeopardize PG&E's ability to meet customers' natural gas needs and may create serious public safety risks.

The mileages for which PG&E is still reviewing records and for which it plans hydro testing in 2011 may seem relatively modest, but they represent only the HCA portions of PG&E's pipelines. Pressure reductions affect not just the HCA segments, but the entire pipeline and, depending on the location of the pipeline in the system, may affect other interconnected pipelines as well. For example, 80 miles of the HCA pipe PG&E is going to hydro test or replace this year is on its backbone system. A pressure reduction on these 80 miles of HCA pipe would affect more than 1,300 miles of total backbone pipeline or nearly 25% of PG&E's transmission system.

The backbone system not only serves to bring natural gas into California, the large quantity of gas in the backbone pipelines also provides a form of storage for the entire system, helping to meet the daily and hourly changes in system demand and providing the capacity to inject gas into storage. PG&E estimates that a 20 percent pressure reduction on the backbone system would reduce system inventory capacity by as much as 67 percent and storage injection by 10 percent. In addition, a pressure reduction on the backbone would result in substantially more frequent Operational Flow Orders (OFO), significant risk of Emergency Flow Orders (EFO), and a risk of uncontrolled customer outages.

In periods of high natural gas usage, reduced backbone pressure and the associated diminished capacity can cause uncontrolled customer outages when pipeline pressure is insufficient to meet demand, creating significant public safety risks. This can happen both in winter, when heating demand for natural gas is high, as well as on hot summer days when electric generation units draw heavily on natural gas supplies to meet peak electric generation demand. In an uncontrolled outage, the public safety risk is heightened because pipeline pressure decreases to the point that customer pilot lights go out, while residual gas remains in the system that could migrate back into homes and businesses, and ignite.

To avoid the safety risks associated with uncontrolled outages, PG&E would need to implement controlled curtailments in such situations. In a controlled curtailment PG&E must shut off service proactively to both residential and business natural gas customers in the affected

region. A controlled curtailment can last for many days, and can happen at any time of year. As noted above, the natural gas transmission system experiences peaks not only in the cold winter months due to customer heating demand but also in the summer when natural gas-fired electric generation helps to meet high cooling demand. In a controlled curtailment PG&E must close multiple valves controlling supply to an area or neighborhood in order to deplete the pressure on the line, and then individually turn off every residential or business meter and service valve in that area. The pipeline system must then be purged of natural gas to eliminate any air that may have entered the de-pressurized system. Natural gas service can only be safely restored on a customer-by-customer basis, because at each residence or business PG&E must open the service valve, check for leaks, re-light pilot lights and check appliances. Depending on the number of customers impacted, this process can take weeks, or even months.<sup>11</sup>

The impact of further pressure reductions is not limited to the extreme energy demands associated with very cold winter or very hot summer days; additional reductions are also likely to affect normal operations, maintenance and important system improvements. For example, PG&E uses the milder springtime months to buy natural gas at lower prices and inject it into storage for later use during those more extreme temperature days of winter and summer. Wholesale shippers, who supply gas to many noncore customers on PG&E's system, do the same. With lowered system capacity, it is likely storage injection will be insufficient to meet peak demands of all customers this coming winter. Further, as part of its Pipeline 2020 Program, PG&E has committed to install more than a dozen automated or remote shut-off valves as part of

<sup>&</sup>lt;sup>11</sup> PG&E can only estimate the amount of time it would take to complete service restoration to potentially tens of thousands of business and residential natural gas customers. PG&E has had little experience with natural gas controlled curtailments for residential customers on a large scale; however, because it is necessary to visit, inspect and test each service connection individually, the process is likely to take much longer than electric customer restoration.

a pilot program this summer. To execute this pilot program effectively, it will be necessary to have a pipeline system that offers the greatest flexibility, or redundancy, to reroute supplies while those valves and their related infrastructure are installed on other sections. In other cases, the ambitious pipeline testing program PG&E will begin this spring may entail taking significant sections of natural gas transmission lines out of service for days or weeks at a time, which will reduce system flexibility and system redundancy. Virtually every action PG&E takes – whether testing, repair, replacement or upgrade – requires taking part of a pipeline out of service. Pressure reductions on other pipelines diminish PG&E's ability to use alternate means to serve customers during such planned outages.

The impact of a 20 percent pressure reduction on local transmission can also be severe even without backbone pressure reductions. Depending on the location and scope of additional reductions, residential and business customers could experience interruptions in service. The following table sets forth two examples of the effect on a moderate winter day of a 20 percent pressure reduction on local transmission alone:

///

///

///

| Description   | Local<br>Transmission<br>HCA Miles | Local<br>Transmission<br>Miles<br>Affected | Consequences<br>(moderate winter day)  |
|---|------------------------------------|--|--|
| Pipe segments<br>without complete<br>pressure test records<br>and with pre-1962 24<br>to 36 inch double<br>submerged arc<br>welded (DSAW) pipe<br>or what is recorded as<br>pre-1974 seamless<br>pipe greater than 24<br>inches in diameter | 72                                 | 570  | <ul> <li>Core residential and small business customers curtailed 20 - 30 days/yr</li> <li>20,000 - 50,000 people affected (7,000 - 15,000 accounts)</li> <li>Noncore curtailed 35 - 40 days/yr</li> </ul>  |
| Pipe segments<br>described above plus<br>segments containing<br>low frequency electric<br>resistance weld<br>(ERW), single-<br>submerged arc weld<br>(SSAW), lap weld or<br>flash pipe installed<br>prior to 1970                           | 362                                | 2,700                                      | <ul> <li>Core residential and small business customers curtailed 10 – 35 days/yr</li> <li>85,000 - 170,000 people affected (28,000 - 57,000 accounts)</li> <li>Noncore (including refineries and electric generation) curtailed significantly 20 – 70 days/yr</li> </ul> |

The curtailments illustrated above are based on a moderate winter day. On a cold winter day or during a stage 1 or stage 2 abnormal peak day, the curtailments – including core residential and small business customers – would be far more extensive. For example, under cold weather that could occur as often as once every four years, approximately 80,000 to 500,000 core residential and small business accounts could be curtailed, impacting about 250,000 to 1.5 million people. For cold weather that occurs about once every 20 years, approximately 150,000 to 775,000 core residential and small business accounts could be curtailed, impacting as many as 450,000 to 2.3 million people. Such widespread losses of heat to residential customers during very cold weather would pose significant health and safety risks.

PG&E believes its ambitious pipeline testing plan, together with the pressure reductions already implemented, provide an additional margin of safety in its pipelines while validating the field safety of those lines, and maintaining reliable service to customers. Significant additional pressure reductions could jeopardize PG&E's ability to execute the proposed field action plan described above and to serve its customers. Such pressure reductions could well create public health and safety risks far exceeding any perceived public safety benefit from reduced pipeline pressure.

### VI. CONCLUSION

PG&E is committed to operating and maintaining its gas and electric facilities with safety as the first priority and in full compliance with federal, state and local requirements. We pledge to learn from the San Bruno accident and to turn those lessons into actions that will improve overall system performance, and benefit the country's natural gas pipeline industry as a whole.

The work described here to continue PG&E's records review, comprehensively validate MAOP of its pipelines, and act decisively to hydro test or replace 150 miles of HCA pipelines this year, and extend its field work thereafter, are additional foundational steps in that direction.

We believe the highly aggressive plan for inspections and testing proposed here is the right step toward enhancing public safety across our service area. We have worked hard to develop a plan that strikes the right balance between accelerating our steps to strengthen pipeline integrity while simultaneously preserving our ability to safely and reliably provide natural gas service to our customers through all seasons. We intend to work closely with state and local agencies, elected officials, emergency responders and customers to expedite our work and minimize any disruptions in service to our customers.

Respectfully submitted,

/s/ Jonathan D. Pendleton

STEPHEN L. GARBER JONATHAN D. PENDLETON Law Department Pacific Gas and Electric Company 77 Beale Street San Francisco, CA 94105 Telephone: (415) 973-2916 Facsimile: (415) 973-5520 E-Mail: J1PC@pge.com /s/ Joseph M. Malkin

JOSEPH M. MALKIN Orrick, Herrington, & Sutcliffe LLP The Orrick Building 405 Howard Street San Francisco, CA 94105 Telephone: (415) 773-5505 Facsimile: (415) 773-5759 Email: jmalkin@orrick.com

Attorneys for PACIFIC GAS AND ELECTRIC COMPANY

March 15, 2011

Attachment A

## **BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking on the Commission's Own Motion to Adopt New Safety and Reliability Regulations for Natural Gas Transmission and Distribution Pipelines and Related Ratemaking Mechanisms

R.11-02-019 (Filed February 24, 2011)

#### **DECLARATION OF STEVEN H. PHILLIPS**

I, STEVEN H. PHILLIPS, do declare:

- I am currently the Senior Manager for Office Services in the Customer Operations Department at Pacific Gas and Electric Company ("PG&E"). I have held this position at PG&E since August 2007. I am a California Registered Professional Mechanical Engineer and my registration number is M-17772. I have personal knowledge of the following facts and, if called as a witness, would testify thereto.
- 2. I began employment with PG&E in May of 1973. From November 1973 through March 1975, I worked as a Gas Engineer in the Codes and Standards Section of the Gas System Design Department. As a Gas Engineer in the Codes and Standards Section, I was among those responsible for PG&E's compliance with state and federal regulations regarding gas transmission facilities. The Supervising Engineer for whom I worked was Phillip Lathrap.
- 3. Just prior to my joining the Gas System Design Department, on April 30, 1971, the California Public Utilities Commission ("CPUC") rules regarding gas system safety requirements (GO 112-C) were revised to add a new requirement that transmission pipeline operators establish the Maximum Allowable Operating Pressure ("MAOP") of all gas transmission pipelines at the highest pressure each pipeline had experienced

during the five-year period between July 1, 1965 and July 1, 1970 ("Five-Year Period"), unless that pipeline had been properly pressure tested or uprated to a higher MAOP.

- 4. In response to this new requirement, one of the major projects I took a lead role on from November 1973 to March 1975 was the effort to verify and centrally record the MAOPs for PG&E's natural gas pipelines operating at or above 20% of specified minimum yield strength ("SMYS") in service at that time ("Transmission Pipelines"). During this time, I also worked on drafting PG&E's gas standards to clarify and communicate federal and state pipeline regulations. I further worked with the CPUC Safety Branch in accompanying them to witness Transmission Pipeline upratings and hydro-tests to establish new MAOPs.
- 5. As part of my effort to verify and record the MAOP for PG&E's Transmission Pipelines based on the highest pressure these pipelines had experienced during the Five-Year Period, I prepared a spreadsheet for each Transmission Pipeline in operation at that time. As an example, attached hereto as Exhibit A is a true and correct copy of the spreadsheet I prepared for Line 101. I have also reviewed the remaining Transmission Pipeline spreadsheets, which are being provided to the Consumer Protection and Safety Division in support of PG&E's Report on Records and Maximum Allowable Operating Pressure Validation, to be filed on March 15, 2011, and have confirmed that they are true and accurate copies of the spreadsheets I prepared in the 1973-1975 time period.
- 6. On each spreadsheet, I identified the old MAOP, as well as the old Maximum Operating Pressure ("MOP") and Design Pressure ("DP") of each pipeline segment for these pipelines. In almost all cases, the old MAOP ratings were based on pressure testing conducted during construction or later testing, or upratings that may have

occurred prior to July 1, 1965. The old MOP rating for each segment was based on the lowest MAOP of another portion of pipe, valve or fitting to which that segment was connected. The old DPs were based on the physical design characteristics of these pipelines. This historical information had been previously compiled by the Gas System Design Department, and was available in the department's central files.

- 7. On each spreadsheet, I then listed the highest pressure each segment had experienced during the Five-Year Period, the date that pressure was recorded, and the location and division for that segment. For example, in Exhibit A, under the column headed "65-70 HP," I recorded the highest actual pressure that "Designations" 2 and 3 of Line 101 (mile points 9.80 to 44.56) had experienced during the Five-Year Period. Under the column headed "Date," I identified the date on which these pressures were reached. Under the columns headed "Location," and "Div," I identified the location and Division for each segment. To obtain this information, I reviewed data previously compiled by the Gas System Design Department. I also obtained additional data from field personnel (including Division Gas Engineers, Superintendents, and Terminal Operators) located in each of the thirteen divisions that the PG&E service territory was divided into at that time, as well as Pipeline Operations. These individuals provided this pressure information in response to a request that was sent from the Manager of Gas System Design, Charles Tateosian, to the Division Gas Superintendents, to whom the Division Gas Engineers reported, and the Manager of Pipeline Operations.
- 8. The details documenting the highest pressure during the Five-Year Period were sent by field personnel via a letter documenting the location and date of the highest operating pressure reached during that time period, and in some cases attaching a copy of the pressure chart showing that pressure. Based on this information, I then established the updated MOP and MAOP for each pipeline segment and recorded that

pressure on the spreadsheet I had prepared. In some cases, the MOP and MAOP remained the same; in other cases, the MOP and MAOP were adjusted to reflect the highest operating pressure recorded during the Five-Year Period. For example, in Exhibit A, the MOP and MAOP for Designation 1 of Line 101 (mile points 0 to 9.80) remained the same; however, the MOP and MAOP for Designation 2 of Line 101 (mile points 9.80 to 33.68) were adjusted from 250 psig to 180 psig. It was the Codes and Standards Section's practice that in the few instances where a Division Gas Engineer or Operator stated that they had witnessed the pipeline operating at a certain pressure during the Five-Year Period, but there were no pressure charts available to verify that pressure, a signed statement from that Division Gas Engineer or Operator was sent to substantiate this recorded pressure. To the best of my recollection, PG&E accepted a signed statement for only a few pipeline segments. In addition, if a pipeline segment had subsequently been tested or uprated, that information was included in the remarks section of the spreadsheet as the validation for the updated MAOP.

- Based on this effort, each spreadsheet listed the updated MOP and MAOP for each pipeline segment based on the highest pressure the pipeline segment had experienced during the Five-Year Period or pursuant to a valid pressure test or uprating documented after July 1, 1965.
- Just prior to my departure from the Codes and Standards Section, I also assisted in compiling this data into PG&E's Standard Practice 463-8, as Appendix A, "Lines in Transmission Capitol Operating at or over 20% SMYS," and Appendix B,
   "Distribution Mains Operating at or Over 20% SMYS," both effective May 1, 1975. PG&E's Standard Practice 463-8 provided policies and procedures for identifying, reviewing and revising the MAOPs and related pressure limits of Transmission Pipelines. Appendices A and B were regularly updated and periodically published

both prior to and following my holding the Gas Engineer position. The May 1975 version I assisted in preparing contained the most up-to-date data on the MOP, MAOP and DP for all numbered transmission pipelines and Distribution Feeder Mains operating at or above 20% SMYS in service at that time. Attached hereto as Exhibit B is a true and correct copy of Standard Practice 463-8, including Appendices A and B thereto, effective May 1, 1975.

- 11. I can affirm that PG&E properly verified and recorded the MAOP for all pipelines listed in the Transmission Pipeline spreadsheets I prepared by reviewing records and operating history, and that this effort met the code requirements for establishing MAOPs pursuant to CPUC GO 112-C.
- 12. After I transferred from the Gas System Design Department in March 1975, James R. Grinstead, a Gas Engineer in the Codes and Standards Section of the Gas System Design Department, assumed a leading role on overseeing the effort of maintaining these MAOP records.

I declare under penalty of perjury under the laws of the State of California and the United States of America that the foregoing is true and correct.

Executed this 15<sup>th</sup> day of March 2011, at San Francisco, California.

/s/ STEVEN H. PHILLIPS

#### LINE NO. 101

|        | •           |                                       |                |   |            |             |             |           |          |                                       |            |             |             |           |          |             | LINE NO. 101   |
|--------|-------------|---------------------------------------|----------------|---|------------|-------------|-------------|-----------|----------|---------------------------------------|------------|-------------|-------------|-----------|----------|-------------|--|
| 514    | <i>1</i>    | · · · ·                               | · . ·          |   | • •.•.•    |             | -           |           |          |                                       | · · ·      |             | ., .        |           |          |             |  |
|        | · · · · ·   |                                       |                | · · · · · · · · · · · · · · · · · · ·         |            | · · · · · · | OLD         |           | 45-70    | OATE                                  | 1 OF ATICN | 1           | 1           | I<br>NE   | tw:      | <br>        | REMARKS  |
|        |             | DE                                    | IGNAT          | ION_  |            | MOR         | MAOP        | OP        | HP       | · · · · · · · · · · · · · · · · · · · |            |             | MOP         | MAOP      | :DP      | FDP         |  |
| Ē      |             |                                       |                |   |            |             |             |           |          |                                       |            |             |             |           |          |             |  |
|        | MILPIT      | IS TE                                 | RM. (M         | r (00.09                                      | 0          | <b>.</b>    | L           |           |          |                                       |            | SAN         | ļ           |           | · · · ·  |             |  |
|        | RENG        | 570BFF                                | STA. (n        | 169.80)                                       | - 36"      | 400         | 400         | 400       |          | T 12/65                               |            | SAN<br>JOSE | .400        | 400       | 400      | 400         | TESTED IN DES. 196:<br>SAN JOSE DIV FEB. 74 (          |
| -      | 1           |                                       |                | 1   | <u> </u>   |             |             |           |          |                                       |            |             |             |           |          |             | SAN SOLE DIV TEB, ITS                                  |
|        | <u> </u>    |                                       |                |   | 1          | 5.          |             | *<br>     |          |                                       |            |             |             |           |          |             |  |
| z.p    | RENGST      | SRFF A                                | VE STA.        | VIA DAY                                       | 033.68)    | ·           | ·· · ·      | · · · · · | ·        |                                       |            | · · ·       |             |           |          |             |  |
| ~`+    | TO OF       | -DOKD                                 | <u>e.e. mu</u> |   | 20"        | 2.50        | 250         | 400       | 1.180    | 8/5/69                                | RENGSDRE   | SAN         | 186         | 180       | 275      | 400         |  |
| · F    | <u> </u>    |                                       | 1              | 1   |            |             | - K. J. C W |           |          |                                       | ]          | ·           |             |           |          |             | TO R.L. SISLERI  |
| . [    | 1-          |                                       | ·              |   | · · · ·    |             |             |           |          |                                       | <br>       |             |             | · · · · · |          |             | PENN, REG@ SP Border Mir.8                             |
| 3      | 5.F. Bo     | RDER                                  | MTR ST         | A. VIA B                                      | NSHORE     |             |             |           |          |                                       | <u> </u>   |             | · · · · · · |           | L        | <br>        | operating 1-20-76 50 18011-MC<br>is validi LCM 1-23-76 |
|        | To Pe       | TRER                                  |                | LANTOM  | PA4.56)    |             |             |           |          |                                       | SFBMS.     | SAN         | 109         | 150       | 070      | 2.7.5       | 109 MOP BECAUSE OF                                     |
|        |             | - <u>-i</u>                           | ·              | <u> .                                    </u> | 20″        | 150         | 150         | 275       | 150      | 12/8/69                               | ISFBMS     | FRAN        | 1104        | 110?      | 413-     | 615         | PENN MAIN:   |
|        |             |                                       |                |   | 1          |             |             |           |          |                                       |            |             |             |           |          |             | S.F. DIV FEE 74 LTY                                    |
|        |             | . <u></u>                             |                |   |            |             |             |           | <u> </u> |                                       |            |             |             |           | · ·      |             |  |
|        |             | · · · · · · · · · · · · · · · · · · · | 1 .            | i -   | <u> </u>   |             |             |           |          |                                       | · · ·      |             |             |           |          |             |  |
| · ·· ŀ |             |                                       |                |   |            |             |             |           |          |                                       |            | <u> </u>    | · .         |           |          |             |  |
| - [    |             |                                       | 1              |   |            |             |             |           |          |                                       |            |             |             |           |          | ه چېرې په د |  |
|        |             | · · · · · · · · ·                     |                | l <u></u>                                     |            |             | - energiant |           |          | +                                     |            | <u> </u>    | <u> </u>    |           | ļ        |             |  |
| [      | <u> </u>    | · · ·                                 | I.             | i .   | · · ·      | · · · · · · | <u>.</u>    |           | ļ        |                                       | ·          | ·           | <u> </u>    | ·····     |          |             |  |
|        | · ; ]       |                                       | ļ              | ļ <u> </u>                                    |            | ļi          | ļ_ <u></u>  |           |          |                                       |            | <u> </u>    |             |           |          |             |  |
| ļi     |             |                                       |                | ••• • •<br> ••• •••                           | 1          |             |             |           |          | · · · ·                               |            |             | ļ           |           |          |             |  |
|        | <u> </u>    |                                       | <br>           |   | 1          |             | -           |           |          |                                       |            | -           |             |           |          |             | ···· · · · · · · · ·                                   |
| -+     |             |                                       | ,              | <u> </u>                                      |            | <u> </u>    |             | ·         | <u> </u> |                                       |            |             |             |           |          |             |  |
| ·      |             |                                       | <u>.</u>       | [   | 1          |             |             |           |          |                                       |            | •           |             |           |          |             | · · · · · · · · · · · · · · · · · · ·                  |
| ۲      | <u> </u>    |                                       | 1              |   | 1          |             |             |           | ļ        |                                       |            |             |             |           | ļ        | <u> </u>    | I  |
|        |             |                                       |                |   | 1          |             |             |           |          | <u>_</u>                              |            |             | ļ           | ļ         | <u> </u> |             | <u></u>  |
|        |             |                                       | !<br>          | <u> </u>                                      | 1          | ļ           |             |           | ·        |                                       |            |             |             | <b> </b>  |          |             |  |
|        | · · · · · · |                                       | <u> </u>       | ļ   | 1          |             |             | <u> </u>  | <u> </u> |                                       | <u> </u>   |             | +           |           | <u> </u> |             |  |
|        |             |                                       |                | ļ   |            | h           |             | <u>├</u>  | +        | +                                     |            |             |             |           |          |             |  |
| -  -   |             |                                       |                |   | +          |             |             |           |          |                                       | <u> </u>   |             |             |           | 1        |             |  |
| þ      | <u> </u>    |                                       | <br>           |   |            |             |             |           |          | 1                                     |            |             |             |           |          |             |  |
| · F    |             |                                       | <u></u>        | · · · · · · · · · · · · · · · · · · ·         | . <u>.</u> |             |             | <b></b>   | 1 .      | 1                                     | 1          |             |             | 1         | 1        | 1           |  |

+ 62.6218 (REV 9.70)

# FOR INTRA - COMPANY USES

DIVISION OR DEPARTMENT VICE PRESIDENT - GAS OPERATIONS FILE NO 463 RE LETTER OP SUBJECT Standard Practice No. 463-8 MAOP of Pipelipes and Mains

MAOP of Pipelines and Mains Operating At or Above 20% of SMYS

#### April 15, 1975

DIVISION MANAGERS GAS OPERATIONS MANAGERS MANAGER, GAS CONSTRUCTION MANAGER, PIPE LINE OPERATIONS DIVISION GAS SUPERINTENDENTS DISTRICT MANAGERS DISTRICT GAS SUPERINTENDENTS DIVISION ADMINISTRATIVE ANALYST OR EQUAL DIRECTOR, PROCEDURES AND ORGANIZATION

The attached copy of Standard Practice No. 463-8, -including the Supplement-Procedural Details and Appendices A, B, and C, dated May 1, 1975, replaces Standard Practice No. 463-8 and Supplement-Procedural Details dated June 1, 1973, and Appendices A, B, and C dated March 1, 1975.

Additional copies of this standard practice may be obtained from Gas Operations by calling Extension 1604.

SIBLEY

JRGrinstead:sm

Attachment

Exh. B (Phillips)

| 62.7501 | REV.  | 4.65 |
|---------|-------|------|
|         | ***** |      |

#### PACIFIC GAS AND ELECTRIC COMPANY STAND.

| STANDARD PRACTICE            | · ·   | STANDARD PRACTICE NO. 463-8           |
|------------------------------|---|---------------------------------------|
| EXECUTIVE OFFICE OR DIVISION | GAS OPERATIONS  | PAGE NO. 1 EFFECTIVE 5/1/75           |
| ISSUING DEPARTMENT           | GAS SYSTEM DESIGN   | REPLACING 1 EFFECTIVE 6/1/73          |
|                              | G PRESSURES OF PIPELINES AND MAINS<br>ABOVE 20% OF S.M.Y.S. | · · · · · · · · · · · · · · · · · · · |

#### PURPOSE AND POLICY

To establish a uniform procedure for identifying, reviewing and revising \*1. Design Pressure (DP), Maximum Allowable Operating Pressures (MAOP), and Maximum Operating Pressure (MOP) (PG&E) for all pipelines, mains and holders operating at or above 20% of specified minimum yield strength (SMYS) of the pipe material (See Appendixes A, B and C).

#### RECISIONS

2. All previous instructions, oral or written, that may be contrary to this Standard Practice.

#### RESPONSIBILITY

- 3. Division Gas Superintendents and the Manager of Pipe Line Operations shall be responsible for the performance required by this Standard Practice. Performance will include reviews of design procedures for the lines and the records generated by the referenced Standard Practices any time a change in MOP, MAOP or DP is contemplated.
- 4. The Manager of Gas System Design will establish and confirm changes to MOP (PG&E), MAOP and DP.

#### REFERENCES

×5. Current edition of California Public Utilities G.O. 112 S.P. 412-1, "External Corrosion Control of Buried Gas Facilities" S.P. 460-1, "Location Class Changes: Pipelines and Mains" S.P. 460.2-2, "Physical Inspection: Pipelines, Mains and Services" S.P. 460-21-4, "Periodic Leakage Surveys of Gas Transmission and Distribution Facilities" S.P. 463.7, "Pipeline History File, Establishing and Maintaining"

#### DEFINITIONS

\*6. Design Pressure (DP) is the maximum pressure permitted by the design sections of the current edition of G.O. 112, applicable to the materials and locations involved. In some cases the DP has been established as the maximum pressure for the minimum wall thickness required under the current edition of G.O. 112 for Type 3 construction for line size listed (See double asterisk entries in Appendix A).

Future Design Pressure is the Design Pressure (DP) to be used for future additions to existing facilities, effective March 1, 1975.

| PACIFIC GAS AND EL                  | ECTRIC COMPANY   | STANDARD PRACTICE NO. 463-8  |
|-------------------------------------|--|--|
| · · ·                               | GAS OPERATIONS   | PAGE NO. 2 EFFECTIVE 5/1/75  |
| SUING DEPARTMENT                    |  | REPLACING<br>PAGE NO. 2 EFFECTIVE 6/1/73   |
|                                     | UM OPERATING PRESSURES OF PIPELINE<br>TING AT OR ABOVE 20% OF S.M.Y.S.   | S AND MAINS  |
| DEFINITIONS                         |  |  |
| a pip                               | um Allowable Operating Pressure (M<br>aline or section of a pipeline may<br>pplicable provisions of the curren | AOP) is the maximum pressure at which<br>be operated in accordance with all.<br>t edition of G.O. 112.   |
| gas sy                              | um Operating Pressure (MOP) (PG&E)<br>ystem may be operated as specified<br>n Department.                      | is the maximum pressure at which a<br>by the Manager of the Gas System   |
| psi pr                              | acturer or as specified in Section   | is the minimum yield strength in<br>er which pipe is purchased from the<br>192.107 of the current edition of   |
| APPLICATION<br>*7. Procee<br>Practi |  | a appear in addenda to this Standard   |
| Append                              | lix B - Distribution Mains Operation   | tal Operating at or over 20% of SMYS<br>ng at or above 20% of SMYS<br>ers Operating at or above 20% of SMYS  |
| RECORD                              |  | ν.   |
| docume<br>above<br>Operat           | nt'the MAOP and/or MOP (PG&E) of 1<br>20% of SMYS shall be kept current  | Sheets (record of hourly data) which<br>pipelines and mains operating at or<br>by the Division and/or Pipe Line<br>responsibility of maintenance and |
| SUPPLEMENT                          |  |  |
| MAOP a                              | pplement establishes the procedure<br>nd DP for each facility.   | e for designating the MOP (PG&E),  |
| 11. <b>: : ! · ·</b> · · · · ·      | E. F. Sibley<br>Vice President - Gas Operations  |  |
|                                     | Division Managers<br>Division Gas Superintendents<br>District Gas Superintendents                              | Division Admin. Analyst or Equal<br>Director, Procedures Analysis<br>Pipe Line Operations  |

.

•

Exh. B (Phillips)

٢,

١,

Supplement S.P. 463-3 Page 1 Effective 5/1/75

### PROCEDURAL DETAILS

- \*10. Piping systems listed are not to be operated in excess of the MOP (PG&E). This limitation has been determined by the lowest of the following:
  - a) The test pressure or the rated working pressure of the pipe, valves, and fittings in the line.
  - b) The MAOP of the line as established in accordance with the provisions of the current edition of G.O. 112.
  - c) The MAOP of another pipeline system connected to the first system where there is no pressure control complete with over pressure protection between the two systems.
  - d) Operating conditions that limit pressure.
- \*11. The MOP (PG&E) may equal, but shall never exceed the MAOP or the DP. In some cases where the MAOP is less than DP, it is anticipated that the MOAP may be increased at some future time, in accordance with Subpart K (Uprating) of the current edition of G.O. 112. For this reason, all new additions to an existing system shall have a design pressure at least equal to the design pressure listed in Appendixes A, B and C. Some sections of an existing system may not qualify for the established design pressure and would require reconstruction, testing, or replacement prior to increasing the MAOP. See paragraph 6.
- , 12. New or replacement sections of line should be tested and qualified for the ultimate MAOP of the system, even though the MOP (PG&E) of the system is limited by the MAOP of other facilities connected to it.
- \*13. Any changes contemplated in the MOP (PG&E) or the MAOP of a line operating at or over 20% of SMYS shall be submitted by the Division Gas Superintendent or the Manager of Pipe Line Operations, in letter form, to the Manager of Gas System Design, for review and approval. A copy should be sent to the Manager of Gas System Planning.
- \*14. The MOP (PG&E), MAOP and DP of all newly installed pipelines and mains operating at or above 20% of SMYS, along with those in Appendixes A, B and C shall be confirmed annually by letter on or before February 1, by the Division Gas Superintendents and the Manager of Pipe Line Operations to the Manager of Gas System Design Department, for each facility within the scope of this Standard Practice.
- \*15. The Manager of Gas System Design Department will publish and distribute updated lists of pipeline pressures (Appendixes A, B and C) as required.

Attachment: Appendix A - "Lines in Transmission Capital Operating at or over 20% of SMYS" Appendix B - "Distribution Mains Operating at or above 20% of SMYS" Appendix C - "Pipe Type Underground Holders Operating at or above 20% of SMYS"

I

\* Paragraph Revised \*\* Paragraph Added

### Exh. B (Phillips) Appendix A S.P. No. 463-8 Effective 5/1/75 Page 1/15

# LINES IN TRANSMISSION CAPITOL OPERATING AT OR OVER 20% SMYS

-

|          |                                       | Nominal         | `    |         |        | •             |
|----------|---------------------------------------|-----------------|------|---------|--------|---------------|
| Trans.   | • ·                                   | Pipe            | PG&E |         |        | Futur         |
| Line     | 1                                     | Diameter        | MOP  |         | Design | Desig         |
| No.      | Location                              | (Inches)        | psig | MAOP    | -      | Press         |
|          |                                       |                 | 2019 | THIOL . | ITC30* | FLESS         |
| 21       | Crockett Station (MP 0.00) to         |                 |      |         |        |               |
|          | MP 0.54                               | 24" & 26"       | 400  | 405     | 650    | 675           |
| . 21     | MP 0,54 to Herrmann Station (MP 1.52) | 24"             | 400  | 675     | 675    | 675           |
| 21       | Herrmann Station to Reis Avenue       |                 |      |         |        | 070           |
|          | (MP 2.71)                             | 16"             | 250  | 258     | 575**  | 575*1         |
| 21       | Reis Avenue to Napa "Y" (MP 12.05)    | 12".            | 250  | 375     | 585    | 585           |
| 21       | Napa "Y" to MP 35.05                  | 12" & 26"       | 450  | 450     | 675    | 675           |
| 21       | MP 35.05 to MP 51.41                  | 12"             | 450  | 500     | 720    | 675           |
| 21       | MP 51.41 to Santa Rosa Compressor     | •               |      |         |        |               |
|          | Station (MP 53.12)                    | 12"             | 450  | 500     | 720    | 675           |
| 21       | MP 53.12 to MP 110.4                  | ·12 "           | 600  | 890     | 890    | 890           |
| 21       | MP 110.4 to MP 111.2                  | 12".            | 600  | 720     | . 890  | 890           |
| 21       | MP 111,2 to MP 111,9                  | . <u>1</u> 2"   | 600  | 890     | 890    | 890           |
| 21       | MP 111.9 to MP 112.1                  | 12"             | 600  | 720     | 890    | 890           |
| 21       | MP 112.1 to MP 113.9                  | 12"             | 600  | 890     | 890    | 890           |
| 21       | MP 113.9 to Ukiah (MP 114.9)          | 12"             | 600  | 720     | 890    | 890           |
| 21       | MP 114.9 to Willits (MP 136.8)        | . 8"            | 600  | 832     | 832    | 890           |
| . 21     | Napa "Y" (MP 0.00) to MP 18.64        | 16"             | 450  | 500     | 720    | 675           |
| 21       | MP 18.64 to Denman Flat Tap           |                 |      | •       |        | •             |
|          | (MP 24.6)                             | 16"             | 450  | 500     | 720    | 675           |
| 21       | McDowell Road Tap (MP 34.84) to       |                 | •    |         |        |               |
| ~ -      | Petaluma Meter Station (MP 35.86)     | 12"             | 450  | 500     | 593    | 675           |
| 21       | Adobe (MP 0.00) to San Rafael HPU     |                 |      |         |        |               |
| ·        | Holder Station                        | 16" & 20"       | 450  | 500     | 600    | 675           |
| 21       | Adobe (MP 0.00) to San Rafael HPU     |                 |      |         |        |               |
|          | (MP 21.11)                            | 12"             | 450  | 500     | 675    | 675           |
| *50      | 5th & Walnut Streets, Marysville      |                 |      |         | • •    | _             |
|          | (MP 0.00) to Yuba City HPU            |                 |      |         |        |               |
|          | (MP 2.87)                             | 8."             | 400  | 400     | 720**  | 720**         |
| *50      | Yuba City HPU to Biggs Regulator      |                 |      |         |        |               |
| 450      | Station (MP 21.62)                    | 8 <sup>,0</sup> | 250  | 250     | 720**  | 720**         |
| *50      | Biggs Regulator Station to Richvale   |                 |      |         |        |               |
| 1.50     | "Y" (MP 26.94)                        | 6" & 8"         | 250  | 250     | 720**  | · 720**       |
| *50      | Richvale "Y" to Stirling Junction     |                 |      |         | •      |               |
| 50       | (MP 44.87)                            | 6" & 8"         | 400  | 400     | 720**  | <b>72</b> 0** |
| 50<br>50 | MP 0.00 to Paradise (MP 7.81)         | . 81            | 400  | 720     | 720    | 720           |
| 56<br>EC | Pleasant Creek Field Storage System   | - 4"            | 1300 | 1300    | 1250   | 1440          |
| 56       | Pleasant Creek Field Storage System   | 8 <sup>n</sup>  | 1300 | · 1440  | 1440   | 1440          |
|          | -                                     |                 |      |         |        |               |

\*\*See Paragraph 6

· · .

Appendix A S.P. No. 463-8 Effective 5/1/75 Page 2/15

.

Ĺ

Ú.

| Trans,<br>Line<br>No. | Location  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP   | Design<br>Press. | Future<br>Design<br>Press. |
|-----------------------|---|---|---------------------|--------|------------------|----------------------------|
|                       | McDonald Island Field Storage<br>System   | 4" - 12"                                | 2160                | 2160   | 2160             | 2160                       |
| . 57                  | McDonald Island Compressor Station<br>(MP 0.00) to PLS (MP 7.47)<br>PLS (MP 7.47) to Brentwood Terminal | 14" 16" 18"                             | 1025                | 1025   | 1025             | 1025                       |
| <br>57B               | (MP 16.64)<br>Brentwood Terminal to McDonald  | 1.8"                                    | 867                 | .867   | 867              | 867                        |
|                       | · Island<br>MP 134.5 to Milpitas Terminal   | 22"                                     | 2160                | 2160   | 2160<br>"·       | 2160                       |
| 101                   | (MP 150.13)<br>Milpitas Terminal (MP 0.00) to   | 20" .                                   | 400                 | 400 .  | 552              | 552                        |
| *101                  | Rengstorff Avenue Station (MP 9.80)<br>Rengstorff Avenue Station Via                                    | · 36"                                   | 400                 | 400    | 400              | 400                        |
| *101                  | Bayshore to San Francisco Border<br>Meter Station (MP 33.68)<br>San Francisco Meter Station Via         | 20"                                     | 180                 | 180    | 275              | 400                        |
| *                     | Bayshore Boulevard to Potrero Gas<br>,Plant (MP. 44.56)   | 20"                                     | 109                 | 150    | 275              | 275                        |
| *103                  | Hollister Meter Station (MP 0.00) to<br>California Street Regulator Station<br>(MP 23.55)               |   | 250                 |        |                  |                            |
| 103                   | California Street Regulator Station<br>to Harkins Road Meter and Mixer                                  | 12"                                     | 350                 | 350    | 670**            | 500<br>                    |
| 105                   | Station (MP 26.63)<br>Irvington Station (MP 6.88) to San  | 12"                                     | 313                 | 313    | 670**            | 500                        |
| *105                  | Lorenzo Regulator Station (MP 23.03)<br>San Lorenzo Regulator Station to San                            | 20"                                     | 250                 | 250    | 500              | 500                        |
| *105                  | Pablo Station (MP 52.01)<br>Oakland Holder Station (MP 0.00) to<br>Berkeley City Limits (Paralle1)      | 20"                                     | 150                 | 198    | 275              | 275                        |
| · · 105               | (MP 2.03)<br>Baine Avenue Crossover (MP 0.00) to  | 24"                                     | 150                 | 198    | 275              | 275                        |
| ×105                  | Line 153 (MP 0.18)<br>West Winton Avenue Crossover  | 20"                                     | -250                | · 250- | 590              | 500                        |
| . 105B                | (MP 0.00) to Line 153 (MP 0.185)<br>Crockett Station (MP 0.00) to San                                   |   | 250                 | 250    | 500              | 500                        |
| 1055                  | Pablo Station (MP 11.85)<br>Milpitas Terminal (MP 0.00) to  | 24"                                     | 400                 | 400    | 400              | 400                        |
| 107                   | Irvington Station (MP 6.88)<br>Tracy Station (MP 0.00) to Livermore<br>Junction (MP 13.11)              | .20"                                    | 465                 | 480    | 500              | 720                        |
| : • ···:              | Démocron (ML TO'TT)   | 22 <sup>n</sup> .                       | 500 ·               | 500 .  | 500              | 720                        |

\*\*See Paragraph 6

۰. •

- ; ;

-:

: :

tt. 😲 🦉

ι. .

Exh. B (Phillips)

Appendix A S.P. No. 463-8 Effective 1/8/76 Page 3/15

| Trans.<br>Line<br>No. | Location   | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP  | Design<br>Press. | Future<br>Design<br>Press. |
|-----------------------|--|---|---------------------|-------|------------------|----------------------------|
| 107                   | Livermore Junction to Irvington<br>Station (MP 31.22)  | 22"                                     | 400                 | (0.0  |                  |                            |
| 1075                  | Irvington Station to Milpitas<br>Terminal (MP 38.06)   |   | 477                 | 480   | 500              | 720                        |
| . 108                 | Stanpac 2 (MP 0.00) to Vernalis  | 22"                                     | 477                 | 500   | 500              | 720                        |
| 108                   | Field Mixing Station (MP 4.59)<br>Vernalis Field Mixing Station to<br>McMullin Ranch Mixer Station | 16"                                     | 500                 | 500   | 720              | 890                        |
| 108                   | (MP 8.79)<br>McMullin Ranch Mixer Station to   | 16"                                     | 408                 | 408   | 720**            | 720**                      |
| 108                   | MP 16.7<br>MP 16.7 to Las Vinas Station  | 16"                                     | 408                 | 408   | 720**            | 720**                      |
|                       | (MP 43.5)  | 16"                                     | 412                 | 412** | ** 720**         | 720**                      |
| 108                   | Las Vinas Station to MP 56.25  | 16"                                     | 490                 | 500   | 500              | 720**                      |
| 108                   | MP 56.25 to Sacramento Gas Plant<br>(MP 75.10)   |   |                     |       |                  |                            |
| *108                  | E. Hazleton & B Streets Regulator  | 16"                                     | 412                 | 412   | 500              | 720                        |
| 109                   | Station (MP 27.10) to Stockton<br>Gas Plant (MP 1.71)<br>Milpitas Terminal (MP 0.00) to            | 12"                                     | 185                 | 185   | 275              | 275                        |
|                       | Sullivan Avenue Regulator<br>Station (MP 43.47)  | 22" & 30"                               | 375                 | 375   | 400              | 400                        |
| *109                  | Sullivan Avenue Regulator to   |   |                     |       |                  |                            |
| 111                   | Potrero Gas Plant (MP 52.70)<br>Helm Junction (MP 0.00) to Fresho                                  | 26"                                     | 150                 | 150   | 275              | 275                        |
| 111                   | Junction (MP 21.65)<br>Fresno Junction to Division Gas   | 12"                                     | 650                 | 650   | 800              | 720                        |
|                       | Load Center (MP 28.05)   | 8"                                      | 400                 | 400   |                  |                            |
| 111                   | Raisin City Field Collection System  | 4"                                      | 400<br>800          | 400   | 720              | 720                        |
| 111                   | San Joaquin Field Collection System  | 3" & 4"                                 |                     | 800   | 800              | 800                        |
| 112                   | Vernalis Field Collection System   | 3" <del>-</del> 8"                      | 800                 | 800   | 960              | 960                        |
| 114                   | West Rio Vista Field (MP 0.00) to  |   | 594                 | 594   | 800              | 800                        |
| 114                   | Antioch Terminal (MP 9.01)<br>Antioch Terminal to Brentwood  | 12" & 16"                               | 510                 | 510   | 800              | 800                        |
| 114                   | Terminal (MP 16,59)<br>Brentwood Terminal to Dalton Avenue   | 22 <sup>11</sup>                        | 595                 | 595   | 595              | 720                        |
| 114                   | PLS (MP 28.97)<br>Dalton Avenue PLS to Livermore   | 22"                                     | 595                 | 595   | 595              | 720                        |
| *116                  | Junction (MP 34.05)  | 22"                                     | 495                 | 495   | 595              | 720                        |
|                       | Davis Meter Station (MP 0.00) to<br>Swingle Junction (MP 3.86)                                     | 8 <sup>11</sup>                         | 500                 | 500   | 500              | 800                        |
| *116                  | Swingle Junction to Sacramento Gas<br>Plant (MP 12.89)   | 8"                                      | 500                 | 500   | . 500            | 720                        |
| **See Pai             | ragraph 6  |   |                     | 200   |                  | 740                        |

2

1

1

1

\*\*\* MAOP reduced from 426 psig to 412 psig to match 412 psig MOP.

(See Over)

Exh. B (Phillips) Appendix A S.P. No. 463-8 Effective 5/1/75 Page 4/15

| Trans.<br>Line<br>No. | Location                               | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP  | Design<br>Press. | Future<br>Design<br>Press. |
|-----------------------|--|---|---------------------|-------|------------------|----------------------------|
| *118                  | Division Gas boad Center (MP 0.00)     |   |                     |       |                  |                            |
| •                     | to Fresno Junction (MP 6.09)           | 8"                                      | 400                 | 400   | 720              | 720                        |
| 118                   | Division Gas Load Center (MP.0.00)     | 700                                     | 600                 | 600   | 800              |                            |
| `                     | to Fresno HPU Station (MP Q:66)        | . 12"                                   | 690                 | 690   | 720              | 720                        |
| *118                  | Fresno Junction to MP 12.57            | 12"                                     | 400                 | 400   | 720              | 720                        |
| *118                  | MP 12.57 to Livingston (MP 73.26)      | 8" .                                    | 400                 | 400   | .720             | 720                        |
| 118                   | Herndon (MP 0.00) to Athlone           |   |                     | 4.0.0 |                  | · ·,                       |
|                       | (MP 38,39)                             | 12"                                     | 400                 | 400   | 720              | 720                        |
| · 118                 | 'Livingston to Collier Road (MP 74.89) | 6"                                      | 400                 | 720   | 720              | 720                        |
| 118                   | Collier Road to Bradbury Road          |   |                     |       |                  |                            |
| ••                    | Regulator Station (MP 83.74)           | б"                                      | 400                 | 400   | 400              | 400                        |
| 118                   | Bradbury Road Regulator Station to     |   |                     |       |                  |                            |
| <u>``</u> .           | . MP 84.69                             | 6"                                      | 500                 | 890   | 890              | 890                        |
| 119                   | Davis Meter Station (MP 0.00) to       |   |                     |       |                  |                            |
|                       | Swingle Junction (MP 3.85)             | 12"                                     | 780                 | 792   | 800              | 800                        |
| 119                   | Swingle Junction to MP 4.85            | 12"                                     | 500                 | 720   | 800              | 720                        |
| 119 ·                 | MP 4.85 to MP 11.14                    | 12"                                     | 500                 | 520   | 800              | 720                        |
| 119                   | MP·11.14 to MP 11.35                   | 10"                                     | - 500               | 520   | 800              | 720                        |
| 119                   | MP 11.35 to N. Sacramento HPU          |   |                     |       |                  |                            |
|                       | (MP 16.46)                             | 12"                                     | 500                 | 520   | 800              | 720                        |
| 119                   | N. Sacramento HPU (MP 0.00) to         |   |                     |       |                  | ····                       |
| •                     | Antelope Meter Station (MP 10.17)      | 12"                                     | 500                 | 500   | 500              | 600 (                      |
| 119                   | N. Sacramento HPU (MP 0.00) to         |   |                     |       |                  |                            |
| ۴.                    | Antelope Meter Station (MP 8.41)       | 6" & 16"                                | 500                 | 500   | 500              | 600                        |
| 119                   | N. Sacramento HPU (MP 0.00) to         |   |                     |       |                  |                            |
| •                     | MP 2,80                                | 24"                                     | 180                 | 180   | 545              | 545                        |
| 119                   | Elm and Traction Avenue Regulator      |   |                     |       |                  |                            |
|                       | (MP 4.6 to MP 5.5)                     | 12"                                     | . 500               | 500   | 50 <b>0</b>      | 600                        |
| 119                   | Sonoma Avenue Regulator and Del Paso   |   |                     |       | •                |                            |
| : 1                   | Boulevard (MP 0.00) to Roseville       | <i>c</i> 11                             | 100                 |       |                  |                            |
|                       | Regulator Station (MP 5.25)            | 6"                                      | 180                 | 500   | 500              | 500                        |
| 120                   | Sutter Creek Field Collection System   | 4" & 6"                                 | 492                 | 492   | 720              | 720                        |
| 120                   | Sutter Buttes Field Collection System  | 4" & 6"                                 | 485                 | 485   | 720              | 720                        |
| 121                   | Marysville Buttes Meter Station        |   | •                   |       |                  | •                          |
| • .                   | (MP 0.00) to Yuba City HPU             |   |                     |       |                  |                            |
|                       | (MP 11.54)                             | 6 <sup>.11</sup>                        | 485                 | 485   | 720              | 720                        |
| 123                   | Antelope Meter Station (MP 0.00) to    |   |                     |       |                  |                            |
|                       | Lincoln Junction (MP 13.57)            | 12"                                     | 500                 | 500   | 670**            | 670**                      |
| 124                   | Lincoln Junction (MP 0.00) to 5th &    | <b>_</b>                                |                     |       |                  |                            |
|                       | Walnut, Marysville (MP 23.46)          | 8"                                      | 400                 | 400   | 720.             | 600                        |
| 124                   | Lincoln Junction (MP 0.00) to Yuba     |   |                     |       |                  |                            |
|                       | City HPU (MP 26.03)                    | 16"                                     | 600                 | 600   | 600              | 600 ·                      |
|                       |  |   |                     |       | _                |                            |

\*\*See Paragraph 6

Exh. B (Phillips) Appendix A S.P. No. 463-8 Effective 5/1/75 Page 5/15

| Trans.<br>Line<br>No. | Location  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP             | Design<br>Press. | Future<br>Design<br>Press. |
|-----------------------|---|---|---------------------|------------------|------------------|----------------------------|
| 124                   | Beale Air Force Base Tap (MP 0.00)  |   |                     |                  |                  | • t                        |
|                       | (T.13.31) to MP 3.76  | 6"                                      | 400                 | 400              | 720              | 600                        |
| · 125                 | Thompkins Hill Field Collection   |   |                     |                  |                  |                            |
|                       | System  | 3" 4" 6"                                | 448                 | 448              | 720              | 720                        |
| 126                   | Thompkins Hill Meter Station<br>(MP 0.00) to Union Street Regulator<br>(MP 10.57) | 4"                                      | 350                 | 442              | 720              | 720                        |
| 126                   | Thompkins Hill Meter Station<br>(MP 0.00) to Union Street Regulator               |   | • • •               |                  |                  |                            |
|                       | (MP 10.89)  | б"                                      | <b>3</b> 50         | 442              | 720              | 720                        |
| 126                   | Elk River Road Regulator (MP 0.00)  |   | 169                 | 168              | 700              | 700                        |
| 1300                  | to MP 3.62 (T 12.38, Line 126)  | 10"<br>10"                              | 167<br>167          | 167<br>167       | 720<br>720       | 720<br>720                 |
| *126<br>126           | MP 0.00 to Eureka Propane (MP 0.36)<br>Union Street Regulator to Line 137         | 10.                                     | 107                 | 107              | 120              | 120                        |
|                       | (MP 12.61)<br>HP Rio Vista Sacramento River                                       | 6"                                      | 167                 | 167              | 720              | 720                        |
| 130A                  | Crossing (MP 0.00 to MP 0.50)   | 10"                                     | 800                 | 800              | 800              | 800                        |
| 130B <sub>.</sub>     | LP Rio Vista Sacramento River<br>Crossing (MP 0.00 to MP 0.50)                    | 10"                                     | . 420               | 510              | 800              | 800                        |
| 131                   | E. Rio Vista Field (MP 0.00 to MP 0.71)   | 12"                                     | 685                 | 685              | 800              | 800                        |
| . 131                 | E. Rio Vista Field (MP 0.00) to   |   |                     |                  |                  |                            |
|                       | Antioch Terminal (MP 9.19)  | 10" & 12"                               | 800                 | 800              | 800              | 800                        |
| 131                   | Antioch Terminal to MP 10.47  | 24"                                     | 438                 | 438              | 600              | 720                        |
| 131                   | MP 10.47 to Brentwood Terminal  | 0.41                                    | 47.0                | 40 F             | <b>C</b> 00      | 700                        |
|                       | (MP 16.87)  | 24"                                     | 438                 | 495 <sub>.</sub> | 600              | 720                        |
| 131                   | Brentwood Terminal to Irvington   | 24"                                     | 500                 | 525              | 600              | 650                        |
| ,<br>1 1 1            | Station (MP 50.57)  | 24"                                     | 500                 | 525              | 600              | 050                        |
| 131                   | Irvington Station to Milpitas<br>Terminal (MP 57.45)                              |   | 595                 | 595              | 650              | 650                        |
| 132                   | Milpitas Terminal (MP 0.00) to  | 50                                      | ,000                |                  | 030              | 0,50                       |
| 102                   | Martin Station (MP 46.59)   | 24" 30" 36"                             | 400                 | 400              | . 400            | 400                        |
| 132                   | Martin Station to Potrero Plant   |   | 200                 | 100              |                  |                            |
| 102                   | (MP 51.50)  | 24"                                     | 145                 | 145              | 275              | 275                        |
| 132                   | Sierra Vista Avenue (MP 10.32) to<br>Rengstorff Avenue Station (MP 0.00           |   |                     |                  |                  |                            |
|                       | to MP 1.47)   | 16" & 24"                               | 400                 | 400              | 400              | 400                        |
| 132                   | Martin Station to Geneva Avenue   | <b>••</b> = -                           |                     |                  |                  |                            |
|                       | (MP 39,86)  | 20"                                     | 109                 | 150              | 275              | 275                        |
| 133                   | Gill Ranch Field Collection System  | 4" 6" 8"                                | 400                 | 500              | 720              | 720                        |
| 134                   | Herndon Junction (MP 0.00) to   |   |                     |                  |                  |                            |
|                       | MP 21.57  | 6" & 8"                                 | 400                 | 500              | 720              | 720                        |
| 134                   | MP 21.57 to Arbios Meter Station  |   |                     |                  |                  |                            |
|                       | (MP 27.04)  | 6"                                      | 500                 | 500              | 720              | 720                        |

t

Appendix A S.P. No. 463-8 Effective 5/1/75 Page 6/15

|              |  | Nominal            |                  |            |            |                  |
|--------------|--|--------------------|------------------|------------|------------|------------------|
| Trans.       |  | Pipe               | DOAD             |            |            | <b>**</b> ****** |
| Line         |  | Diameter           | PG&E<br>MOP      |            | Decia      | Future           |
| NO.          | Location   | (Inches)           |                  | MAOD       | Design     | Design           |
| ·            | FOCACTON   | (Inches)           | psig             | MAOP       | Press.     | Press.           |
| 134          | Arbios Meter Station to MP 30.50                           | 6" & 8"            | 500              | 500        | 720        | 720              |
| 134          | Arbios Meter Station to Firebaugh                          | V U V              |                  |            | 120        | 720              |
|              | Regulator Station (MP 34.13)                               | 3" & 4"            | 500              | 500        | 720        | 720              |
| 136          | Ord Bend Meter Station (MP 0.00) to                        |                    | 000              | 500        |            | 720              |
|              | MP 3,21  | 6" ·               | 479              | 565        | 720        | 720              |
| 136          | MP 3.21 to Stirling Junction (MP                           |                    |                  | - • -      | • - •      | , = 0            |
|              | 12,87)   | 6۳                 | 550              | 550        | 720        | 720              |
| *137         | Whipple and Albee Streets, Eureka                          | • • •              |                  |            |            | ,                |
|              | (MP 0.00) to MP 11.83                                      | 4" & 6"            | 167              | 167        | 720        | 720              |
| 137          | Ryan Slough Regulator Station                              | • 1                |                  |            |            |                  |
| •            | (MP 3.58) to Arcata (MP 7.37)                              | · 8"               | 350              | 350        | 720        | 720              |
| 138          | Helm Tap Station (MP 0.00) to Helm                         | • •                |                  |            |            |                  |
|              | Junction (MP 14.94)  | 10"                | 500              | 500        | 650        | 650              |
| 138          | Helm Tap Station (MP 0.00) to Helm                         |                    |                  |            |            |                  |
|              | Junction (MP 14.71)  | 20" ·              | 700              | 700        | 800        | 890              |
| 138          | Helm Junction to Elkhorn Station                           |                    |                  |            |            |                  |
|              | (MP 20.50)   | 18"                | 700              | 865        | 865        | 890              |
| 138          | Elkhorn Station to Burrel Meter                            |                    |                  |            |            |                  |
|              | Station (MP 22.04)   | 18"                | 650              | 650        | 865        | 720              |
| 138          | Burrel Meter Station to Adams & Elm                        |                    |                  |            | •          |                  |
|              | Meter and Regulator Station (MP 38.5                       | 9) 16"             | 650              | 650        | 720**      | 720**            |
| 138          | Adams & Elm Meter Station to Cherry                        |                    |                  | •          | •          |                  |
| •            | & Jensen Regulator (MP 45.00)                              | 12" & 16"          | 650              | 650        | 720        | 720              |
| 138          | MP 45.00 to San Joaquin Division Gas                       | •                  |                  | ·          |            |                  |
|              | Load Center (MP 49.42)                                     | 10" & 12"          | 650              | 650        | 720        | 720              |
| 138          | T 43.58 to Chestnut & Clay Regulator                       |                    |                  |            |            |                  |
|              | Station (MP 50,02)   | 16"                | 650              | 650        | 720        | 720              |
| 138          | MP 45.10 to Peach Avenue (T 46.64)                         | 10" .              | 650              | 720        | 720        | 720              |
| 141E         | Thornton Meter Station to E. Thornton                      |                    |                  |            |            |                  |
| 7 4 7        | Field Collection System                                    | 4" & 6"            | 538              | 538        | 800        | 800 -            |
| 141W         | Thornton Meter Station to W. Thornton                      |                    | - 4 -            |            |            |                  |
|              | Field Collection System                                    | 3" - 10"           | 768              | 768        | 800        | 800              |
| *141         | N.E. River Island & Walnut Grove                           | <b>C</b> H - OH    | 840              |            |            |                  |
| 142N         | Field Collection System                                    | 6" & 8"            | 768              | 768        | 800        | 800              |
| T#5W         | Bakersfield Tap to Bakersfield<br>Meter Station (MP 14.05) | 12" 16" 20"        | A+1 1-           | 405        |            |                  |
| 142S         | Gosford Road Meter Station (MP 0.00)                       | 12 10 20           | 475              | 475        | 720        | 720              |
| 1450         | to Brundage Lane Regulator                                 |                    |                  |            |            |                  |
|              | (MP 9.00)  | 6" & 10"           | 600 <sup>1</sup> | 600        | 700        |                  |
| *142         | MP 9.00 to Bakersfield Meter                               | 0 & TO             | 600              | 600        | 720        | 720              |
| · -4• · # 6+ | Station (MP 11.47)   | 8" & 12"           | 300              | 300        | 720        | 720              |
| *143         | Millar Field Collection System                             | 3" & 4"            | 300<br>796       | 300<br>800 | 720<br>800 | 720              |
|              |  | - 0 <del>-</del> - | 190              | 000        |            | 800 .            |
|              |  |                    |                  |            |            |                  |

\*\*See Paragraph 6

....

. : .

### Appendix A S.P. No. 463-8 Effective 5/1/75 Page 7/15

| Trans.<br>Line | · · · · ·  | Nominal<br>Pipe<br>Diameter           | PG&E<br>MOP |                      | Design                        | ,<br>Future<br>Design |
|----------------|--|---------------------------------------|-------------|----------------------|-------------------------------|-----------------------|
| No.            | Location   | (Inches)                              | psig        | MAOP                 | Press.                        | Press.                |
| 144            | Millar Meter Station (MP 0.00) to<br>Millar Field (MP 3.50)  | 10" & 12"                             | · 796       | 796                  | . 800                         | 800                   |
| 145            | Maine Prairie Field Coll. System   | 3" 4" 6"                              | 796         | 796                  | 800                           | 800                   |
| 146            | Maihe Prairie Meter Station<br>(MP 0.00) to Maine Prairie  |                                       |             | · · ·                | · .                           | -                     |
| 147            | Field (MP 6.00)<br>Whipple Road Crossover (MP 0.00) to<br>San Carlos Regulator Station                               | 8 <sup>11</sup>                       | 796         | 796                  | 800                           | 800                   |
| 148            | (MP 3.39)<br>McMullin Ranch Mixer Station<br>(MP 0.00) to Ceres Regulator  | 20" & 24"                             | 400         | 400                  | 400                           | 400                   |
|                | Station (MP 18.24)   | 8"                                    | 408         | 408                  | 720                           | 720                   |
| 149<br>150     | Winters Field Collection System<br>Winters Meter Station to Davis  | 4" & 6"                               | - 750       | 750                  | 800                           | 800                   |
| 151            | Meter Station (MP 18.09)<br>Afton Odorizer Station (MP 0.42) to  | 6"                                    | 750         | ·750                 | 800                           | 800                   |
| 152            | Afton Regulator Station (MP 14.05)<br>Afton Field (MP 0.00) to Afton   | б"<br>                                | 250         | 250                  | 720                           | 720                   |
| 153            | Odorizer Station (MP 0.42)<br>Irvington Station (MP 0.00) to   | ··· · · · 6" · · ·                    | 250         | 250                  | 720                           | 720                   |
| *153           | Marina Boulevard Station (MP 18.00)<br>Marina Boulevard Station to 2nd and   | 30"                                   | 420         | 420                  | 500**                         | 500**                 |
| 153            | Market Streets (MP 27.89)<br>Tap to 50th Avenue Holder<br>Station  | 24"                                   | 246         | 246                  | <sup>°</sup> 275 <sup>°</sup> | 275                   |
| 153            | Tap to Oakland Holder Station  | 16" & 20"<br>20"                      | 246         | 246                  | 275                           | 275                   |
| 153            | Alvarado Crossover to Line 105   | 16"                                   | · 246       | 246                  | 275                           | 275                   |
| *153           | Fairway Avenue Crossover to Line<br>105  |                                       | 250         | 250                  | 500**                         | 500**                 |
| 155            |  | 20"'& 30" `                           | 150         | 198                  | 542                           | 500                   |
| 155<br>156     | Durham Field Collection System<br>Durham Field (MP 0.00) to Durham   | 4"                                    | 680         | 680                  | 800                           | 800                   |
| 158            | Field Meter Station (MP 5.72)<br>Dunnigan Hills Field (MP 4.90) to<br>Dunnigan Hills Meter & Regulator<br>(MP 13.65) | 6"<br>                                | 680<br>500  | 680<br>564           | 800                           | 800                   |
| *158           | Woodland Field Collection System   | 3" & 4"                               | 500 ·       | 564 <sup>5</sup> 564 | 800                           | 800                   |
| 159            | Pleasant Creek Compressor Station<br>(MP 0.00) to V 0.65   | , , , , , , , , , , , , , , , , , , , | 975         | 975                  | •                             | 800                   |
| 159            | V 0.65 to Pleasant Creek Regulator<br>Station (MP 3.91)  | 4"<br>4"                              |             |                      | 1000                          | 975                   |
| 159            | Pleasant Creek Regulator Station to  | •                                     |             | 975                  | 1000                          | 975                   |
| 159            | Winters Meter Station (MP 6.08)<br>Winters Field Collection System   | 4"<br>4"                              | 750<br>750  | 750<br>750           | 800<br>800                    | 800<br>800            |

\*\*See Paragraph 6

۱,

:

Exh. B (Phillips) Appendix A S.P. No. 463-8 Effective 5/1/75 Page 8/15

.

| Trans.<br>Line<br>No. | Location  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP             | Design<br>Press. | Future<br>Design<br>Press. | ι  |
|-----------------------|---|---|---------------------|------------------|------------------|----------------------------|----|
| *162                  | Tracy Station (MP 0.00) to Banta<br>Regulator Station (MP 7.73)                                   | .6" & 8"                                | 365                 | 365              | 720              | 720                        |    |
| 162                   | Tracy Station to Byron Road<br>(MP 5.59)  | . 10"                                   | . 365               | 720              | 720              | 720                        |    |
| 164                   | Coalinga Field Collection System  | 10" & 8"                                | 498                 | 498              | 865              | 890                        |    |
| 1.67                  | E. Beehive Bend Odorizer Station<br>(MP 0.00) to Yuba City HPU<br>(MP 34.50)                      | 12" & 16"                               | 800                 | 800              | 800              | 800                        |    |
| 167                   | Wild Goose Field Meter (MP 0.00) to<br>Wild Goose Mixer & Odorizer Station<br>(Parallel)          | 10"                                     | 800 -               |                  | 800              | 800                        |    |
| 167                   | Wild Goose Mixer to Gridley   |   |                     |                  |                  |                            |    |
|                       | Junction (MP 6.54)  | 8"                                      | 800                 | 800              | 800              | 800                        |    |
| 167<br>167            | Wild Goose Collection System<br>Princeton Field Collection System                                 | 3" & 4"                                 | 800                 | 800              | 800              | 800                        |    |
|                       | (MP 4.12 to MP 7.60)  | 3 "                                     | 800                 | 800              | 800              | 800                        |    |
| 167                   | Compton Landing Field Collection  | 4" & 6"                                 | 800                 | 800              | 800              | 800                        |    |
| 167                   | Bounde Creek Field Collection System  | 4"                                      | 800                 | 800              | 800              | 800                        |    |
| 168.                  | River Island Field Collection System<br>HP  | 4" 6" 8"                                | 800                 | 800 <sup>°</sup> | 800              | 800                        |    |
| 168                   | River Island Field Collection System  |   |                     |                  | 000              | 000                        | í  |
|                       | LP.   | 3" - 8"                                 | 698                 | 698              | 800              | 800                        | ٠. |
| 169 <sub>.</sub>      | Beehive Bend, Willows, Llano Seco,<br>& Perkins Lake Field Collection<br>System                   | 3" - 20"                                | 800                 | 800              | 800              | 800                        |    |
| 172                   | W. Beehive Bend Meter Station<br>(MP 0.00) to Swingle Junction                                    |   |                     |                  |                  |                            |    |
| 172                   | (MP 69.81)<br>Swingle Junction to Sacramento Gas  | 18" & 20"                               | 800                 | 800              | 800              | 800                        |    |
|                       | Plant (MP 79.15)  | 16"                                     | 500                 | 520              | 720              | 720                        |    |
| 172                   | Crosstie Between Line 172 (MP 0.00)<br>& Line 167 (MP 0.60)                                       | 10"                                     | 800                 | 800              | 800              | 800                        |    |
| 172                   | Crosstie Between Line 172 (MP 75.45) .<br>& Line 119 (MP 9.68)                                    | 12"                                     | 500                 | 520              | 720 <sup>°</sup> | 720                        |    |
| *173 <sub>.</sub>     | Line 123 (MP 0.00) (V 6.51) to<br>Auburn Regulator Station (MP 17.56)                             | 4" 6" 8"                                | 500                 | 500              | 720              | 720                        |    |
| *174                  | Arbuckle Field Collection System  | 2" - 10"                                | 800                 | 800              | 800              | 800                        |    |
| 176                   | Roberts Island Field Collection   | 2" - 8"                                 |                     |                  |                  |                            |    |
| 176                   | System<br>Roberts Island Field (MP 0.00) to   |   | 555                 | 555              | 800              | 800                        |    |
| 177                   | Tracy Station (MP 18.85)<br>Sacramento Avenue Junction (MP 0.00)<br>to Grapeway Regulator Station | 6" & 8"                                 | 555                 | 555              | 800              | 800                        |    |
|                       | (MP 0.87)   | 10"                                     | 819                 | 819              | 960              | 960                        |    |

.

. .

Exh. B (Phillips) Appendix A S.P. No. 463-8 Effective 5/1/75 Page 9/15

.

| Trans.<br>Line<br>No. | Location   | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP       | Design<br>Press.   | Future<br>Design<br>Press. |
|-----------------------|--|---|---------------------|------------|--------------------|----------------------------|
| 177                   | Grapeway Regulator to Stirling   |   |                     |            |                    |                            |
| 149                   | Junction Meter Station (MP 7.68)   | 6" & 10"                                | 469                 | . 469      | . <mark>600</mark> | 600                        |
| 177                   | Fell Regulator & Odorizer (MP 0.00)<br>to Sacramento Avenue Junction       |   |                     |            |                    |                            |
|                       | (MP 4.75)  | 16"                                     | 819                 | 819        | 960                | 960                        |
| 177                   | Sacramento Avenue Junction to  |   |                     |            |                    | •                          |
|                       | Corning N. Dome Station (MP 29.09)   | 10"                                     | 819                 | 819        | 960                | 960                        |
| 177                   | Tap 27.60 (MP 0.00) to Tap 29.87   |   |                     |            |                    |                            |
| •                     | (MP 2.19) Parallel Section Near  |   | 010                 |            |                    |                            |
| 1 4 5                 | Corning N. Dome  | 6" & 8"                                 | 819                 | 819        | 960                | 960                        |
| 177                   | Corning N. Dome Station to Gerber  | 12"                                     | 819                 | 819        | 960                | 060                        |
| 177                   | Compressor Station (MP 37.84)<br>Gerber Compressor Station to              | 12                                      | 919                 | 819        | 960                | 960                        |
| 1//                   | Cummings Creek PLS (MP 163.04)   | 12"                                     | 819                 | 819        | 960                | 960                        |
| 177                   | Cummings Creek PLS to Thompkins Hill                                       | 4.6                                     | 010                 | 010        |                    | 200                        |
|                       | Meter & Regulator Sta (MP 178.18)  | 12"                                     | 430                 | 430        | 720                | 720                        |
| 177.                  | Thompkins Hill Meter & Regulator   | •                                       |                     |            |                    | • •                        |
|                       | Station to Ryan Slough Regulator   |   |                     |            |                    |                            |
|                       | Station (MP 192.26)  | 12"                                     | 350                 | 442        | 600                | 600                        |
| 177                   | Crosstie Between Lines 177 (T 37.8)  |   |                     |            |                    |                            |
|                       | and Line 400 (V 149.18)  | 12"                                     | 819                 | 819        | 960                | 960                        |
| 177                   | Tap (V 43.87) to Red Bluff and   |   | •                   |            |                    |                            |
|                       | Diamond National (MP 1.24)   | 6"                                      | 819                 | 819        | 960                | 960                        |
| 177                   | Rancho Capay Field Coll. System  | 4"                                      | 819                 | 819        | 960                | 960                        |
| 180                   | Kettleman Hills Field Coll. System   | 8" - 20"                                | 421                 | 421        | 500                | 500                        |
| 181                   | Soap Lake Meter Station (MP 0.00)<br>to V 1.56                             | 10"                                     | 300                 | 300        | 400                | 400                        |
| 18 <b>1</b>           | V 6.19 to Watsonville Meter Station  | 10                                      | 300                 | 300        | 400                | 400                        |
| TOT                   | (MP 20.15)   | 10" & 12"                               | 300                 | 303        | 400                | 400                        |
| 181                   | Anzar Road Meter and Regulator   | 20 4 20                                 |                     |            | 10,0               | 100                        |
|                       | (MP 0.00) to Watsonville Meter   |   |                     |            |                    |                            |
|                       | Station (MP 11.19)   | 10" 16" 12"                             | 300                 | 303        | 400                | 400                        |
| *182                  | Serpa "Y" (MP 0.00) to Shell   |   |                     |            |                    |                            |
|                       | Chemical Meter Station (MP 18.23)  | $4^{n} - 12^{n}$                        | 435                 | 435        | 800                | 800                        |
| *182                  | Shell Chemical Meter Sta. to Suisun  |   |                     |            |                    |                            |
|                       | Junction Meter Station (MP 18.87)  | 12"                                     | 435                 | 435        | 600                | 800                        |
| 182                   | Kirby Hills Field Collection System  | 3" - 8"                                 | 435                 | 435        | 800                | 800                        |
| 182                   | Suisun Field Collection System   | 2" - 6"                                 | 435                 | 435        | 800                | 800                        |
| 183                   | Firebaugh Regulator Sta. (MP 0.00)<br>to Moffat Field Meter Sta. (MP 6.35) | 3"                                      | 320                 | 220        | 800                | 800                        |
| 185                   | Hollister Field Collection System  | , 3" ,<br>4"                            | 320<br>396          | 320<br>396 | 800<br>600         | 800<br>500                 |
| 186                   | Dos Palos Meter Station (MP 0.00)  |   | 550                 | 520        |                    | 500                        |
| 200                   | to Red Top Regulator (MP 26.1)   | 3" 4" 6"                                | 625                 | 625        | 720                | 720                        |
|                       |  |   |                     |            |                    | ·                          |

.

.

.

• .

N. .

.

-

. .

Ł

ł.

Appendix A S.P. No. 463-8 Effective 5/1/75 Page 10/15

| Trans:<br>Line<br>No.   | Location  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP  | Design<br>Press.  | Future<br>Design<br>Press. |
|-------------------------|---|---|---------------------|-------|-------------------|----------------------------|
| 187                     | San Ardo Field Meter Station  | ·                                       | •                   |       |                   |                            |
|                         | (MP 0.00) to Jolon Road Regulator                                   | •                                       | ,                   |       |                   |                            |
|                         | Station (MP 22.58)  | 6"                                      | 313                 | 313   | 870               | 870                        |
| 187                     | Jolon Road Regulator Station to                                     |   |                     |       | •                 |                            |
|                         | Harkins Road Meter & Mixer Station                                  | <b>x</b>                                |                     |       |                   |                            |
| ۰:                      | (MP 65.70)  | . 8"                                    | 313                 | 313   | 720               | 720                        |
| 189                     | Elk River Road Regulator Station                                    |   | ,                   |       |                   |                            |
| ı.                      | (MP 0.00) to Humboldt Bay P.P.                                      |   |                     |       |                   |                            |
|                         | (MP 1.72)   | 10"                                     | 350                 | 442   | 720               | 720                        |
| 190                     | Kettleman Compressor Station  |   |                     |       |                   |                            |
|                         | (MP 0.00) to Coalinga Nose Storage                                  | 1011 . 161                              |                     |       |                   |                            |
| 100                     | Field (MP 16.08)  | 12" & 16"                               | <u>2160</u>         | 2160  | 2160              | 2160                       |
| 190                     | Coalinga Nose Storage Field to                                      | 101                                     | 0160                | 0160  |                   |                            |
| 191                     | Union Oil Company (MP 16.22)<br>Antioch Terminal (MP 0.00) to Los   | 16"                                     | 2160                | 2160  | · 2160·           | 2160                       |
| 151                     | Medanos Junction (MP 5.81)  | 30" & 34"                               | 31.5                | 600   | 600 <sup>°,</sup> | 600                        |
| 191                     | MP 3.87 to MP 9.93 Via Pittsburg                                    |   | 515                 | 600   | 600 .             | 600                        |
|                         | Power Plant   | 20" & 24"                               | 315                 | 390   | 600               | 600                        |
| 191                     | MP 9.93 to Reliez Station Road                                      |   | 51.5                | 550.  | 000               | 600                        |
|                         | Regulator Station   | 16" 20" 24"                             | 315                 | 338   | 600 .             | 600                        |
| *191                    | Reliez Station Road Regulator                                       |   |                     |       | 000               | 000                        |
|                         | Station to MP 29.36   | 8" 10" 12"                              | 268                 | 283 · | 400               | 400                        |
| *191                    | Junction Line 191 (MP 29.36) to                                     | •                                       |                     |       |                   |                            |
|                         | MP 32.76  | 10"                                     | 268                 | 270   | 400               | 400                        |
| *191                    | MP 32.76 to Martinez Meter and                                      | •                                       |                     |       |                   | •                          |
| • 1                     | Regulator Station (MP 35.83)  | 10"                                     | 268                 | 268   | <sup>.</sup> 400  | 400                        |
| *191A                   | Junction Line 191 to Ardilla and                                    |   |                     |       | •                 |                            |
|                         | Cámino Pablo & Orinda Regulator                                     |   |                     |       |                   |                            |
|                         | Station   | 3" 6" 8"                                | 268                 | 283   | 400               | 400                        |
| *191B                   | Junction Line 191 to Reliez Valley                                  |   |                     | •     |                   |                            |
| 100                     | Road Regulator Station  | 8"<br>2" - 8"                           | 268                 | 283   | 400               | 400                        |
| 193<br>192              | Rice Creek Field Collection System                                  | _2" - 8"<br>_4" 6" 8"                   | 819                 | 960   | 960               | 960                        |
| 193 <sup>.</sup><br>193 | Malton Field Collection System<br>Kirkwood & Rice Creek Field North | 4" 6" 8"                                | 819                 | 960   | 960               | 960                        |
| 193                     | Collection System   | · 6"                                    | 010                 | 010   |                   | 0.50                       |
| 194                     | McMullin Ranch Mixer (MP 0.00) to                                   | 4                                       | 819                 | 819 . | 960               | 960                        |
|                         | MP 2.83   | 8" & <sup>:</sup> 10"                   | 437                 | 437   | 800               | 200                        |
| 194                     | McMullin Field Dehydrator Station                                   |   | 437                 | 421   | 800               | 800                        |
|                         | (MP 0.00) to California Ammonia                                     |   |                     |       |                   |                            |
|                         | Company (MP 4.39)   | 6"                                      | 437                 | 437   | 960               | 960                        |
| 194                     | McMullin Ranch Field Collection                                     | -                                       |                     |       |                   | 200                        |
| •                       | System  | 2" & 10"                                | 437                 | 437   | 800               | 800                        |
| 195                     | Rio Vista Field Collection System                                   |   | *                   | - • • |                   |                            |
|                         | (HP)  | 2" - 16"                                | 800                 | 800   | 800               | 800                        |
|                         |   |   |                     |       | •                 |                            |

ł

÷. •

\$

:

Ę

Exh. B (Phillips) Appendix A S.F. No. 463-8 Effective 5/1/75 Page 11/15

|        |                                      | Nominal              |      |         |             |         |
|--------|--------------------------------------|----------------------|------|---------|-------------|---------|
| Trans. |                                      | Pipe                 | PG&E |         |             | Future  |
| Line   |                                      | Diameter             | MOP  |         | Design      | Design  |
| NO.    | Location                             | (Inches)             | psig | MAOP    | Press.      | Press.  |
| *195   | Rio Vista Field Collection System    |                      |      |         |             |         |
|        | (IP)                                 | 2" - 16"             | 510  | 510     | 800         | 800     |
| 196    | Las Vinas Station (MP 0.00) to       |                      |      |         |             | ~~~     |
|        | Isleton Meter Station (MP 13.45)     | 8" & 12"             | 800  | 800     | 800         | 800     |
| 197A   | Las Vinas Station to MP 21.41        | 10"                  | 385  | 388     | 720         | 720     |
| 197A   | MP 21,41 to MP 31,23                 | <b>10" &amp;</b> 12" | 320  | 500     | 720         | 720     |
| 197A   | MP 31.23 to MP 39.57                 | 12"                  | 320  | 320     | 720         | 720     |
| 197A   | MP 39.57 to Calaveras Cement         | 8 <b>"</b>           | 320  | · 320   | 720         | 720     |
| 197B   | Las Vinas Station to MP 5,50         | 6"                   | 385  | 388     | <b>7</b> 20 | 720     |
| 197B   | V 19.57 to V 31.24                   | 8 <sup>11</sup>      | 320  | 320     | 720         | 720     |
| 197C   | Ione Tap to MP 23.02                 | 10"                  | 385  | 720     | 720         | 720     |
| 199    | Bunker Field Collection System       | 3" - 8"              | 796  | 796     | 800         | 800     |
| 200    | W. Rio Vista Field Collection        |                      |      |         |             |         |
|        | System (HP)                          | 2" - 16"             | 800  | 800     | 800         | 800     |
| *200   | W. Rio Vista Field Collection        |                      |      |         |             |         |
|        | System (LP)                          | 2" <b>-</b> 16"      | 510  | 510     | 800         | 800     |
| 200    | Liberty Islands Field Collection     |                      |      |         |             |         |
|        | System                               | <b>4</b> "           | 800  | 800     | 800         | 800     |
| 200    | Lindsay Slough Field Collection      |                      |      |         |             |         |
|        | System                               | 3" - 10"             | 800  | 868     | 960         | 960     |
| 201    | Todhunters Lake Field Collection     |                      |      |         |             |         |
|        | System                               | 2" - 12"             | 800  | 960     | 960         | 960     |
| 202    | Grass Valley Tap to Regulator        |                      |      |         |             |         |
| -      | Station near Robin Avenue, Grass     |                      |      |         |             |         |
|        | Valley (MP 23.72)                    | 6" & 8"              | 400  | 720     | 720         | 600     |
| 203    | Greens Lake Field Collection System  | 4".                  | 500  | 800     | 800         | 800     |
| 204    | Bender Gas Well Collection System    | 3" & 4"              | 500  | 890     | 890         | 890     |
| 206    | Pleasant Creek Tap to Pleasant       |                      |      |         |             |         |
|        | Creek Compressor Station             | 12".                 | 975  | 1440    | 1440        | 1440    |
|        | Conway Ranch Field Collection System | 4" 6" 8"             | 800  | 1000    | 1000        | 1000    |
| 209    | Line 400 to Line 128 at Willows      | 4"                   | 450  | 450     | 720         | 720     |
| 210    | Rio Vista "Y" (MP 0.00) to Creed     |                      |      |         | - • •       |         |
| ~ * *  | Station (MP 1.40)                    | 16"                  | 650  | 650     | 800         | 800     |
| 210    | Creed Station to Napa "Y" (MP 25,98) | 16" & 18"            | 650  | 650     | 740         | 740     |
| 210    | Creed Station to Cordelia Regulator  | 204                  | ~~~  | 686     | 6 B F       | <i></i> |
|        | Station (MP 19.47)                   | 32"                  | 650  | 675     | 675         | 675     |
| 210    | Cordelia Regulator to Napa "Y"       | 701 - 101            | 650  | 650     |             | ~~~     |
| 010    | (MP 25,62)                           | 10" & 12"            | 650  | 650     | 800         | 800     |
| 210    | Rio Vista "Y" to Creed Station       | 100                  |      |         | ~~~         |         |
| 010    | (MP 1.36)                            | 10"                  | 650  | 650     | 800         | 800     |
| 210    | Cordelia Regulator to Herrmann       | 0.44                 |      | <i></i> |             |         |
| 030    | Station                              | 24"                  | 650  | 675     | 675         | 675     |
| 210    | V 27.67 (MP 0.00) to Humble Oil      | 100                  | 650  | -       | 700         | Car     |
| ,      | Meter Station                        | 18"                  | 650  | 720     | 720         | 675     |
|        |                                      |                      |      |         |             |         |

: •

۱...

(\_\_\_\_

.

.

.

: .

١.

Ļ

Appendix A S.P. No. 463-8 Effective 5/1/75 Page 12/15

|              |  | Nominal          |                        |       |          |        |
|--------------|--|------------------|------------------------|-------|----------|--------|
| Trans.       |  | Pipe             | PG&E                   |       |          | Future |
| Line         | · · ,  | Diameter         | MOP                    |       | Design   | Design |
| No.          | Location   | (Inches)         | psig                   | MAOP  | Press.   | Press. |
| 2.15         | MP 0.00 to MP 20.05  | 12"              | 500                    | 000   | 600      |        |
| 210          | Rio Vista "Y" (MP 0.00) to Davis                             | 12               | 500                    | 890   | 890      | 890    |
| 240          | Meter & Regulator Station                                    |                  |                        |       |          |        |
|              | (MP 22.01)   | 8" 10" 12"       | 796                    | 796   | 200      | 000    |
| 220          | Davis Meter & Regulator to Dunnigan                          | 0 10 12          | 790                    | 790   | 800      | 800    |
| 2.20         | Meter & Regulator Station                                    |                  |                        |       |          |        |
|              | (MP 34.11)   | 6" & 8"          | 500                    | 500   | 500      | 000    |
| 300A         | Colorado River (MP 0.00) to Topock                           | 0 2 0            | 500                    | 000   | 500      | 800    |
| 50011        | Compressor Station (MP 0.64)                                 | 30" & 34"        | 660                    | 700   | 700      | 700    |
| 300A         | Topock Compressor Station to PLS 1A                          | 50 & 54          | 000                    | 700   | 700      | 700    |
| . :          | (MP 40.87)   | · 34"            | 867                    | 867   | 990      | 000    |
| 300A         | PLS 1A to PLS 2A (MP 103.72)                                 | 34"              | 815                    | 815   | 890      | 890    |
| 300A         | PLS 2A to PLS 2AX (MP 130.37)                                | 34"              | 688                    | 688   | 815      | 815    |
| 300A         | PLS 2AX to Hinkley Compressor                                |                  | 000                    | 000   | 688      | 688    |
|              | Station (MP 159.33)  | 26" & 34"        | 573                    | 673   | 690      |        |
| 300A         | Hinkley Compressor Station to PLS                            | 20 & 34          | 575                    | 573   | 573      | 573    |
|              | 3A (MP 203.02)   | 34"              | 861                    | 067   | 000      |        |
| 300A         | PLS 3A to PLS 4A (MP 256.21)                                 | 34"<br>34"       | 801                    | 861   | 890      | 890    |
| 300A         | PLS 4A to PLS 5A (MP 299.01)                                 | 34"              |                        | 817   | .817     | 817    |
| 300A         | PLS 5A to Kettleman Compressor                               | 24               | 736                    | 757   | 757      | 757    |
|              | Station (MP 353.85)  | 34"              | 660                    | 600   | 6.00     |        |
| 300A         | Kettleman Compressor Station to                              | 34               | 669                    | 688   | · 688    | 688 -  |
|              | PLS 6A (MP 436.74)   | · 34" ·          | 040                    | 040   | 000      | 0.00   |
| 300A         | PLS OA (MF 430.74)<br>PLS OA to Pacheco Pass PLS             | 54.              | 840                    | 840   | 890      | 890    |
|              | (MP 461.07)  | · 34"            | 715                    | 715   |          |        |
| 300A         | Pacheco Pass PLS to PLS 7A Silver                            |                  | 715                    | . 715 | 715      | 715    |
| JUUA         | Creek (MP 490.65)  | 34"              | 631                    | 621   | 276      |        |
| 300A         | PLS'7A to Milpitas Terminal Station                          | 24               | 021                    | 631   | 715      | 715    |
| JUUA         | (MP 502.34)  | 34"              | 558                    | 550   | 676      | 686    |
| 300B         | Colorado River (MP 0.00) to Topock                           | 0 <del>4</del> . | 228                    | 558   | 676      | 676    |
|              | Compressor Station (MP 0.45)                                 | 34"              | 660                    | 660   | 735      | 50 C   |
| 300B         | Topock Compressor Station to PLS 1B                          | 24               | 660                    | 660   | 735      | 735    |
|              | (MP 40.49)   | 34"              | 867                    | 067   | 00 Å     | 004    |
| 300B         | PLS 1B to PLS 2B (MP 103.51)                                 | 34"              |                        | 867   | 894      | 894    |
| 300B         | PLS 2B to PLS 2BX (MP 130.40)                                | 34"              | 815<br>688             | 821   | 821      | 821    |
| 300B         | PLS 2BX to Hinkley Compressor                                | 24               | 000                    | 688   | 688      | 688    |
| 2005         | Station (MP 161.02)  | 34"              | ピヨウ                    | 690   |          | 2-0    |
| 300B         | Hinkley Compressor Station to PLS                            | 24.              | 573                    | 573   | 573      | 573    |
|              | 3B (MP 203.07)   | 2.40             | 063                    | 0.61  |          |        |
| 300B         |  | 34"              | 861                    | 861   | 897      | 897    |
| 300B<br>300B | PLS 3B to PLS 4B (MP 256.64)<br>PLS 4B to PLS 5B (MP 299.00) | 34"              | 803<br>726             | 816   | 816      | 816    |
| 300B         |  | 34"              | 736                    | 757   | 757      | 757    |
| 2008         | PLS 5B to Kettleman Compressor                               | Э.А.Н            | <i>cc</i> <sub>2</sub> |       | <b>.</b> |        |
|              | Station (MP 354.02)  | 34"              | 669                    | 688   | 688      | 688    |

Appendix A S.P. No. 463-8 Effective 5/1/75 Page 13/15

-

| Trans.<br>Line<br>No. | Location  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br><u>psig</u> | MAOP | Design<br>Press. | Future<br>Design<br>Press. |
|-----------------------|---|---|----------------------------|------|------------------|----------------------------|
| 300B                  | Kettleman Compressor Station to PLS                           | 34"                                     | 840                        | 840  | 890              | 890                        |
| 300B                  | 6B (MP 436.85)<br>PLS 6B to Pacheco Pass PLS (MP              | 54                                      | 040                        | 640  | 890              | 890                        |
| 200B                  | 461.08)   | 34"                                     | 715                        | 715  | 715              | 715                        |
| 300B                  | Pacheco Pass PLS to PLS 7B Silver                             |   |                            |      |                  | . 10                       |
|                       | Creek (MP 490.92)   | 34"                                     | 631                        | 631  | 715              | 715                        |
| 300B                  | PLS 7B to Milpitas Terminal Station                           |   |                            |      | : >              |                            |
|                       | (MP 502.64)   | 34"                                     | `600                       | 669  | 669              | 669                        |
| 301G                  | Hollister Meter Station (MP 0.00)                             |   |                            |      |                  |                            |
| • •                   | to Moss Landing Power Plant<br>(MP 24.68)                     | 24" & 30"                               | 500                        | 500  | 500              | 500                        |
| 301A                  | Hollister Meter Station (MP 0.00)                             | 24 & 50                                 | 500                        | 500  | 200              | 500                        |
|                       | to Moss Landing Power Plant                                   | •                                       | •                          | • •  | •                |                            |
|                       | (MP 24.84)  | 20 <sup>#</sup>                         | 3,96                       | 396  | 5,00             | 500                        |
| 301B                  | Dolan Road Meter Station (MP 0.00)                            |   | •                          | • •  | · · ·            | •                          |
|                       | to Hilltown Regulator Station                                 |   |                            |      |                  | _                          |
|                       | (MP 14.02)  | 12"                                     | 408                        | 408  | 600              | 500                        |
| *301C                 | Hilltown Regulator Station to<br>Harkins Road Meter and Mixer |   | •                          | ۰. ۰ |                  |                            |
|                       | Station (MP 17.20)  | 8" & 12"                                | 313                        | 313  | 500              | 500                        |
| *301F                 | Espinosa Road (MP 0.00) to Marina                             | 0 . 0 12 .                              | 0,10                       | 515  |                  | 500                        |
|                       | Regulator Station (MP 7.94)                                   | 16"                                     | 408                        | 412  | 400              | 412                        |
| *301E                 | Crosstie - Monterey #2 (MP 0.00) to                           |   |                            | •    | •                |                            |
| -                     | Main 301 (MP 1.02)  | 12"                                     | 408                        | 408  | 500              | 500                        |
| 301D                  | Anzar Tap Station to Anzar Road                               | • • • • •                               |                            |      |                  |                            |
| 201-                  | Meter & Regulator Station (MP 1,72)                           | 10"                                     | 500 '                      | 500  | .500             | 500                        |
| 301H                  | Anzar Tap Station to Anzar Road<br>Meter & Regulator Station  | 16"                                     | 500                        | 500  | FOO              | 500                        |
| 302                   | Sutter Buttes, W. Butte, Butte                                |   | . 500                      | 500  | 500              | 500                        |
| 502                   | Slough, Grimes, Sycamore, Kirk &                              |   |                            |      |                  |                            |
|                       | Buckeye Field Collection System                               | 2" - 20"                                | 1000                       | 1000 | 1000             | 1000                       |
| 302                   | Buckeye Creek PLS (MP 0.00) to                                | •••                                     |                            | • •  | • •              |                            |
| •                     | Hershey Junction (MP 5.76)                                    | 20"                                     | 975                        | 975  | 1000             | 975                        |
| 303                   | Antioch Terminal to Brentwood                                 |   |                            |      |                  |                            |
| 202                   | Terminal (MP 7.86)  | 36"                                     | 720                        | 720  | 720              | 720                        |
| 303                   | Brentwood Terminal to Irvington<br>Station (MP 42.83)         | 36"                                     | 590                        | 590  | 600              | 600                        |
| 304                   | Tracy Station (MP 0.00) to Lathrop                            |   | 590 , '                    | 5,50 | 000              | 600                        |
|                       | Dehydrator & Odorizer Station                                 |   |                            |      | •                |                            |
|                       | (MP 11,29)  | 12"                                     | 825                        | 825  | 825              | 825                        |
| 304                   | Lathrop Field Collection System                               | 3" - 12"                                | 825                        | 825  | 825              | 825                        |
| 306                   | Kettleman Compressor Station                                  | ··· · ·                                 |                            | •••  | •                | •                          |
|                       | (MP 0.00) to Dry Creek PLS                                    | 0.0."                                   | <b>•</b> • -               |      |                  |                            |
|                       | (MP 43.3)   | 20"                                     | 840                        | 840  | 840              | 840                        |

· .

!

ĺ,

.

-

.

·. .

. .

٠

.

(See Over)

Exh. B (Phillips) Appendix A S.P. No. 463-8 Effective 5/1/75 Page 14/15

| Trans,<br>Line<br>No, | Location   | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP       | Design -<br>Press. | Future<br>Design<br>Press. | ( |
|-----------------------|--|---|---------------------|------------|--------------------|----------------------------|---|
| 306                   | Dry Creek PLS to Morro Bay Power<br>Plant (MP 70.02)   | 20"                                     | 650                 | 650        | 840                | 840                        |   |
| 307                   | Spreckels Sugar Meter Station<br>(MP 0.00) to Spreckels Sugar  |   |                     |            |                    |                            |   |
| 307                   | Regulator (MP 16,36)<br>Derrick Road Tap (MP 0,00) to  | 8"                                      | 500                 | 500        | 915                | 890                        |   |
| 311                   | Arbios Regulator Station (MP 4.95)<br>Main 300 (MP 0.00) (V 180.64A) to<br>Westend Primary Regulator Station | .8"                                     | 500                 | 890        | 915                | 890                        |   |
| 311                   | (MP 54.44)<br>Parallel Section (MP 31.97) to   | 10" & 12"<br>·                          | 700                 | 700        | . 960              | 890                        |   |
| 312                   | MP 38.49<br>Line 300A (MP 0.00) (T 273.27) to<br>Paloma Field Meter Station                                  | 12"                                     | 700                 | 810        | 960                | 890                        |   |
| 313                   | (MP 8.00)<br>Lucerne Valley Tap Meter Station to   | 8"                                      | 736                 | 740        | 820                | 820                        |   |
| 314                   | Permanente Company Meter (MP 34.4)<br>Hinkley Compressor Station (MP 0.00)                                   | 8" & 10"                                | 5 <b>7</b> 3        | 573        | 720                | 720                        |   |
|                       | to MP 24,19  | 12"<br>10"                              | 861                 | 861<br>260 | 890                | 890<br>720                 |   |
| 314                   | MP 24.19 to MP 29.00   | 10                                      | 260                 | 260        | 7201               | 720                        |   |
| 314                   | MP 29.00 to Black Mountain Meter &<br>Regulator Station (MP 43.18)   | 8" & 10"                                | 260                 | 260        | 720                | 720                        | ( |
| 314                   | Tap to Riverside Cement  | · 81                                    | 260                 | 260        | 720                | 720                        | • |
| 314                   | Tap to Airbase Road Meter Station  | 8" .                                    | 260                 | 260        | 720                | 720                        |   |
| *316                  | Dutch Slough & River Break Field<br>Collection System  | 2" - 12"                                | 800                 | 800        | 800                | 800                        |   |
| 317                   | Chickahominy Field Collection<br>System  | 3"                                      | 975                 | 975        | 975                | 975                        |   |
| 318                   | Black Butte Field Collection System  | 3"                                      | 911                 | 911        | 975<br>960         | 960                        |   |
| 372                   | Ridgecrest Tap to Ridgecrest Primary   | 5<br>6"                                 |                     | ·          |                    |                            |   |
| 400 .                 | Regulator<br>California-Oregon Border (MP 0.00)<br>to Tionesta Compressor Station                            |   | 700                 | 700        | 960                | 960                        |   |
| 400                   | (MP 24.60)<br>Tionesta Compressor Station to   | 36"                                     | 911                 | 911        | 911                | 911                        |   |
| 400                   | Indian Springs PLS (MP 48.64)<br>Indian Springs PLS to Burney  | 36"                                     | 911                 | 911        | 911                | 911 <sub>.</sub>           |   |
| 400                   | Compressor Station (MP 82.33)  | 36"                                     | 911                 | 911        | 911                | 911                        | • |
|                       | Burney Compressor Station to<br>MP 104.20  | 36"                                     | 911                 | 911        | 911                | 911                        |   |
| 400                   | MP 104.20 to Shingletown PLS<br>(MP 115.26)  | · 36"                                   | 911                 | 915        | 942                | 942                        |   |
| 400                   | Shingletown PLS to Gerber Compressor<br>Station (MP 149.18)  | 36"                                     | 911                 | 911        | 911                | 911                        |   |

•

Exh. B (Phillips) Appendix A S.P. No. 463-8 Effective 5/1/75 Page 15/15

| Trans.<br>Line<br>No. | Location   | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP | Design<br>Press. | Future<br>Design<br>Press. |
|-----------------------|--|---|---------------------|------|------------------|----------------------------|
| 400                   | Gerber Compressor Station to<br>Delevan Compressor Station |   |                     | ·    |                  |                            |
|                       | (MP 197.83)  | 26" & 36"                               | 911                 | 911  | 911              | 911                        |
| 400                   | Delevan Compressor Station to                              |   |                     |      |                  | 277                        |
|                       | Buckeye Creek PLS (MP 233.87)                              | 36"                                     | 1040                | 1040 | 1040             | 1040                       |
| 400                   | Buckeye Creek PLS to Antioch                               |   |                     |      |                  |                            |
|                       | Terminal (MP 298,87)                                       | 26" & 36"                               | 975                 | 975  | 975              | 975                        |
| 402                   | Redding-Calaveras Tap (MP 0.00) to                         |   |                     |      |                  | 270                        |
|                       | PLS (MP 9.96)  | 12"                                     | 300                 | 300  | 865              | 865                        |
| 402                   | MP 9.96 to Calaveras Cement Tap                            |   |                     |      |                  | 000                        |
|                       | (MP 38,10)   | 8" 10" 12"                              | 300                 | 300  | 720              | 720                        |
| 403                   | Rio Vista "Y" (MP 0.00) to Creed                           |   |                     |      | 120              | 720                        |
|                       | Station (MP 1.38)  | 16"                                     | 650                 | 650  | 855              | 800                        |

\*Indicates that line or sections of line are under 20% SMYS, but are listed for the purpose of continuity.

l

Exh. B (Phillips) Appendix B S.P. No. 463-8 Effective 5/1/75 Page 1/3

# DISTRIBUTION MAINS OPERATING AT OR OVER 20% SMYS

:

1

|  | Nominal     |      | •      | · ·                          |                  |
|--|-------------|------|--------|------------------------------|------------------|
|  | Pipe        | PG&E |        |                              | Future           |
| •  | Diameter    | MOP  |        | Dodan                        |                  |
| Location                                     |             |      | 147.00 | De <b>si</b> gn <sup>.</sup> | Design           |
|  | (Inches)    | psig | MAOP   | Press.                       | Press.           |
| COAST VALLEYS DIVISION                       | • •         |      |        | •                            |                  |
| Monterey #1 - Harkins Road Meter & Mixer     |             |      |        |                              |                  |
| Station to Fig-Frank Streets Regulator       |             |      | •      | :                            |                  |
| Station                                      | 8" & 12"    | 313  | 313    | 500                          | 400              |
| Monterey #2 - Fort Ord to Fig-Frank Streets  |             |      |        |                              |                  |
| Regulator Station                            | 10" 12" 16" | 313  | 313    | 400 ·                        | 400              |
| Monterey (V-18.65 to Carmel V-2.13) Aquajito | · · · · · · |      |        |                              |                  |
| Road Regulator Station                       | 8" & 10"    | 313  | 313    | 500                          | · 400            |
| Harkins Road Meter and Mixer Station to      | • u n•      |      | • . •  |                              |                  |
| MP 2.45                                      | 8" & 10"    | 313  | 313    | 500                          | 500              |
| MP 2.45 to MP 3.50                           | 8"          | 313  | 313    | 500                          | 500              |
| MP 3.50 to California Street Regulator       | 0           | 313  | 373    | 500                          | 5,00             |
| Station                                      | 8"          | 313  | 313    | 500                          | 500              |
| Salinas Main - Foster Road to San Miguel     | 0           | 213  | 313    | 500                          | 500              |
| Avenue                                       | 8"          | 313  | 313    | 500                          | 500              |
| DFM-6 Espinosa Road Main from 301-B, V-3.18  | 6"          | 408  | 500    | 500<br>720                   | 500              |
| DFM-7 Union Carbide Main from 187, MP 17.42  | 3"          | 313  |        |                              | 500              |
| DFM-8 Paradise Road to Meridian Road Main    | 4" & 6"     | 500  | 313    | 720                          | <sup>1</sup> 870 |
| DIM-0 FOLDALISE KOAU CO MELIULAN KOAU MAIN   | 4 80        | 500  | 500    | 720                          | 500              |
| COLGATE DIVISION                             |             |      | •      | · ,                          |                  |
| Yuba City HPU Holder to Market Street        |             |      |        |                              | •                |
| Regulator Pit                                | 6" & 8"     | 135  | 135    | 400                          | 400              |
| Tap to Schohr Ranch                          | 6"          | 250  | 250    | · 720·                       | 720              |
| Tup be benefit innen                         | Ū.          | 200  | 250    | 120                          | 140              |
| DRUM DIVISION                                |             |      | ٠      | •••                          |                  |
| Diamond Oaks Feeder                          | 6"          | 500  | 500    | 500                          | 600              |
|  | ~           | 200  | 500    |                              |                  |
| EAST BAY DIVISION                            |             |      |        |                              |                  |
| Avon Power Station Feeder                    | 8" & 12"    | 315  | 338    | 600                          | 600              |
| Phillips Petroleum Company Feeder            | 12"         | 315  | 338    | - 600 · ·                    | 600              |
| General Chemical Tap                         | 4"          | 315  | 338    | 600                          | 600              |
| Pacific States Steel Feeder                  | 12"         | 420  | 420    | 600                          | 500              |
| Warm Springs Feeder                          | 2" & 4"     | 465  | 465    | 500                          | 600              |
| Port Costa Feeder                            | 6" `        | 315  | 338    | 600                          | 600              |
| 50th Avenue Holder Feeder Off Line 105       | 16" & 20"   | 150  | 198    | 275                          | 275              |
| Pittsburg Town Feeder                        | 12"         | 315  | 338    | 600                          | 600              |
| Concord Feeder to Alpha Beta Regulator       | 8"          | 315  | 600    | 600                          | 600              |
| Oleum Steam Plant Tap                        | 8" 10" 12"  | 250  | 250    | 275                          | 275              |
| San Ramon Feeder                             | 16"         | 500  | 500    | 500                          | 600              |
| Standard Oil Feeder                          | 22*         | 400  | 400 ·  | 400                          | 400              |
|  | 20          | -100 | 400    | 400                          | -100             |

Exh. B (Phillips) Appendix B S.P. No. 463-8 Effective 5/1/75 Page 2/3

í

۱

| Location  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | маор    | Design<br>Press. | Future<br>Design<br>Press.              |
|---|---|---------------------|---------|------------------|---|
|   |   | <u></u>             |         |                  | ··· - · · · · · · · · · · · · · · · · · |
| NORTH BAY DIVISION                                    | 0.8                                     | 420                 | 500     |                  | 6 <b>9</b> F                            |
| Cotati Feeder   | 8 <b>n</b>                              | 450                 | 500     | 675              | 675                                     |
| 12" Line 21 (V-16.15) to Pine Street Meter<br>Station | / 8 <sup>n</sup>                        | 450                 | 500     | 675              | 675                                     |
| 12" Line 21 (V-16.15) to Kilburn Regulator            | 0                                       | 450                 | 500     | 675              | 675                                     |
| Station   | 10"                                     | 450                 | . 500   | 675              | 675                                     |
| Kilburn Regulator Station to Yountville               | 8" & 10"                                | 450                 | 500 500 | 675              | 675                                     |
| 6" Sonoma Tap Line                                    | 6"                                      | 450                 | 500     | 675              | 675                                     |
|   | • t                                     | ,                   |         |                  |   |
| SACRAMENTO DIVISION                                   |   |                     |         |                  |   |
| Sacramento Gas Plant to North Sacramento HPU          |   |                     |         |                  |   |
| Holder  | 8" & 12"                                | 260                 | 260     | 400              | 400                                     |
| Tremont Tap to Dixon Meter Station                    | 6".                                     | 550                 | 750     | 800              | 800                                     |
| Tap to Union Carbide (MP 0.00 - MP 4.05)              | 8" & 10"                                | 412                 | 412     | 720              | 720                                     |
| SAN FRANCISCO DIVISION                                |   |                     |         | •                |   |
| Peninsula Main  | 16" & 20"                               | 109                 | 109     | 275              | 275                                     |
| Hunters Point Power Plant Feeder                      | 20"                                     | 145                 | 145     | 275              | 275                                     |
| · ·   |   |                     | 4       |                  |   |
| SAN JOAQUIN DIVISION                                  |   |                     |         | •                |   |
| Tranquility Feeder                                    | 3"                                      | 800                 | 800     | 900              | 900                                     |
| Yosemite Avenue Feeder                                | . 6"                                    | 400                 | 720     | 720              | 720                                     |
| Line 300A to California-Portland Cement Company       | 3 **                                    | 803                 | 817     | 865              | 865                                     |
| Snelling Highway Feeder                               | 6"                                      | 400                 | 400     | 400              | 720                                     |
| Dixon Dryer Feeder                                    | 4"                                      | 500                 | · 500   | 720              | 720                                     |
| Peach and Central Feeder                              | 6"                                      | 650                 | 720     | 720 .            | 720                                     |
| Clovis Feeder Main                                    | 6" & 12"                                | 650                 | 650     | 720              | 720                                     |
| Vinewood Avenue Feeder                                | 4"                                      | 400                 | 720     | 720              | 720                                     |
| Winton Avenue Feeder                                  | 6" ·                                    | 400                 | 720     | 720              | 720                                     |
| Cressey Way Feeder                                    | 4"& 6"                                  | 400                 | 400     | 720 ·            | 720                                     |
| Valley Nitrogen Feeder                                | 6"                                      | 650                 | 650     | 800              | 720                                     |
| SAN JOSE DIVISION                                     |   |                     |         |                  |   |
| Half Moon Bay Feeder Line                             | 8" 10" 12"                              | 400                 | 577     | 577**            | 577**                                   |
| Santa Cruz to Davenport                               | 10" & 12"                               | 300                 | 303     | 557**            | 400 ·                                   |
| Ailpitas Terminal to PLS #7, Kings Road,              |   | 0.0.5               |         |                  | 500                                     |
| 20" Feeder  | 16" 20" 30"                             | 200                 | 200     | 275              | 526                                     |
| Natsonville to River Street Regulator                 |   |                     | 0.05    |                  | 400                                     |
| Station   | 8" & 10"                                | 300 '               | 303     | 577**            | 400                                     |
| Atsonville to Rob Roy Junction                        | 10"                                     | 300                 | 303     | 557**            | 400                                     |

\*\*See Paragraph 6

Exh. B (Phillips) Appendix B S.P. No. 463-8 Effective 5/1/75 Page 3/3

.

| Location                             | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP  | Design<br>Press. | Future<br>Design<br>Press. |
|--------------------------------------|---|---------------------|-------|------------------|----------------------------|
| SHASTA DIVISION                      |   |                     |       |                  |                            |
| Simpson Lee Paper Mill Feeder        | 6 <sup>11</sup>                         | 300                 | . 300 | 720 .            | 720                        |
| U.S. Plywood Plant Feeder            | 4"                                      | 300                 | 720   | 720              | 720                        |
| Enterprise Town Feeder               | 4" & 6"                                 | 300                 | 300   | 720              | 720                        |
| Calaveras Cement Company Feeder      | 8"                                      | 300                 | 300   | 720              | 720                        |
| Red Bluff District Tap               | 2 <sup>1</sup>                          | 911                 | 911   | 911              | 911                        |
| STOCKTON DIVISION                    | <b>4</b> 17                             | 100                 |       |                  | ~ * *                      |
| Roth Road Feeder - Manteca           | 4"                                      | 408                 | 720   | 720              | 720                        |
| Valley Tomato Trunk Line             | 8"                                      | 412                 | 500   | 720              | 720                        |
| Eight Mile Road Trunk Line           | 4 <sup>11</sup> & 8 <sup>11</sup>       | 412                 | 426   | 720              | 720                        |
| Ripon-Modesto Feeder (Parallel)      | 8" & 12"                                | 408                 | 408   | 720              | 720                        |
| Dale Road to North Avenue Feeder     | 12"                                     | 408                 | 408   | 720              | 720                        |
| Riverbank Feeder                     | 8" & 10"                                | 408                 | 720   | 720              | 720                        |
| Carpenter Road Feeder                | 12"                                     | 412                 | 500   | 720              | 720                        |
| Modesto Feeder Via Pauline Boulevard | 4" & 6"                                 | 408                 | 408   | 720              | 720                        |
| Turner Road Feeder (Parallel)        | 4" & 8"                                 | 300                 | 300   | 720              | 720                        |
| McArthur Road Feeder                 | 4"                                      | 295                 | 295   | 400              | 720                        |
| Louise Avenue Feeder                 | 8"                                      | 408                 | 408   | 720              | 720                        |
| C.Y.A. Feeder - Stockton             | 6"                                      | 412                 | 426   | 720              | 720                        |
| Morgan Road Feeder - Modesto         | 12"                                     | 260                 | 720   | 720              | 720                        |
| Swain Road Feeder                    | 6" & 8"                                 | 125                 | 400   | `400             | 400                        |
| *Turlock to Ceres Regulator Station  | 10"                                     | 250                 | 260   | 720              | 720                        |

....

- -

I

Exh. B (Phillips)

Appendix C S.P. No. 463-8 Page 1/1 Effective 5/1/75

# PIPE TYPE HIGH PRESSURE UNDERGROUND HOLDERS OPERATING AT OR OVER 20% SMYS

,

••

| Location               | Length<br>(Feet) | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP | Design<br>Press. | Future<br>Design<br>Press. |
|------------------------|------------------|---|---------------------|------|------------------|----------------------------|
| COLGATE DIVISION -     |                  |   |                     |      |                  |                            |
| ' Yuba City            | 24,784           | 34"                                     | 525                 | 525  | . 550            | 550                        |
| NORTH BAY -            | •                |   |                     |      |                  |                            |
| San Rafael             | 37,392           | 30"                                     | 650                 | 650  | 690              | 690                        |
| SACRAMENTO DIVISION -  |                  |   |                     |      |                  |                            |
| Sacramento             | 78,452           | 34"                                     | 445                 | 445  | 550              | 550                        |
| SAN JOAQUIN DIVISION - |                  |   |                     |      |                  |                            |
| Fresno                 | 43,722           | 30"                                     | 690                 | 690  | 690              | 690                        |
| SAN JOSE DIVISION -    |                  |   |                     |      |                  |                            |
| Santa Cruz             | 7,221            | 30"                                     | 660                 | 660  | 660              | 660                        |
|                        | 4,838            | 34"                                     | 660                 | 660  | 660              | 660                        |

Attachment B

## **BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking on the Commission's Own Motion to Adopt New Safety and Reliability Regulations for Natural Gas Transmission and Distribution Pipelines and Related Ratemaking Mechanisms

R.11-02-019 (Filed February 24, 2011)

### **DECLARATION OF ROBERT C. BECKEN**

### I, ROBERT C. BECKEN, do declare:

- I am a California Registered Mechanical Engineer and a California Registered Control System Engineer. My registration numbers are M-14394 and CS-2670, respectively. I am a member of the American Society of Mechanical Engineers (ASME) Gas Pipeline Safety Research Committee, a member of the American Gas Association (AGA) Gas Piping Technology Committee, and a member of the ASME B31.8 Gas Transmission and Distribution Piping Systems Committee. I am currently Vice-President of Gas Engineering for Energy Experts International, based in Redwood City, California. PG&E has retained my services to work on various projects, including matters related to the September 2010 San Bruno incident. I have personal knowledge of the following facts and, if called as a witness, would testify thereto.
- From March 28, 1966 to May 1, 2005, I was an employee of Pacific Gas and Electric Company ("PG&E"). From December 1, 1966 to 1990, I was chronologically a Gas Engineer, Senior Gas Engineer, and Supervising Gas Engineer in the Gas System Design Department. The Gas System Design Department was responsible for determining the Maximum Allowable Operating Pressure ("MAOP") of PG&E's gas

transmission and distribution pipelines. When I retired from PG&E in 2005, I was the Chief Technical Consultant in the System Integrity Section of the Gas System Maintenance and Technical Support Department of California Gas Transmission, a business unit of PG&E. From 1990 to my retirement from PG&E in 2005, I continued to be involved in MAOP decision-making for PG&E's gas transmission system.

- 3. In 1968-1969, in preparation for implementation of the Natural Gas Pipeline Safety Act of 1968, PG&E's Gas System Design Department commenced an effort to consolidate transmission pipeline system documentation and information. Part of this effort consisted of determining the MAOP of PG&E's transmission pipelines in accordance with applicable law. PG&E created "Pipeline Survey" sheets for each of its transmission pipelines during this time period and transferred detailed information on these sheets from existing records and other sources, including information on pipe specifications, test information, MAOP, geographic features and location class information. Previously this pipeline information had not been consolidated in this manner.
- 4. During that time period, PG&E's gas system was centrally operated by Gas Control in San Francisco, and locally operated by four Terminals (Antioch, Brentwood, Milpitas and Kettleman) and nine Division Gas Load Centers (Marysville, Eureka, Sacramento, Stockton, Fresno, San Rafael, San Francisco, Oakland and San Jose). For Lines 300A and 300B, full-time operators were on duty at the Topock Compressor Station, Hinkley Compressor Station and Kettleman Compressor Station. PG&E continuously monitored and recorded pressures in the gas system at these locations and logged the recorded pressures on at least an hourly basis. PG&E's policy at that time was to keep the pressure recordings and log sheets for at least five years.

- 5. In 1969-1970, I was involved in reviewing many of the above-referenced pressure recordings and log sheets to determine the highest operating pressure of each transmission line segment from July 1, 1965 through July 1, 1970 ("Five-Year Period"). At that time, the MAOPs of a majority of transmission pipelines evaluated were established by the highest operating pressure experienced within the Five-Year Period. For those pipelines constructed during the Five-Year Period, PG&E established the MAOP based on information from its pressure tests. PG&E's divisions retained this MAOP information for the pipelines in their areas.
- 6. On June 1, 1973, PG&E's Gas System Design Department issued Standard Practice 463-8, "Maximum Operating Pressures of Pipelines and Mains Operating at or Above 20% of S.M.Y.S." Part of the purpose of Standard Practice was to establish a uniform company procedure for identifying, reviewing and revising MAOPs of transmission pipelines. A true and correct copy of Standard Practice 463-8, effective May 1, 1975 and replacing the version of Standard Practice 463-8 issued on June 1, 1973, is attached hereto as Exhibit A.
- 7. In 1974, I was involved in reviewing the transmission pressure information again as part of an effort by PG&E to compile and centralize information on the basis of the MAOP established for each of its transmission pipelines operating at or above 20% specified minimum yield strength ("SMYS"). PG&E created a series of charts to record a summary of this MAOP information and saved the supporting documentation in binders for each of the thirteen divisions in existence at that time. A true and correct copy of a sample page from the MAOP charts that PG&E created in the 1974 time period is attached hereto as Exhibit B.

- 8. Based upon the MAOP information compiled in the effort described in paragraph 7 above, PG&E created appendices to Standard Practice 463-8 listing the MAOPs of all numbered transmission pipelines and DFMs operating at or above 20% of SMYS. See Appendices A and B to Standard Practice 463-8, effective May 1, 1975, attached hereto as Exhibit A. PG&E updated these MAOP appendices regularly.
- On April 9, 1979, PG&E issued a revised Standard Practice 463-8 which replaced the May 1, 1975 version. This version converted the MAOP appendices to Drawing No. 086868. Attached hereto as Exhibit C is a true and correct copy of Standard Practice 463-8 issued on April 9, 1979, which attached a copy of Drawing No. 086868 (Rev 0). PG&E updated Drawing No. 086868 regularly throughout the remainder of my career at PG&E.

I declare under penalty of perjury under the laws of the State of California and the United States of America that the foregoing is true and correct.

Executed this 14<sup>h</sup> day of March 2011, at Walnut Creek, California.

/s/ ROBERT C. BECKEN 4- 62-6218 (REV 9-70)

# PG∞E

### FOR INTRA - COMPANY USES

DIVISION OR DEPARTMENT FILE NO SUBJECT VICE PRESIDENT - GAS OPERATIONS 463 RE LETTER OP SUBJECT Standard Practice No. 463-8 MAOP of Pipelines and Mains Operating At or Above 20% of SMYS

### April 15, 1975

DIVISION MANAGERS GAS OPERATIONS MANAGERS MANAGER, GAS CONSTRUCTION MANAGER, PIPE LINE OPERATIONS DIVISION GAS SUPERINTENDENTS DISTRICT MANAGERS DISTRICT GAS SUPERINTENDENTS DIVISION ADMINISTRATIVE ANALYST OR EQUAL DIRECTOR, PROCEDURES AND ORGANIZATION

The attached copy of Standard Practice No. 463-8, -including the Supplement-Procedural Details and Appendices A, B, and C, dated May 1, 1975, replaces Standard Practice No. 463-8 and Supplement-Procedural Details dated June 1, 1973, and Appendices A, B, and C dated March 1, 1975.

Additional copies of this standard practice may be obtained from Gas Operations by calling Extension 1604.

SIBLEY

JRGrinstead:sm

Attachment

Exh. A (Becken)

| 62.7501 | REV.  | 4.65 |
|---------|-------|------|
| 02.7007 | ***** |      |

### PACIFIC GAS AND ELECTRIC COMPANY STANDARD PRACTICE

EXECUTIVE OFFICE OR DIVISION \_\_

ISSUING DEPARTMENT\_

|     | STANDARD PRACTICE NO. 463-8  |
|-----|------------------------------|
|     | PAGE NO. 1 EFFECTIVE 5/1/75  |
| IGN | REPLACING 1 EFFECTIVE 6/1/73 |

SUBJECT: MAXIMUM OPERATING PRESSURES OF PIPELINES AND MAINS OPERATING AT OR ABOVE 20% OF S.M.Y.S.

GAS OPERATIONS

GAS SYSTEM DES

#### PURPOSE AND POLICY

\*1. To establish a uniform procedure for identifying, reviewing and revising Design Pressure (DP), Maximum Allowable Operating Pressures (MAOP), and Maximum Operating Pressure (MOP) (PG&E) for all pipelines, mains and holders operating at or above 20% of specified minimum yield strength (SMYS) of the pipe material (See Appendixes A, B and C).

#### RECISIONS

2. All previous instructions, oral or written, that may be contrary to this Standard Practice.

### RESPONSIBILITY

- 3. Division Gas Superintendents and the Manager of Pipe Line Operations shall be responsible for the performance required by this Standard Practice. Performance will include reviews of design procedures for the lines and the records generated by the referenced Standard Practices any time a change in MOP, MAOP or DP is contemplated.
- 4. The Manager of Gas System Design will establish and confirm changes to MOP (PG&E), MAOP and DP.

#### REFERENCES

\*5. Current edition of California Public Utilities G.O. 112 S.P. 412-1, "External Corrosion Control of Buried Gas Facilities" S.P. 460-1, "Location Class Changes: Pipelines and Mains" S.P. 460.2-2, "Physical Inspection: Pipelines, Mains and Services" S.P. 460-21-4, "Periodic Leakage Surveys of Gas Transmission and Distribution Facilities" S.P. 463.7, "Pipeline History File, Establishing and Maintaining"

#### DEFINITIONS

\*6. <u>Design Pressure (DP)</u> is the maximum pressure permitted by the design sections of the current edition of G.O. 112, applicable to the materials and locations involved. In some cases the DP has been established as the maximum pressure for the minimum wall thickness required under the current edition of G.O. 112 for Type 3 construction for line size listed (See double asterisk entries in Appendix A).

Future Design Pressure is the Design Pressure (DP) to be used for future additions to existing facilities, effective March 1, 1975.

| TANDARD PRACTICE                             | C COMPANY   | STANDARD PRACTICE NO. 463-8  |
|--|---|--|
| · · · ·                                      | SION GAS OPERATIONS   | PAGE NO. 2 EFFECTIVE 5/1/75  |
| SUING DEPARTMENT                             |   | REPLACING 2 EFFECTIVE 6/1/73   |
|  | PERATING PRESSURES OF PIPELIN<br>AT OR ABOVE 20% OF S.M.Y.S.                                    | IES AND MAINS .  |
| DEFINITIONS                                  |   |  |
| a pipélin                                    | Llowable Operating Pressure (<br>e or section of a pipeline ma<br>cable provisions of the curre | MAOP) is the maximum pressure at which<br>y be operated in accordance with all.<br>nt edition of G.O. 112.   |
| <u>Maximum O</u><br>gas system<br>Design Dep | n may be operated as specifie   | ) is the maximum pressure at which a<br>d by the Manager of the Gas System   |
| psi presci                                   | ribed by the specification un   | ) is the minimum yield strength in<br>der which pipe is purchased from the<br>n 192,107 of the current edition of  |
| APPLICATION<br>*7. Procedural<br>Practice.   | details and supplemental da   | ta appear in addenda to this Standard  |
| Appendix A<br>Appendix B                     | - Distribution Mains Operat:  | ital Operating at or over 20% of SMYS<br>Ing at or above 20% of SMYS<br>ders Operating at or above 20% of SMYS   |
| RECORD                                       |   | 4<br>•   |
| document't<br>above 20%<br>Operations        | he MAOP and/or MOP (PG&E) of<br>of SMYS shall be kept current                                   | g Sheets (record of hourly data) which<br>pipelines and mains operating at or<br>t by the Division and/or Pipe Line<br>e responsibility of maintenance and |
| SUPPLEMENT                                   |   |  |
|  | P for each facility.  | re for designating the MOP (PG&E),   |
| APPROVED BY: E.<br>V1                        | ce President - Gas Operations   | ,<br>3 <sup>/,</sup> ,   |
| DISTRIBUTION: DI                             |   | Division Admin. Analyst or Equal<br>Director, Procedures Analysis  |

.

•

Exh. A (Becken)

٠.

١,

\* Paragraph Revised

Supplement S.P. 463-3 Page 1 Effective 5/1/75

#### PROCEDURAL DETAILS

- \*10. Piping systems listed are not to be operated in excess of the MOP (PG&E). This limitation has been determined by the lowest of the following:
  - a) The test pressure or the rated working pressure of the pipe, valves, and fittings in the line.
  - b) The MAOP of the line as established in accordance with the provisions of the current edition of G.O. 112.
  - c) The MAOP of another pipeline system connected to the first system where there is no pressure control complete with over pressure protection between the two systems.
  - d) Operating conditions that limit pressure.
- \*11. The MOP (PG&E) may equal, but shall never exceed the MAOP or the DP. In some cases where the MAOP is less than DP, it is anticipated that the MOAP may be increased at some future time, in accordance with Subpart K (Uprating) of the current edition of G.O. 112. For this reason, all new additions to an existing system shall have a design pressure at least equal to the design pressure listed in Appendixes A, B and C. Some sections of an existing system may not qualify for the established design pressure and would require reconstruction, testing, or replacement prior to increasing the MAOP. See paragraph 6.
- , 12. New or replacement sections of line should be tested and qualified for the ultimate MAOP of the system, even though the MOP (PG&E) of the system is limited by the MAOP of other facilities connected to it.
- \*13. Any changes contemplated in the MOP (PG&E) or the MAOP of a line operating at or over 20% of SMYS shall be submitted by the Division Gas Superintendent or the Manager of Pipe Line Operations, in letter form, to the Manager of Gas System Design, for review and approval. A copy should be sent to the Manager of Gas System Planning.
- \*14. The MOP (PG&E), MAOP and DP of all newly installed pipelines and mains operating at or above 20% of SMYS, along with those in Appendixes A, B and C shall be confirmed annually by letter on or before February 1, by the Division Gas Superintendents and the Manager of Pipe Line Operations to the Manager of Gas System Design Department, for each facility within the scope of this Standard Practice.
- \*15. The Manager of Gas System Design Department will publish and distribute updated lists of pipeline pressures (Appendixes A, B and C) as required.

Attachment: Appendix A - "Lines in Transmission Capital Operating at or over 20% of SMYS" Appendix B - "Distribution Mains Operating at or above 20% of SMYS" Appendix C - "Pipe Type Underground Holders Operating at or above 20% of SMYS"

I

\* Paragraph Revised \*\* Paragraph Added

### Exh A (Becken) Appendix A S.P. No. 463-8 Effective 5/1/75 Page 1/15

# LINES IN TRANSMISSION CAPITOL OPERATING AT OR OVER 20% SMYS

.

| Trans.   |  | Nominal<br>Pipe   | ,<br>DGa II |        |        |                  |
|----------|--|-------------------|-------------|--------|--------|------------------|
| Line     | 1  | Diameter          | PG&E<br>MOP |        | Deed   | Futur            |
| NO.      | Location   | (Inches)          | psig        | MAOD   | Design | Desig            |
|          |  | (Tucues)          | psig        | MAOP   | Press. | Press            |
| 21       | Crockett Station (MP 0.00) to                          |                   |             |        |        |                  |
| 23       | MP 0.54  | 24" & 26"         | 400         | 405    | 650    | 675              |
| . 21     | MP 0.54 to Herrmann Station (MP 1.52)                  | 24"               | 400         | 675    | 675    | 675              |
| 21       | Herrmann Station to Reis Avenue                        |                   |             |        |        |                  |
|          | (MP 2.71)  | 16"               | 250         | 258    | 575**  | 575*1            |
| 21       | Reis Avenue to Napa "Y" (MP 12.05)                     | 12"               | 250         | 375    | 585    | 585              |
| 21<br>21 | Napa "Y" to MP 35.05                                   | 12" & 26"         | 450         | 450    | 675    | 675              |
| 21       | MP 35.05 to MP 51.41                                   | ,12"              | 450         | 500    | 720    | 675              |
| 21       | MP 51.41 to Santa Rosa Compressor                      | ~ ~               |             |        |        |                  |
| 21       | Station (MP 53.12)                                     | 12"               | . 450       | 500    | 720    | 675              |
| 21       | MP 53.12 to MP 110.4                                   | 12"               | 600,        | 890    | 890    | 890              |
| 21<br>21 | MP 110.4 to MP 111.2                                   | 12".              | 600         | 720    | 890    | 890              |
| 21       | MP 111.2 to MP 111.9                                   | 12"               | 600         | 890    | 890    | 890              |
| 21       | MP 111.9 to MP 112.1                                   | 12"               | 600         | 720    | 890    | 890              |
| 21       | MP 112.1 to MP 113.9                                   | 12"               | 600         | 890    | 890    | 890              |
| 21       | MP 113.9 to Ukiah (MP 114.9)                           | 12"               | . 600       | 720    | 890    | 890              |
| 21       | MP 114.9 to Willits (MP 136.8)                         | . 8"              | 600         | 832    | 832    | 890              |
| 21       | Napa "Y" (MP 0.00) to MP 18.64                         | 16"               | 450         | 500    | 720    | 675 <sub>.</sub> |
| 21       | MP 18.64 to Denman Flat Tap                            |                   |             | •      |        |                  |
| 21       | (MP 24.6)  | 16"               | 450         | 500    | 720    | 675              |
| 21       | McDowell Road Tap (MP 34.84) to                        |                   |             |        |        |                  |
| 21       | Petaluma Meter Station (MP 35.86)                      | · 12"             | 450         | 500    | 593    | 675              |
| 21       | Adobe (MP 0.00) to San Rafael HPU<br>Holder Station    | 164 000           |             |        |        | 4                |
| 21       |  | 16" & 20"         | 450         | 500    | 600    | 675              |
| 21       | Adobe (MP 0.00) to San Rafael HPU<br>(MP 21.11)        | 100               |             |        | •      |                  |
| *50      | 5th & Walnut Streets, Marysville                       | 12"               | 450         | 500    | 675    | 675              |
|          | (MP 0.00) to Yuba City HPU                             |                   |             |        | • •    | -                |
|          | (MP 2.87)  | 0.1               | 400         |        |        |                  |
| *50      | •  | 8 <sup>11</sup>   | 400         | 400    | 720**  | 720**            |
|          | Yuba City HPU to Biggs Regulator<br>Station (MP 21.62) | <u></u>           |             | · · ·  | _      |                  |
| *50      | · · · ·  | 8.0               | 250         | 250    | 720**  | 720**            |
| -50      | Biggs Regulator Station to Richvale<br>"Y" (MP 26.94)  | <b>C U C U</b>    |             |        |        |                  |
| *50      |  | 6" & 8"           | 250         | 250    | 720**  | · 720* *         |
| ~30      | Richvale "Y" to Stirling Junction                      | <b>* *</b> * *    |             |        | •      |                  |
| 50       | (MP 44.87)   | 6" & 8"           | 400         | 400    | 720**  | <b>72</b> 0**    |
| 50<br>56 | MP 0.00 to Paradise (MP 7.81)                          | - 8 <sup>11</sup> | 400         | 720    | 720    | 720              |
| 56<br>56 | Pleasant Creek Field Storage System                    | · 4"              | 1300        | 1300   | 1250   | 1440             |
| 50       | Pleasant Creek Field Storage System                    | 8"                | 1300        | - 1440 | 1440   | 1440             |

\*\*See Paragraph 6

· · .

Exh. A (Becken)

Appendix A S.P. No. 463-8 Effective 5/1/75 Page 2/15

Ĺ

í.

| Trans.<br>Line<br>No. | Location :   | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP   | Design<br>Press. | Future<br>Design<br>Press. |
|-----------------------|--|---|---------------------|--------|------------------|----------------------------|
| 57                    | McDonald Island Field Storage<br>System :<br>McDonald Island Compressor Station                    | 4" - 12"                                | 2160                | 2160   | 2160             | 2160                       |
| . 57                  | (MP 0.00) to PLS (MP 7.47)<br>PLS (MP 7.47) to Brentwood Terminal                                  | 14" 16" 18"                             | 1025                | 1025   | 1025             | 1025                       |
| 57B                   | (MP 16.64)<br>Brentwood Terminal to McDonald   | 1.8"                                    | 867                 | .867   | 867              | 867                        |
| ··· .                 | Island   | 22"                                     | 2160                | 2160   | 2160             | 2160                       |
| - <u>1</u> 00         | MP 134.5 to Milpitas Terminal<br>(MP 150.13)   | 20" ·                                   | .400                | 400    | "·<br>552        | 552                        |
| .101                  | Milpitas Terminal (MP 0.00) to<br>Rengstorff Avenue Station (MP 9.80)                              | · 36"                                   | 400                 | 400    | 400              | 400                        |
| *101                  | Rengstorff Avenue Station Via<br>Bayshore to San Francisco Border                                  |   |                     |        |                  |                            |
| *101                  | Meter Station (MP 33,68)<br>San Francisco Meter Station Via  | 20"                                     | 180                 | 180    | 275              | 400                        |
| 50                    | Bayshore Boulevard to Potrero Gas<br>,Plant (MP. 44.56)  | 20"                                     | 109                 | 150    | 275              | . 275                      |
| *103                  | Hollister Meter Station (MP 0.00) to<br>California Street Regulator Station                        | •                                       |                     |        | -72              | 275                        |
| 103                   | (MP 23.55)<br>California Street Regulator Station  | 12"                                     | 350                 | 350    | 670**            | 500                        |
| · · · ·               | to Harkins Road Meter and Mixer<br>Station (MP 26.63)  | 12"                                     | 212                 | 212    |                  |                            |
| 105                   | Irvington Station (MP 6.88) to San   |   | 313                 | 313    | 670**            | 500                        |
| *105                  | Lorenzo Regulator Station (MP 23.03)<br>San Lorenzo Regulator Station to San                       | 20"                                     | 250                 | 250    | 500<br>·         | 500                        |
| *105                  | Pablo Station (MP 52.01)<br>Oakland Holder Station (MP 0.00) to<br>Berkeley City Limits (Parallel) | 20"                                     | ·150                | 198    | 275              | 275                        |
| . 1.05                | (MP 2.03)<br>Baine Avenue Crossover (MP 0.00) to   | 24"                                     | 150                 | 198    | 275              | 275                        |
| ×105                  | Line 153 (MP 0.18)<br>West Winton Avenue Crossover   | 20"                                     | -250                | · 250· | 590              | 500                        |
|                       | (MP 0.00) to Line 153 (MP 0.185)   | 22" & 24"                               | 250                 | 250    | 500              | 500                        |
|                       | . Crockett Station (MP 0.00) to San<br>Pablo Station (MP 11.85)                                    | 24"                                     | 400                 | 400    | 400              | 400                        |
|                       | Milpitas Terminal (MP 0.00) to<br>Irvington Station (MP 6.88)                                      | .20"                                    | 465                 | 480    | 500              | 720                        |
| 107                   | Tracy Station (MP 0.00) to Livermore<br>Junction (MP 13.11)  | 22 <sup>n</sup>                         | 500 ·               | 500 .  | 500              | 720                        |

.

\*\*See Paragraph 6

. . . .

-:

5 · · ·

4 · · · ·

Exh.A (Becken) Appendix A S.P. No. 463-8 Effective 1/8/76 Page 3/15

.

| Trans.<br>Line<br>No. | Location   | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP  | Design<br>Press. | Future<br>Design<br>Press. |
|-----------------------|--|---|---------------------|-------|------------------|----------------------------|
| 107                   | Livermore Junction to Irvington<br>Station (MP 31.22)  | 22 <sup>n</sup> ·                       | 1.5.5               |       |                  |                            |
| 1075                  | Irvington Station to Milpitas<br>Terminal (MP 38.06)   |   | 477                 | 480   | 500              | 720                        |
| . 108                 | Stanpac 2 (MP 0.00) to Vernalis  | 22"                                     | 477                 | 500   | 500              | 720                        |
| 108                   | Field Mixing Station (MP 4.59)<br>Vernalis Field Mixing Station to<br>McMullin Ranch Mixer Station | 16"                                     | 500                 | 500   | 720              | 890                        |
| 108                   | (MP 8.79)<br>McMullin Ranch Mixer Station to   | 16"                                     | 408                 | 408   | 720**            | 720**                      |
| 108                   | MP 16.7<br>MP 16.7 to Las Vinas Station  | 16"                                     | 408                 | 408   | 720**            | 720**                      |
|                       | (MP 43.5)  | 16"                                     | 412                 | 412** | * 720**          | 720**                      |
| 108                   | Las Vinas Station to MP 56.25  | 16"                                     | 490                 | 500   | 500              | 720                        |
| 108                   | MP 56.25 to Sacramento Gas Plant   |   |                     |       | 200              | 720                        |
|                       | (MP 75,10)   | 16"                                     | 412                 | 412   | 500              | 720                        |
| *108                  | E. Hazleton & B Streets Regulator<br>Station (MP 27.10) to Stockton                                |   |                     |       | 500              | 720                        |
| 109                   | Gas Plant (MP 1.71)  | 12"                                     | 185                 | 185   | 275              | 275                        |
| 109                   | Milpitas Terminal (MP 0.00) to   |   |                     |       |                  |                            |
| <u> </u>              | Sullivan Avenue Regulator  |   |                     |       |                  |                            |
| +100                  | Station (MP 43.47)   | 22" & 30"                               | 375                 | 375   | 400              | 400                        |
| *109                  | Sullivan Avenue Regulator to   |   |                     |       |                  |                            |
| 111                   | Potrero Gas Plant (MP 52.70)<br>Helm Junction (MP 0.00) to Fresho                                  | 26"                                     | 150                 | 150   | 275              | 275                        |
|                       | Junction (MP 21.65)  | 12"                                     | 650                 | 650   | 800              | 720                        |
| 111                   | Fresno Junction to Division Gas  |   |                     |       |                  | 120                        |
|                       | Load Center (MP 28.05)   | 8"                                      | 400                 | 400   | 720              | 720                        |
| 111                   | Raisin City Field Collection System  | 4"                                      | 800                 | 800   | 800              | 800                        |
| 111                   | San Joaquin Field Collection System  | 3" & 4"                                 | 800                 | 800   | 960              | 960                        |
| 112                   | Vernalis Field Collection System   | 3" - 8"                                 | 594                 | 594   | 800              |                            |
| 114                   | West Rio Vista Field (MP 0.00) to  |   |                     | 004   | 000              | 800                        |
| 114                   | Antioch Terminal (MP 9.01)<br>Antioch Terminal to Brentwood  | 12" & 16"                               | 510                 | 510   | 800              | 800                        |
| 114                   | Terminal (MP 16:59)<br>Brentwood Terminal to Dalton Avenue   | 22"                                     | 595                 | 595   | 595              | 720                        |
| 114                   | PLS (MP 28,97)   | 22"                                     | 595                 | 595   | 595              | 720                        |
|                       | Dalton Avenue PLS to Livermore<br>Junction (MP 34.05)  | 22"                                     | 495                 | 495   | 595              | 720                        |
| *116                  | Davis Meter Station (MP 0.00) to<br>Swingle Junction (MP 3.86)                                     | 811                                     | 500                 | 500   | 500              |                            |
| *116                  | Swingle Junction to Sacramento Gas   | -                                       | 200                 | 500   | 500              | 800                        |
|                       | Plant (MP 12.89)   | 8"                                      | 500                 | 500   | . 500            | 720                        |
| **See Pai             | cagraph 6  |   |                     |       |                  |                            |

\*\*\* MAOP reduced from 426 psig to 412 psig to match 412 psig MOP.

2

1

.

: '

(See Over)

Appendix A S.P. No. 463-8 Effective 5/1/75 Page 4/15

| Trans.<br>Line<br>No. | Location   | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP       | Design      | Future<br>Design<br>Press. |
|-----------------------|--|---|---------------------|------------|-------------|----------------------------|
| *118                  | Division Gas Foad Center (MP 0.00)                                       |   |                     |            |             |                            |
| •                     | to Fresno Junction (MP 6.09)   | 8"                                      | 400                 | 400        | 720         | 720                        |
| 118                   | Division Gas Load Center (MP 0.00)                                       | 100                                     | <b>C</b> 00         | 600        | 720         |                            |
| ,                     | to Fresno HPU Station (MP 0:66)  | . 12"<br>12"                            | 690<br>400          | 690<br>400 | 720         | 720                        |
| *118                  | Fresno Junction to MP 12.57  | 8" .                                    | 400<br>400          | 400        | 720<br>720  | 720<br>720                 |
| *118                  | MP 12.57 to Livingston (MP 73.26)  | o.,                                     | 400                 | 400        | .140        |                            |
| 118                   | Herndon (MP 0.00) to Athlone   | 12"                                     | 400                 | 400        | 720         | 720                        |
| 110                   | (MP 38.39)<br>Livingston to Collier Road (MP 74.89)                      | 6"                                      | 400                 | 720        | 720         | 720                        |
| · 118<br>118          | Collier Road to Bradbury Road  |   | -200                | 120        | 120         | 120                        |
|                       | Regulator Station (MP 83.74)   | б"                                      | 400                 | 400        | 400         | 400                        |
| 118                   | Bradbury Road Regulator Station to                                       | Ŭ                                       | 100                 | 200        | 200         | 200                        |
| ν.,<br>               | MP 84.69   | 6"                                      | 500                 | 890        | 890         | 890                        |
| 119                   | Davis Meter Station (MP 0.00) to   | -                                       |                     |            |             |                            |
|                       | Swingle Junction (MP 3.85)   | 12"                                     | 780                 | 792        | 800         | 800                        |
| 119                   | Swingle Junction to MP 4.85  | 12"                                     | 500                 | 720        | 800         | 720                        |
| 119 ·                 | MP 4.85 to MP 11,14  | 12"                                     | 500                 | 520·       | 800         | 720 <sup>-</sup>           |
| 119                   | MP.11.14 to MP 11.35   | 10"                                     | - 500               | 520        | 800         | 720                        |
| 119                   | MP 11.35 to N. Sacramento HPU  |   |                     |            |             |                            |
| •                     | (MP 16.46)   | 12"                                     | 500                 | 520        | 800         | 720                        |
| 119                   | N. Sacramento HPU (MP 0.00) to   |   |                     |            |             | ·~.                        |
| ·                     | Antelope Meter Station (MP 10.17)  | 12"                                     | 500                 | 500        | 500         | 600 (                      |
| 119                   | N. Sacramento HPU (MP 0.00) to   |   |                     |            | •           | :                          |
| ۰.                    | Antelope Meter Station (MP 8.41)   | 6" & 16"                                | 500                 | 500        | 500         | 600                        |
| 119                   | N. Sacramento HPU (MP 0.00) to   |   |                     |            |             |                            |
| •                     | MP.2,80  | 24"                                     | 180                 | 180        | 545         | 545                        |
| 119                   | Elm and Traction Avenue Regulator  | 108                                     | 500                 | 500        | 500         | <b>C</b> 00                |
| * * * ~               | (MP 4.6 to MP 5.5)   | 12"                                     | 500                 | 500        | 50 <b>0</b> | 600                        |
| 119                   | Sonoma Avenue Regulator and Del Paso<br>Boulevard (MP 0.00) to Roseville |   |                     |            | ·           |                            |
| 3 ł                   | Regulator Station (MP 5.25)  | 6"                                      | 180                 | 500        | . 500       | 500                        |
| 120                   | Sutter Creek Field Collection System                                     | 4" & 6"                                 | 492                 | 492        | 720         | 720                        |
| 120                   | Sutter Buttes Field Collection System                                    | 4 <sup>™</sup> & 6 <sup>™</sup>         | 485                 | 485        | 720         | 720                        |
| 120                   | Marysville Buttes Meter Station  | a a o                                   |                     | 200        |             | 120                        |
|                       | (MP 0.00) to Yuba City HPU   |   | •                   |            |             | •                          |
| • .                   | (MP 11.54)   | 6."                                     | 485                 | 485        | 720         | 720                        |
| 123                   | Antelope Meter Station (MP 0.00) to                                      |   |                     |            |             |                            |
| H                     | Lincoln Junction (MP 13.57)  | 12"                                     | 500                 | 500        | 670**       | 670**                      |
| 124                   | Lincoln Junction (MP 0.00) to 5th &                                      |   |                     |            |             |                            |
|                       | Walnut, Marysville (MP 23.46)  | 8"                                      | 400                 | 400        | 720         | 600                        |
| 124                   | Lincoln Junction (MP 0.00) to Yuba                                       |   |                     |            |             |                            |
|                       | City HPU (MP 26.03)  | 16"                                     | 600                 | 600        | 600         | 600 ·                      |
|                       |  |   |                     |            | _           |                            |

\*\*See Paragraph 6

Appendix A S.P. No. 463-8 Effective 5/1/75 Page 5/15

| Trans.<br>Line<br>No. | Location  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP | Design<br>Press. | Future<br>Design<br>Press. |
|-----------------------|---|---|---------------------|------|------------------|----------------------------|
| 124                   | Beale Air Force Base Tap (MP 0.00)  |   | 444                 |      |                  | · · ·                      |
| 125                   | (T 13.31) to MP 3.76<br>Thompkins Hill Field Collection                   | 6"                                      | 400                 | 400  | 720              | 600                        |
| 126                   | System<br>Thompkins Hill Meter Station                                    | 3" 4" 6"                                | 448                 | 448  | 720              | 720                        |
|                       | (MP 0.00) to Union Street Regulator<br>(MP 10.57)                         | 4"                                      | 350                 | 442  | 720              | 720                        |
| 126                   | Thompkins Hill Meter Station<br>(MP 0.00) to Union Street Regulator       | <b>c</b> 11                             | 050                 | 4.40 |                  | =00                        |
| 126                   | (MP 10.89)<br>Elk River Road Regulator (MP 0.00)                          | 6"                                      | <b>3</b> 50         | 442  | 720              | 720                        |
|                       | to MP 3.62 (T 12.38, Line 126)  | 10"                                     | 167                 | 167  | 720              | 720                        |
| *126<br>126           | MP 0.00 to Eureka Propane (MP 0.36)<br>Union Street Regulator to Line 137 | 10"                                     | 167                 | 167  | 720              | 720                        |
| 130A                  | (MP 12.61)<br>HP Rio Vista Sacramento River                               | 6 <b>"</b>                              | 167                 | 167  | 720              | 720                        |
| 130B                  | Crossing (MP 0.00 to MP 0.50)<br>LP Rio Vista Sacramento River            | 10"                                     | 800                 | 800  | 800              | 800                        |
| 131                   | Crossing (MP 0.00 to MP 0.50)<br>E. Rio Vista Field (MP 0.00 to           | 10"                                     | . 420               | 510  | 800              | 800                        |
|                       | MP 0.71)<br>E. Rio Vista Field (MP 0.00) to                               | <u>1</u> 2"                             | 685                 | 685  | 800              | 800                        |
| . 131                 | Antioch Terminal (MP 9.19)  | 10" & 12"                               | . 800               | 800  | 800              | 800                        |
| 101                   | Antioch Terminal to MP 10.47  | 24"                                     | 438                 | 438  | 600              | 720                        |
| 131                   |   | 24                                      | 400                 | 420  | QVQ              | 720                        |
| 131                   | MP 10.47 to Brentwood Terminal<br>(MP 16.87)                              | 24"                                     | 438                 | 495  | 600              | 720                        |
| 131                   | Brentwood Terminal to Irvington<br>Station (MP 50.57)                     | 24"                                     | 500                 | 525  | 600              | 650                        |
| 131                   | Irvington Station to Milpitas<br>Terminal (MP 57.45)                      | <br>30"                                 | 595                 | 595  | 650              | 650                        |
| 132                   | Milpitas Terminal (MP 0.00) to<br>Martin Station (MP 46.59)               | 24" 30" 36"                             | 400                 | 400  | . 400            | 400                        |
| 132                   | Martin Station to Potrero Plant<br>(MP 51.50)                             | 24"                                     | 145                 | 145  | 275              | 275                        |
| 132                   | Sierra Vista Avenue (MP 10.32) to<br>Rengstorff Avenue Station (MP 0.00   | د∡<br>16 <sup>4</sup> & 24 <sup>4</sup> | 400                 | 400  | 400              | 400                        |
| 132                   | to MP 1.47)<br>Martin Station to Geneva Avenue                            |   |                     |      |                  | ,                          |
|                       | (MP 39.86)  | 20"                                     | 109                 | 150  | 275              | 275                        |
| 133<br>134            | Gill Ranch Field Collection System<br>Herndon Junction (MP 0.00) to       | 4" 6" 8"                                | 400                 | 500  | 720              | 720                        |
| 134                   | MP 21.57<br>MP 21.57 to Arbios Meter Station                              | 6" & 8"                                 | 400                 | 500  | 720              | 720                        |
|                       | (MP 27.04)  | 6"                                      | 500                 | 500  | 720              | 720                        |

t

Appendix A S.P. No. 463-8 Effective 5/1/75 Page 6/15

|                  | · · · · · · ·  | Nominal           |                  |      |             |          |
|------------------|--|-------------------|------------------|------|-------------|----------|
| Trans.           | t i i i i i i i i i i i i i i i i i i i  | Pipe              | PG&E             |      |             | Future   |
| Line             | and the second | Diameter          | MOP              |      | Design      | Design   |
| NO.              | Location   | (Inches)          | psig             | MAOP | Press.      | Press.   |
|                  | ter a far far far an ann an an ann an an ann an ann an an  | -                 |                  |      |             | <u> </u> |
| 134              | Arbios Meter Station to MP 30,50   | 6"& 8"            | 500              | 500  | 720         | 720      |
| 134              | Arbios Meter Station to Firebaugh  |                   | •                |      |             |          |
| •                | Regulator Station (MP 34,13)   | 3" & 4"           | 500              | 500  | 720         | 720      |
| 136              | Ord Bend Meter Station (MP 0.00) to  |                   |                  |      | •           |          |
|                  | MP 3.21  | 6" ·              | 479              | 565  | 720         | 720      |
| 136              | MP 3.21 to Stirling Junction (MP   |                   |                  |      |             |          |
|                  | 12.87)   | 6" ·              | 550              | 550  | 720         | 720      |
| *137             | Whipple and Albee Streets, Eureka  | • • •             |                  |      |             |          |
|                  | (MP 0.00) to MP 11.83  | 4" & 6"           | 167              | 167  | 720         | 720      |
| 137              | Ryan Slough Regulator Station  | • 1               |                  |      |             |          |
|                  | (MP 3.58) to Arcata (MP 7.37)  | · 8"              | 350              | 350  | 720         | 720      |
| 138              | Helm Tap Station (MP 0.00) to Helm   | • •               |                  |      |             |          |
|                  | Junction (MP 14.94)  | 10"               | 500              | 500  | 650         | 650      |
| 138              | Helm Tap Station (MP 0.00) to Helm   |                   |                  |      |             |          |
| •                | Junction (MP 14.71)  | 20" ·             | 700              | 700  | 800         | 890      |
| 138              | Helm Junction to Elkhorn Station   |                   |                  |      |             |          |
| *                | (MP 20.50)   | 18 <sup>4</sup> · | 700              | 865  | 865         | 890      |
| 138              | Elkhorn Station to Burrel Meter  |                   |                  |      |             |          |
|                  | Station (MP 22.04)   | ``18"             | 650              | 650  | 865         | 720      |
| 138 <sup>.</sup> | Burrel Meter Station to Adams & Elm  |                   |                  |      | •           |          |
|                  | Meter and Regulator Station (MP 38.59  | 9) 16"            | 650              | 650  | 720**       | 720**    |
| 138              | Adams & Elm Meter Station to Cherry  |                   |                  | •    | •           |          |
| •                | & Jensen Regulator (MP 45.00)  | 12" & 16"         | 650              | 650  | 720         | 720      |
| 138              | MP 45.00 to San Joaquin Division Gas   | ,                 |                  | •    |             |          |
|                  | Load Center (MP 49.42)   | 10" & 12"         | 650              | 650  | 720         | 720      |
| 138              | T 43.58 to Chestnut & Clay Regulator   |                   |                  |      |             |          |
|                  | Station (MP 50,02)   | 16"               | 650              | 650  | 720         | 720      |
| 138              | MP 45.10 to Peach Avenue (T 46.64)   | 10" .             | 650              | 720  | 720         | 720      |
| 141E             | Thornton Meter Station to E. Thornton  |                   |                  |      |             |          |
| 7 4 1 1.7        | Field Collection System  | 4" & 6"           | 538              | 538  | 800         | 800 -    |
| 141W             | Thornton Meter Station to W. Thornton  | 20 100            |                  |      |             |          |
|                  | Field Collection System  | 3" - 10"          | 768              | 768  | 800         | 800      |
| *141             | N.E. River Island & Walnut Grove   | <b>CII</b> = 011  | 760              | 760  |             |          |
| 142N             | Field Collection System  | 6" & 8"           | 768              | 768  | 800         | 800      |
| THEN             | Bakersfield Tap to Bakersfield<br>Meter Station (MP 14.05)   | 12" 16" 20"       | A +1 +           | And  | <b>20.0</b> |          |
| 142S             | Gosford Road Meter Station (MP 0.00)   | 12 10 20          | 475              | 475  | 720         | 720      |
| 1420             | to Brundage Lane Regulator   |                   |                  |      |             |          |
|                  | (MP 9.00)  | 611 6 101         | 600 <sup>1</sup> | 600  | 700         |          |
| *142             | MP 9.00 to Bakersfield Meter   | 6" & 10"          | 600 <sup>°</sup> | 600  | 720         | 720      |
| ··               | Station (MP 11.47)   | 8" & 12"          | 300              | 200  | -           | 700      |
| *143             | Millar Field Collection System   | 3" & 4"           | 300<br>796       | 300  | 720<br>800  | 720      |
|                  | TTATA TTOTA COTTOCTOU DADROW   | -> 0X ++          | 061              | 800  | 800         | 800      |

\*\*See Paragraph 6

÷

÷

. :

. . . .

Appendix A S.P. No. 463-8 Effective 5/1/75 Page 7/15

| Trans.<br>Line<br>No.                   | Location   | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP                         | Design<br>Press.              | Future<br>Design<br>Press. |
|---|--|---|---------------------|------------------------------|-------------------------------|----------------------------|
| 144                                     | Millar Meter Station (MP 0.00) to                                  |   |                     |                              | •                             |                            |
|   | Millar Field (MP 3.50)   | 10" & 12"                               | · 796               | 796                          | 800                           | 800                        |
| 145                                     | Maine Prairie Field Coll. System                                   | 3" 4" 6"                                | 796                 | 796                          | <b>80</b> 0                   | 800                        |
| 146                                     | Maine Prairie Meter Station  |   |                     | · ·                          |                               |                            |
|   | (MP 0.00) to Maine Prairie   | • • •                                   |                     | •                            | • •                           |                            |
|   | Field (MP 6.00)  | . 8 <sup>'n</sup>                       | 796                 | 796                          | 800                           | 800                        |
| 147                                     | Whipple Road Crossover (MP 0.00) to                                |   | _                   | •                            |                               |                            |
|   | San Carlos Regulator Station                                       | :                                       |                     |                              |                               |                            |
|   | (MP 3.39)  | 20" & 24"                               | 400                 | 400                          | 400                           | 400                        |
| 148                                     | McMullin Ranch Mixer Station                                       |   |                     |                              |                               |                            |
|   | (MP 0.00) to Ceres Regulator                                       |   |                     |                              |                               |                            |
| • • • •                                 | Station (MP 18.24)   | 8"                                      | 408                 | 408                          | 720                           | 720                        |
| 149                                     | Winters Field Collection System                                    | 4" & 6"                                 | <sup>-</sup> 750    | 750 ∙                        | 800                           | 800                        |
| 150                                     | Winters Meter Station to Davis                                     |   |                     |                              | · .                           |                            |
|   | Meter Station (MP 18.09)   | 6"                                      | 750                 | ·750                         | 800                           | 800                        |
| 151                                     | Afton Odorizer Station (MP 0.42) to                                | <b></b>                                 |                     |                              |                               |                            |
| 1.50                                    | Afton Regulator Station (MP 14.05)                                 | 6"                                      | 250                 | 250                          | 720                           | 720                        |
| 152                                     | Afton Field (MP 0.00) to Afton                                     |   |                     |                              |                               | ·                          |
| 1 - 0                                   | Odorizer Station (MP 0.42)   | 6"                                      | 250                 | 250                          | 720                           | 720                        |
| 153                                     | Irvington Station (MP 0.00) to                                     |   | ^                   |                              | _                             |                            |
| 4160                                    | Marina Boulevard Station (MP 18.00)                                | 30"                                     | 420                 | 420                          | 500**                         | 500**                      |
| *153                                    | Marina Boulevard Station to 2nd and                                | <b>A 1 1 1</b>                          | • • •               |                              | · · ·                         |                            |
| 150                                     | Market Streets (MP 27.89)  | 24"                                     | 246                 | 246                          | 275                           | 275                        |
| 153                                     | Tap to 50th Avenue Holder  |   |                     | <b>.</b>                     | <u>.</u>                      | _                          |
| 150                                     | Station  | 16" & 20"                               | 246                 | 246                          | 275                           | 275                        |
| 153<br>153                              | Tap to Oakland Holder Station                                      | 20"                                     | 246                 | 246                          | 275                           | 275                        |
| *153                                    | Alvarado Crossover to Line 105                                     | 16"                                     | 250                 | 250                          | 500**                         | 500**                      |
| ×122                                    | Fairway Avenue Crossover to Line<br>'105                           | 1008 - 208 ·                            | 150                 | 100                          |                               |                            |
| 155                                     |  | 20"'& 30" `                             | 150                 | 198                          | 542                           | 500                        |
| 155                                     | Durham Field Collection System<br>Durham Field (MP 0.00) to Durham | 4"                                      | 680                 | 680                          | 800                           | 800                        |
| 190                                     | Field Meter Station (MP 5.72)                                      | <b>C</b> II                             |                     | c 00                         |                               |                            |
| 158                                     | Dunnigan Hills Field (MP 4.90) to                                  | 6"                                      | 680                 | 680                          | ~ 800                         | 800 <sub>.</sub>           |
| 100                                     | Dunnigan Hills Meter & Regulator                                   |   |                     | ·                            |                               |                            |
| -                                       | (MP 13.65)   | 6"                                      | 500                 | 564                          |                               |                            |
| *158                                    | Woodland Field Collection System                                   | 3" & 4"                                 | 500 ·               | 564 <sup>3</sup>             | 800                           | 800                        |
| 159                                     | Pleasant Creek Compressor Station                                  | , , , , , , , , , , , , , , , , , , ,   | . 500               |                              | 800                           | 800                        |
| 207                                     | (MP 0.00) to V 0.65  | 4" <sup>*</sup>                         | 975                 | 975                          | 1000                          | 075                        |
| 159                                     | V 0.65 to Pleasant Creek Regulator                                 |   | 975                 | 915                          | 1000                          | 975                        |
| ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | Station (MP 3.91)  | 4"                                      | 975                 | · 975                        | 1000                          | 075                        |
| 159                                     | Pleasant Creek Regulator Station to                                | <b>≠</b> .                              | 515                 |                              | 1000                          | 975                        |
| ~~~~                                    | Winters Meter Station (MP 6.08)                                    | · 4" '                                  | 750                 | <sup></sup> 750 <sup>.</sup> | <sup>`</sup> 800 <sup>°</sup> |                            |
| 159                                     | Winters Field Collection System                                    | 4"                                      | 750                 | 750                          | 800                           | 800                        |
|   | HTHERE THERE COTTECTON PARTEN                                      | *                                       | 750                 | 750                          | avv                           | 800                        |

\*\*See Paragraph 6

۱,

:

Exh A (Becken) Appendix A S.P. No. 463-8 Effective 5/1/75 Page 8/15

| Trans.<br>Line<br>No. | Location  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP     | Design<br>Press. | Future<br>Design<br>Press. | L   |
|-----------------------|---|---|---------------------|----------|------------------|----------------------------|-----|
| *162                  | Tracy Station (MP 0.00) to Banta<br>Regulator Station (MP 7.73)                                   | .6" & 8"                                | 365                 | 365      | 720              | 720                        |     |
| 162                   | Tracy Station to Byron Road<br>(MP 5.59)  | . 10"                                   | . 365               | 720      | 720              | 720                        | •   |
| 164                   | Coalinga Field Collection System  | 10" & 8"                                | 498                 | 498      | 865              | 890                        |     |
| 1.67                  | E. Beehive Bend Odorizer Station<br>(MP 0.00) to Yuba City HPU.<br>(MP 34.50)                     | 12" & 16"                               | 800                 | 800      | 800              | 800                        | •   |
| 167                   | Wild Goose Field Meter (MP 0.00) to<br>Wild Goose Mixer & Odorizer Station<br>(Parallel)          | 10"                                     | 800 -               |          | 800              |                            |     |
| 167                   | Wild Goose Mixer to Gridley   |   |                     |          |                  | 800                        |     |
|                       | Junction (MP 6.54)  | 8"                                      | 800                 | 800      | 800              | 800                        |     |
| 167<br>167            | Wild Goose Collection System<br>Princeton Field Collection System                                 | 3" & 4" .                               | 800                 | 800      | 800              | 800                        |     |
|                       | (MP 4.12 to MP 7.60)  | 3 "                                     | 800                 | 800      | 800              | 800                        |     |
| 167                   | Compton Landing Field Collection  | 4" & 6"                                 | 800                 | 800      | 800              | 800                        |     |
| 167                   | Bounde Creek Field Collection System  | <br>4"                                  | 800                 | 800      | 800              | 800                        |     |
| 168.                  | River Island Field Collection System  | 4" 6" 8"                                | 800                 | 800      | 800              | 800                        |     |
| 169                   | River Island Field Collection System  |   | 000                 | 000      | 800              | 800                        | · ^ |
| 168                   | Tb  | 3" <b>-</b> 8"                          | 698                 | 698      | 800              | 800                        | ι.  |
| 169 .                 | Beehive Bend, Willows, Llano Seco,<br>& Perkins Lake Field Collection<br>System                   | 3" - 20"                                | 800                 | 800      | 800              | 800                        |     |
| 172                   | W. Beehive Bend Meter Station<br>(MP 0.00) to Swingle Junction                                    |   |                     |          |                  |                            |     |
| 172                   | (MP 69.81)<br>Swingle Junction to Sacramento Gas  | 18" & 20"                               | 800                 | 800      | 800              | 800                        |     |
| 172                   | Plant (MP 79.15)<br>Crosstie Between Line 172 (MP 0.00)   | 16"                                     | 500                 | 520      | 720              | 720                        |     |
| 172                   | & Line 167 (MP 0.60)<br>Crosstie Between Line 172 (MP 75.45)                                      | 10"                                     | 800                 | . 800    | 800              | 800                        |     |
|                       | & Line 119 (MP 9.68)  | 12"                                     | 500                 | 520      | 720              | 720                        |     |
| *173                  | Line 123 (MP 0.00) (V 6.51) to  |   | 500                 | 500      |                  | -                          |     |
|                       | Auburn Regulator Station (MP 17.56)   | 4" 6" 8"                                | 500                 | 500      | 720              | 720                        |     |
| *174<br>176           | Arbuckle Field Collection System<br>Roberts Island Field Collection                               | 2" - 10"                                | 800                 | 800<br>、 | 800              | 800                        |     |
| 176                   | System<br>Roberts Island Field (MP 0.00) to   | 2" <u>-</u> 8"                          | 555                 | 555      | 800              | 800                        |     |
| 177                   | Tracy Station (MP 18.85)<br>Sacramento Avenue Junction (MP 0.00)<br>to Grapeway Regulator Station | 6" & 8"                                 | 555                 | 555      | 800              | 800                        |     |
|                       | (MP 0.87)   | 10"                                     | 819                 | 819      | 960              | 960                        |     |

.

. .

Apfrena(Peckan) S.P. No. 463-8 Effective 5/1/75 Page 9/15

•

| Trans.<br>Line<br>No. | Location  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP       | Design<br>Press. | Future<br>Design<br>Press. |
|-----------------------|---|---|---------------------|------------|------------------|----------------------------|
| 177                   | Grapeway Regulator to Stirling<br>Junction Meter Station (MP 7.68)  | 6" & 10"                                | 469                 | 469        | 600              | 600                        |
| 177                   | Fell Regulator & Odorizer (MP 0.00)<br>to Sacramento Avenue Junction<br>(MP 4.75)                         | 16"                                     | 819                 | 819        | 960              | 960                        |
| 177                   | Sacramento Avenue Junction to<br>Corning N. Dome Station (MP 29.09)                                       | 10"                                     | 819                 | 81.9       | 960              | 960                        |
| 177                   | Tap 27.60 (MP 0.00) to Tap 29.87<br>(MP 2.19) Parallel Section Near                                       |   |                     |            |                  |                            |
| 177                   | Corning N. Dome<br>Corning N. Dome Station to Gerber  | 6" & 8"                                 | 819                 | 819        | 960              | 960                        |
| 177                   | Compressor Station (MP 37.84)<br>Gerber Compressor Station to   | 12"                                     | 819                 | 819        | 960              | 960                        |
| 177                   | Cummings Creek PLS (MP 163.04)<br>Cummings Creek PLS to Thompkins Hill                                    | 12"                                     | 819                 | 819        | 960              | 960                        |
| 177.                  | Meter & Regulator Sta (MP 178.18)<br>Thompkins Hill Meter & Regulator<br>Station to Ryan Slough Regulator | 12"                                     | 430                 | 430        | 720              | 720                        |
| 177                   | Station (MP 192.26)<br>Crosstie Between Lines 177 (T 37.8)  | 12"                                     | 350                 | 442        | 600              | 600                        |
| 177                   | and Line 400 (V 149.18)<br>Tap (V 43.87) to Red Bluff and   | 12"                                     | 819                 | 819        | 960              | 960                        |
|                       | Diamond National (MP 1.24)  | 6"<br>4"                                | 819                 | 819        | 960<br>960       | 960                        |
| 177<br>180            | Rancho Capay Field Coll. System<br>Kettleman Hills Field Coll. System                                     | 8" - 20"                                | 819<br>421          | 819<br>421 | 960<br>500       | 960<br>500                 |
| 181                   | Soap Lake Meter Station (MP 0.00)<br>to V 1.56  | 10"                                     | 300                 | 300        | 400              | 400                        |
| 181                   | V 6.19 to Watsonville Meter Station<br>(MP 20.15)   | 10" & 12"                               | 300                 | 303        | 400              | 400                        |
| 181                   | Anzar Road Meter and Regulator<br>(MP 0.00) to Watsonville Meter  | •                                       |                     |            | -                |                            |
| *182                  | Station (MP 11.19)<br>Serpa "Y" (MP 0.00) to Shell  | 10" 16" 12"                             | 300                 | 303        | 400              | 400                        |
| *182                  | Chemical Meter Station (MP 18.23)<br>Shell Chemical Meter Sta. to Suisun                                  | 4" - 12"                                | 435                 | 435        | 800              | 800                        |
|                       | Junction Meter Station (MP 18.87)   | 12"                                     | 435                 | 435        | 600              | 800                        |
| 1.82                  | Kirby Hills Field Collection System   | 3" - 8"                                 | 435                 | 435        | 800              | 800                        |
| 182                   | Suisun Field Collection System  | 2" - 6"                                 | 435                 | 435        | 800              | 800                        |
| 183                   | Firebaugh Regulator Sta. (MP 0.00)  | 211                                     | 220                 | 220        | 800              | 000                        |
| 185                   | to Moffat Field Meter Sta. (MP 6.35)<br>Hollister Field Collection System                                 | 、 3"<br>.4"                             | 320<br>396          | 320<br>396 | 800<br>600       | 800<br>500                 |
| 185                   | Dos Palos Meter Station (MP 0.00)   |   |                     |            | ÷                |                            |
|                       | to Red Top Regulator (MP 26.1)  | 3" 4" 6"                                | 625                 | 625        | 720              | 720                        |

•

.

• .

.

N. .

۱.\_.

.

.

. .

.

Exh. A (Becken)

Appendix A S.P. No. 463-8 Effective 5/1/75 Page 10/15

ł

l

| Trans;<br>Line<br>No. | Location   | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP             | Design<br>Press.   | Future<br>Design<br>Press. |
|-----------------------|--|---|---------------------|------------------|--------------------|----------------------------|
| 187                   | San Ardo Field Meter Station                                       |   | •                   |                  |                    |                            |
|                       | (MP 0.00) to Jolon Road Regulator                                  | •                                       | ,                   |                  |                    |                            |
|                       | Station (MP 22.58)   | 6"                                      | 313                 | 313              | 870                | 870                        |
| 187                   | Jolon Road Regulator Station to                                    |   |                     |                  | ·                  |                            |
|                       | Harkins Road Meter & Mixer Station                                 | ,                                       |                     |                  |                    |                            |
| ·:                    | (MP 65.70)   | . 8"                                    | 313                 | 313              | 720                | 720                        |
| 189                   | Elk River Road Regulator Station                                   |   |                     |                  |                    |                            |
| ۰.                    | (MP 0.00) to Humboldt Bay P.P.                                     |   |                     | • • -            |                    |                            |
|                       | (MP 1.72)  | 10"                                     | 350                 | 442              | 720                | 720                        |
| 190                   | Kettleman Compressor Station<br>(MP 0.00) to Coalinga Nose Storage |   |                     |                  |                    |                            |
|                       | Field (MP 16.08)   | 12" & 16"                               | 2160                |                  | 0160               | 27.62                      |
| 190                   | Coalinga Nose Storage Field to                                     | 12 & 10                                 | 210U                | 2160             | 2160               | 2160                       |
| 1.50                  | Union Oil Company (MP 16.22)                                       | 16"                                     | 2160                | 2160             | · 2160·            | 2160                       |
| 191                   | Antioch Terminal (MP 0.00) to Los                                  |   | 1100                | 2100             | 2100               | 2100                       |
|                       | Medanos Junction (MP 5.81)   | 30" & 34"                               | 315                 | 600              | 600 <sup>°</sup> · | 600                        |
| 191                   | MP 3.87 to MP 9.93 Via Pittsburg                                   | - ·                                     | +                   |                  |                    | 000                        |
| •                     | Power Plant  | 20" & 24"                               | 315                 | 390              | 600                | 600                        |
| 191                   | MP 9,93 to Reliez Station Road                                     |   |                     |                  |                    |                            |
| •                     | Regulator Station  | 16" 20" 24"                             | 315                 | 338              | 600 .              | 600                        |
| *191                  | Reliez Station Road Regulator                                      | •                                       |                     |                  |                    |                            |
|                       | Station to MP 29.36  | 8" 10" 12"                              | 268                 | 283 <sup>·</sup> | 400                | 400                        |
| *191                  | Junction Line 191 (MP 29,36) to                                    | •                                       |                     |                  |                    | •                          |
| 4101                  | MP 32,76   | 10"                                     | 268                 | 270              | 400                | 40 <u>0</u>                |
| *191                  | MP 32.76 to Martinez Meter and<br>Regulator Station (MP 35.83)     | 101                                     | 0.00                | 0.00             | · • • • •          |                            |
| *191A                 | Junction Line 191 to Ardilla and                                   | 10"                                     | 268                 | 268              | 400                | 400                        |
| ··· ± J ±E3           | Cámino Pablo & Orinda Regulator                                    |   |                     |                  |                    |                            |
|                       | Station  | 3" 6" 8"                                | 268                 | 283              | 400                | 400                        |
| *191B                 | Junction Line 191 to Reliez Valley                                 |   | 200                 |                  | 400                | 400                        |
| •                     | Road Regulator Station   | 8"                                      | 268                 | 283              | 400                | 400                        |
| 193                   | Rice Creek Field Collection System                                 | 2" - 8"                                 | 819                 | 960              | 960                | 960                        |
| 193 <sup>.</sup>      | Malton Field Collection System                                     | <sup>′</sup> 4" 6" 8"                   | 819                 | 960              | 960                | 960                        |
| 193                   | Kirkwood & Rice Creek Field North                                  |   |                     | •                |                    |                            |
|                       | Collection System  | · 6"                                    | 819                 | 819              | 960                | 960                        |
| 194                   | McMullin Ranch Mixer (MP 0.00) to                                  | *                                       |                     | _                |                    |                            |
| 104                   | MP 2,83  | 8" & 10"                                | 437                 | 437              | 800                | 800                        |
| 194                   | McMullin Field Dehydrator Station                                  | •                                       |                     |                  |                    |                            |
| •                     | (MP 0.00) to California Ammonia<br>Company (MP 4.39)               | 6"                                      | 405                 | 100              | 0.50               |                            |
| 194                   | McMullin Ranch Field Collection                                    | 0                                       | 437                 | 437              | 960                | 960                        |
|                       | System   | 2" & 10"                                | 437                 | 437              | 800                | 900                        |
| 195                   | Rio Vista Field Collection System                                  | - 0 - LV                                | 102                 | • <b>z</b> • 1   | 000                | 800                        |
| -                     | (IP)   | 2" - 16"                                | 800                 | 800              | 800                | 800                        |
|                       |  | ~ -                                     |                     |                  | ·                  | 000                        |

÷. •

:

Appendix A(Becken) S.F. No. 463-8 Effective 5/1/75 Page 11/15

| Trans.       |  | Nominal<br>Pipe | PG&E |             |        | Future |
|--------------|--|-----------------|------|-------------|--------|--------|
| Line         |  | Diameter        | MOP  |             | Design | Design |
| NO.          | Location   | (Inches)        | psig | MAOP        | Press. | Press. |
| *195         | Rio Vista Field Collection System (LP)                             | 2" - 16"        | 510  | 510         | 800    | 800    |
| 196          | Las Vinas Station (MP 0.00) to<br>Isleton Meter Station (MP 13.45) | 8" & 12"        | 800  | 800         | 800    |        |
| 197A         | Las Vinas Station to MP 21.41                                      | 10"             | 385  | 388         | 720    | 800    |
| 197A<br>197A | MP 21.41 to MP 31.23   | 10" & 12"       | 320  | 500         | 720    | 720    |
| 197A<br>197A | MP 31.23 to MP 39.57   | 12"             | 320  | 320         |        | 720    |
| 197A<br>197A | MP 39.57 to Calaveras Cement                                       | 8n<br>TS:       |      |             | 720    | 720    |
|              |  | 6"              | 320  | 0.610       | 720    | 720    |
| 197B         | Las Vinas Station to MP 5.50                                       | 8#<br>6         | 385  | 388         | 720    | 720    |
| 197B         | V 19.57 to V 31.24   |                 | 320  | 320         | 720    | 720    |
| 197C         | Ione Tap to MP 23.02   | 10"             | 385  | 720         | 720    | 720    |
| 199          | Bunker Field Collection System                                     | 3" - 8"         | 796  | 796         | 800    | 800    |
| 200          | W. Rio Vista Field Collection<br>System (HP)                       | 2" - 16"        | 800  | 800         | 800    | 800    |
| *200         | W. Rio Vista Field Collection<br>System (LP)                       | 2" <b>-</b> 16" | 510  | 510         | 800    | 800    |
| 200          | Liberty Islands Field Collection<br>System                         | 4" ·            | 800  | 800         | 800    | 800    |
| 200          | Lindsay Slough Field Collection<br>System                          | 3" - 10"        | 800  | 868         | 960    | 960    |
| 201          | Todhunters Lake Field Collection<br>System                         | 2" - 12"        | 800  | 960         | 960    | 960    |
| 202          | Grass Valley Tap to Regulator<br>Station near Robin Avenue, Grass  |                 |      |             |        |        |
|              | Valley (MP 23.72)  | 6"& 8"          | 400  | 720         | 720    | 600    |
| 203          | Greens Lake Field Collection System                                | 4" ·            | 500  | 800         | 800    | 800    |
| 204          | Bender Gas Well Collection System                                  | 3" & 4"         | 500  | 890         | 890    | 890    |
| 206          | Pleasant Creek Tap to Pleasant                                     |                 |      |             | ·      |        |
|              | Creek Compressor Station   | 12".            | 975  | 1440        | 1440   | 1440   |
| 207          | Conway Ranch Field Collection System                               | 4" 6" 8"        | 800  | 1000        | 1000   | 1000   |
| 209          | Line 400 to Line 128 at Willows                                    | 4"              | 450  | 450         | 720    | 720    |
| 210          | Rio Vista "Y" (MP 0.00) to Creed                                   |                 |      |             |        |        |
|              | Station (MP 1.40)  | 16"             | 650  | 650         | 800    | 800    |
| 210          | Creed Station to Napa "Y" (MP 25.98)                               | 16" & 18"       | 650  | 650         | 740    | 740    |
| 210          | Creed Station to Cordelia Regulator<br>Station (MP 19.47)          | 32"             | 650  | 675         | 675    | 675    |
| 210          | Cordelia Regulator to Napa "Y"<br>(MP 25.62)                       | 10" & 12"       | 650  | 650         | 800    | 800    |
| 210          | Rio Vista "Y" to Creed Station<br>(MP 1.36)                        | 10"             | 650  | 650         | 800    | 800    |
| 210          | Cordelia Regulator to Herrmann<br>Station                          | 24"             | 650  | <b>67</b> 5 | 675    | 675    |
| 210          | V 27.67 (MP 0.00) to Humble Oil<br>Meter Station                   | 18"             | 650  | 720         | 720    | 675    |
|              |  |                 |      | -           | -      |        |

; · ·

۱...

(\_\_\_

.

.

.

.

.

Exh. A (Becken)

\$

i

Ĺ

Appendix A S.P. No. 463-8 Effective 5/1/75 Page 12/15

| Trans.<br>Line<br>No. | Location   | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP        | Design<br>Press. | Future<br>Design<br>Press. |
|-----------------------|--|---|---------------------|-------------|------------------|----------------------------|
| 215                   | MP 0.00 to MP 20.05  | 12"                                     | 500                 | 890         | 890              | 890                        |
| 220                   | Rio Vista "Y" (MP 0.00) to Davis   |   |                     |             | 050              |                            |
| 220                   | Meter & Regulator Station<br>(MP 22.01)<br>Davis Meter & Regulator to Dunnigan | 8" <u>10</u> " 12"                      | 796                 | 796         | 800              | 800                        |
|                       | Meter & Regulator Station  |   |                     |             |                  |                            |
|                       | (MP 34.11)   | 6" & 8"                                 | 500                 | 500         | 500              | 800                        |
| 300A                  | Colorado River (MP 0.00) to Topock   |   | •                   |             |                  |                            |
| :                     | Compressor Station (MP 0.64)   | 30" & 34"                               | 660                 | 700         | 700              | 700                        |
| 300A                  | Topock Compressor Station to PLS 1A  |   |                     |             |                  |                            |
| •                     | (MP 40.87)   | . 34"                                   | 867                 | 867         | 890              | 890                        |
| 300A                  | PLS 1A to PLS 2A (MP 103.72)   | 34"                                     | 815                 | 815         | 815              | 815                        |
| 300A                  | PLS 2A to PLS 2AX (MP 130.37)  | 34"                                     | 688                 | 688         | 688              | 688                        |
| 300A                  | PLS 2AX to Hinkley Compressor  | •                                       |                     |             |                  | · ·                        |
| .* ·                  | Station (MP 159,33)  | 26" & 34"                               | 573                 | 573         | 573              | 573                        |
| 300A                  | Hinkley Compressor Station to PLS  |   |                     | •           |                  |                            |
|                       | 3A (MP 203.02)   | 34"                                     | 861                 | 8 <b>61</b> | 890              | 890                        |
| 300A                  | PLS 3A to PLS 4A (MP 256.21)   | 34"                                     | 803                 | 817         | . 817            | 817                        |
| 300A                  | PLS 4A to PLS 5A (MP 299.01)   | 34"                                     | 736                 | 757         | 757              | 757                        |
| 300A                  | PLS 5A to Kettleman Compressor   | •                                       |                     |             | •                |                            |
| ••                    | Station (MP 353.85)  | 34"                                     | 669                 | 688         | · 688            | 688                        |
| 300A                  | Kettleman Compressor Station to  |   |                     |             |                  |                            |
|                       | PLS 6A (MP 436.74)   | · 34" ·                                 | 840                 | 840         | 890              | 890                        |
| 300A                  | PLS 6A to Pacheco Pass PLS   |   |                     |             |                  |                            |
| •                     | (MP 461.07)  | · 34"                                   | 715                 | . 715       | 715              | 715                        |
| 300A                  | Pacheco Pass PLS to PLS 7A Silver  | • •                                     |                     |             |                  |                            |
|                       | Creek (MP 490.65)  | 34"                                     | 631                 | 631         | 715              | 715                        |
| 300A                  | PLS 7A to Milpitas Terminal Station  |   |                     |             |                  |                            |
|                       | (MP 502.34)  | 34"                                     | 558                 | 558         | 676              | 676                        |
| 300B                  | Colorado River (MP 0.00) to Topock   | •                                       |                     |             |                  |                            |
|                       | Compressor Station (MP 0.45)   | 34"                                     | 660                 | 660         | 735              | 735                        |
| 300B                  | Topock Compressor Station to PLS 1B  |   | . •                 |             |                  |                            |
| •                     | (MP 40.49)   | 34"                                     | 867                 | 867         | 894              | 894                        |
| 300B                  | PLS 1B to PLS 2B (MP 103.51)   | 34"                                     | 815                 | 821         | 821              | 821                        |
| 300B                  | PLS 2B to PLS 2BX (MP 130.40)  | 34"                                     | 688                 | 688         | 688              | 688                        |
| 300B                  | PLS 2BX to Hinkley Compressor  |   |                     |             | •                |                            |
|                       | Station (MP 161.02)  | 34"                                     | 573                 | 573         | 573              | 573                        |
| 300B                  | Hinkley Compressor Station to PLS  |   |                     |             |                  |                            |
| •                     | 3B (MP 203.07)   | 34"                                     | 861                 | 861         | 897              | 897                        |
| 300B                  | PLS 3B to PLS 4B (MP 256.64)   | 34"                                     | 803                 | 816         | 816              | 816                        |
| 300B                  | PLS 4B to PLS 5B (MP 299.00)   | 34"                                     | 736                 | 757         | 757              | 757                        |
| 300B                  | PLS 5B to Kettleman Compressor   | •                                       |                     | •           |                  |                            |
|                       | Station (MP 354.02)  | 34"                                     | 669                 | 688         | 688              | 688                        |

,

.

ŧ

Exh. A (Becken)

Appendix A S.P. No. 463-8 Effective 5/1/75 Page 13/15

-

| Trans.<br>Line<br>No. | Location  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP       | Design<br>Press. | Future<br>Design<br>Press. |
|-----------------------|---|---|---------------------|------------|------------------|----------------------------|
| 300B                  | Kettleman Compressor Station to PLS<br>6B (MP 436.85)   | 34"                                     | 840                 | 840        | 890              | 890 <sup>.</sup>           |
| 300B                  | PLS 6B to Pacheco Pass PLS (MP<br>461.08)   | 34"                                     | 715                 | 715        | 715              | 715                        |
| 300B                  | Pacheco Pass PLS to PLS 7B Silver<br>Creek (MP 490.92)  | 34"                                     | 631                 | 631        | 715              | 715                        |
| 300B                  | PLS 7B to Milpitas Terminal Station<br>(MP 502.64)  | 34"                                     | 600                 | 669        | 669              | 669                        |
| 301G                  | Hollister Meter Station (MP 0.00)<br>to Moss Landing Power Plant                              |   |                     | ć          | ,                |                            |
| 301A                  | (MP 24.68)<br>Hollister Meter Station (MP 0.00)   | 24" & 30"                               | 500                 | 500        | 500              | 500                        |
|                       | to Moss Landing Power Plant<br>(MP 24.84)   | 20"                                     | 396                 | · ·<br>396 | 500              | 500                        |
| 301B                  | Dolan Road Meter Station (MP 0.00)<br>to Hilltown Regulator Station                           | ·                                       | ·                   | • •        | • • •            |                            |
| *301C                 | (MP 14.02)<br>Hilltown Regulator Station to<br>Harkins Road Meter and Mixer                   | 12"                                     | 408                 | 408        | <u>600</u>       | 500                        |
| *301F                 | Station (MP 17.20)<br>Espinosa Road (MP 0.00) to Marina                                       | 8" <u>&amp;</u> 12"                     | 313                 | 313        | 500              | 500                        |
| *301E                 | Regulator Station (MP 7.94)<br>Crosstie - Monterey #2 (MP 0.00) to                            | 16"                                     | <b>408</b>          | . 412      | 4 <b>00</b>      | 412                        |
| 301D                  | Main 301 (MP 1.02)<br>Anzar Tap Station to Anzar Road   | 12"                                     | 408                 | 408        | 500              | 500                        |
| 301H                  | Meter & Regulator Station (MP 1.72)<br>Anzar Tap Station to Anzar Road                        | 10"                                     | 500 '               | 500        | 500              | 500                        |
| 302                   | Meter & Regulator Station<br>Sutter Buttes, W. Butte, Butte                                   | 16"                                     | . 500               | 500        | . <b>500</b>     | 500                        |
| 302                   | Slough, Grimes, Sycamore, Kirk &<br>Buckeye Field Collection System                           | 2" - 20"                                | 1000                | 1000       | 1000             | 1000                       |
| 302                   | Buckeye Creek PLS (MP 0.00) to<br>Hershey Junction (MP 5.76)<br>Antioch Terminal to Brentwood | 20"                                     | 975                 | 975        | 1000             | 975                        |
| 303                   | Terminal (MP 7.86)<br>Brentwood Terminal to Irvington   | 36"                                     | 720                 | 720        | 720              | 720                        |
| 304                   | Station (MP 42.83)<br>Tracy Station (MP 0.00) to Lathrop                                      | 36"                                     | 590                 | 590        | 600              | 600                        |
| 504                   | Dehydrator & Odorizer Station<br>(MP 11.29)   | 12"                                     | 825                 | ດາຮ        |                  | 025                        |
| 304<br>306            | (MP 11.29)<br>Lathrop Field Collection System<br>Kettleman Compressor Station                 | <u>. 3" - 12"</u>                       | 825<br>825          | 825<br>825 | 825<br>825       | 825<br>825                 |
|                       | (MP 0.00) to Dry Creek PLS<br>(MP 43.3)   | 20"                                     | 840                 | 840        | 840              | 840                        |

· · · · ·

!

ĺ,

.

-

.

•

. .

.

Exh A (Becken) Appendix A S.P. No. 463-8 Effective 5/1/75 Page 14/15

| Trans,<br>Line<br>No, | Location   | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP        | Design<br>Press. | Future<br>Design<br>Press. | ( |
|-----------------------|--|---|---------------------|-------------|------------------|----------------------------|---|
| 306                   | Dry Creek PLS to Morro Bay Power<br>Plant (MP 70.02)   | 20"                                     | 650                 | 650         | 840              | 840                        |   |
| 307                   | Spreckels Sugar Meter Station<br>(MP 0.00) to Spreckels Sugar                                  | - 11                                    |                     |             |                  | •                          |   |
| 307                   | Regulator (MP 16.36)<br>Derrick Road Tap (MP 0.00) to<br>Arbios Regulator Station (MP 4.95)    | 8"<br>8"                                | 500<br>500          | 500<br>890  | 915<br>915       | 890<br>890                 |   |
| 311                   | Main 300 (MP 0.00) (V 180.64A) to<br>Westend Primary Regulator Station                         |   |                     |             |                  |                            |   |
| 311                   | (MP 54.44)<br>Parallel Section (MP 31.97) to   | 10" & 12"<br>· · ·                      | 700                 | 700         | . 960            | 890                        |   |
| 312                   | MP 38.49<br>Line 300A (MP 0.00) (T 273.27) to<br>Paloma Field Meter Station                    | 12"                                     | 700                 | 810         | 960              | 890                        |   |
| 313                   | (MP 8.00)<br>Lucerne Valley Tap Meter Station to   | 8"                                      | 736                 | 740         | 820              | 820                        |   |
| 314                   | Permanente Company Meter (MP 34.4)<br>Hinkley Compressor Station (MP 0.00)                     | 8" & 10"                                | 573                 | 573         | 720              | 720                        |   |
| 314                   | to MP 24.19<br>MP 24.19 to MP 29.00  | 12"<br>10"                              | 861<br>260          | 861<br>260  | 890<br>720       | 890<br>720                 |   |
| 314                   | MP 29.00 to Black Mountain Meter &<br>Regulator Station (MP 43.18)                             | 8" & 10"                                | 260                 | 260         | 720              | 720                        |   |
| 314                   | Tap to Riverside Cement  | . 81                                    | 260                 | 260         | 720              | 720                        | ~ |
| 314                   | Tap to Airbase Road Meter Station  | 8" <sup>`</sup>                         | 260                 | 260         | 720              | 720                        |   |
| *316                  | Dutch Slough & River Break Field<br>Collection System  | 2" - 12"                                | 800                 | 80 <b>0</b> | 800              | 80Ó                        |   |
| 317                   | Chickahominy Field Collection<br>System  | 3"                                      | 975                 | 975         | 975              | 975                        |   |
| 318                   | Black Butte Field Collection System  | 3"                                      | 911                 | 911         | 960              | 960                        |   |
| 372                   | Ridgecrest Tap to Ridgecrest Primary<br>Regulator  | 6"                                      | 700                 | 700         | 960              | 960                        |   |
| 400 .                 | California-Oregon Border (MP 0.00)<br>to Tionesta Compressor Station                           | 36"                                     |                     |             |                  |                            |   |
| 400                   | (MP 24.60)<br>Tionesta Compressor Station to<br>Indian Springs PLS (MP 48.64)                  | 36"                                     | 911<br>911          | 911<br>911  | 911<br>911       | 911                        |   |
| 400                   | Indian Springs PLS (MP 48.64)<br>Indian Springs PLS to Burney<br>Compressor Station (MP 82.33) | 36"                                     | 911                 | 911         | 911              | 911 <sub>.</sub><br>911    |   |
| 400                   | Burney Compressor Station to<br>MP 104.20  | 36"                                     | 911                 | 911         | 911              | 911<br>911                 |   |
| 400                   | MP 104.20 to Shingletown PLS<br>(MP 115.26)  | - 36"                                   | 911                 | 915         | 942              | 942                        | • |
| 400                   | Shingletown PLS to Gerber Compressor<br>Station (MP 149.18)                                    | 36"                                     | 911                 | 911         | 911              | 911                        |   |
|                       |  |   |                     |             | •                |                            |   |

Appendix A) S.P. No. 463-8 Effective 5/1/75 Page 15/15

| Trans.<br>Line<br>No. | Location   | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br><u>psig</u> | MAOP | Design<br>Press. | Future<br>Design<br>Press. |
|-----------------------|--|---|----------------------------|------|------------------|----------------------------|
| 400                   | Gerber Compressor Station to<br>Delevan Compressor Station |   |                            | ·    |                  |                            |
|                       | (MP 197.83)  | 26" & 36"                               | 911                        | 911  | 911              | 911                        |
| 400                   | Delevan Compressor Station to                              |   |                            |      |                  | 277                        |
|                       | Buckeye Creek PLS (MP 233.87)                              | 36"                                     | 1040                       | 1040 | 1040             | 1040                       |
| 400                   | Buckeye Creek PLS to Antioch                               |   |                            |      |                  | 1040                       |
|                       | Terminal (MP 298,87)                                       | 26" & 36"                               | 975                        | 975  | 975              | 975                        |
| 402                   | Redding-Calaveras Tap (MP 0.00) to                         |   |                            |      | 275              | 215                        |
|                       | PLS (MP 9,96)  | 12"                                     | 300                        | 300  | 865              | 865                        |
| 402                   | MP 9,96 to Calaveras Cement Tap                            |   |                            |      | 005              | 005                        |
|                       | (MP 38,10)   | 8" 10" 12"                              | 300                        | 300  | 720              | 720                        |
| 403                   | Rio Vista "Y" (MP 0.00) to Creed                           | ·                                       |                            | 500  | 720              | 720                        |
|                       | Station (MP 1.38)  | 16"                                     | 650                        | 650  | 855              | 800                        |

\*Indicates that line or sections of line are under 20% SMYS, but are listed for the purpose of continuity.

l

Appendix<sup>Becken)</sup> S.P. No. 463-8 Effective 5/1/75 Page 1/3

# DISTRIBUTION MAINS OPERATING AT OR OVER 20% SMYS

:

1

7

.

|  | Nominal          |       | •     | · ·               |                  |
|--|------------------|-------|-------|-------------------|------------------|
|  | Pipe             | PG&E  |       |                   | Future           |
|  | Diameter         | MOP   |       | De <b>si</b> gn · | Design           |
| Location                                     | (Inches)         |       | MAOD  | -                 | -                |
| LOCACION                                     | (Inches)         | psig  | MAOP  | Press.            | Press.           |
| COAST VALLEYS DIVISION                       | • • •            |       |       |                   |                  |
| Monterey #1 - Harkins Road Meter & Mixer     |                  |       |       |                   |                  |
| Station to Fig-Frank Streets Regulator       |                  |       | •     | :                 |                  |
| Station                                      | 8" & 12"         | 313   | 313   | 500               | 400              |
| Monterey #2 - Fort Ord to Fig-Frank Streets  |                  |       |       |                   |                  |
| Regulator Station                            | 10" 12" 16"      | 313   | 313   | 400               | 400              |
| Monterey (V-18.65 to Carmel V-2.13) Aquajito | • •              |       |       |                   | •                |
| Road Regulator Station                       | 8" & 10"         | 313   | 313   | 500               | · 400            |
| Harkins Road Meter and Mixer Station to      |                  |       | -     |                   |                  |
| MP 2.45                                      | 8" & 10"         | 313   | 313   | 500               | 500              |
| MP 2.45 to MP 3.50                           | 8"               | 313   | 313   | 500               | 500              |
| MP 3.50 to California Street Regulator       | Ŭ                | 010   | 010   | <b>.</b>          | 5,00             |
| Station                                      | 8"               | 313   | 313   | 500               | 500              |
| Salinas Main - Foster Road to San Miguel     | Ŭ                | 0.4.0 | 515   |                   | 500              |
| Avenue                                       | 8"               | 313   | 313   | 500               | 500              |
| DFM-6 Espinosa Road Main from 301-B, V-3.18  | 6"               | 408   | 500   | 720               | 500              |
| DFM-7 Union Carbide Main from 187, MP 17.42  | 311              | 313   | 313   | 720               |                  |
| DFM-8 Paradise Road to Meridian Road Main    | 4" & 6"          | 500   | 500   | 720               | <sup>1</sup> 870 |
| DIM-0 I GRAALDE KOUG CO MELLUIAN KOUG MAIN   | . 4 a U          |       | 500   | 720               | 500              |
| COLGATE DIVISION                             |                  |       | •     | - ,               |                  |
| Yuba City HPU Holder to Market Street        |                  |       |       |                   |                  |
| Regulator Pit                                | 6" & 8"          | 135   | 135   | 400               | 400              |
| Tap to Schohr Ranch                          | 6"               | 250   | 250   | · 720·            | 720              |
|  | •                | 200   | 250   | 120               | 120              |
| DRUM DIVISION                                |                  |       | •     | • ••              |                  |
| Diamond Oaks Feeder                          | 6"               | 500   | 500   | 500               | 600              |
|  | -                |       |       |                   |                  |
| EAST BAY DIVISION                            |                  |       |       | -                 |                  |
| Avon Power Station Feeder                    | 8" & 12"         | 315   | 338   | 600               | 600              |
| Phillips Petroleum Company Feeder            | 12"              | 315   | 338   | 600 .             | 600              |
| General Chemical Tap                         | 4"               | 315   | 338   | 600               | 600              |
| Pacific States Steel Feeder                  | 12"              | 420   | 420   | 600 <sup>°</sup>  | 500              |
| Warm Springs Feeder                          | 2" & 4"          | 465   | 465   | 500               | 600              |
| Port Costa Feeder                            | 6" `             | 315   | 338   | 600               | 600              |
| 50th Avenue Holder Feeder Off Line 105       | 16" & 20"        | 150   | 198   | 275               | 275              |
| Pittsburg Town Feeder                        | 12"              | 315   | 338   | 600               | 600              |
| Concord Feeder to Alpha Beta Regulator       | 8"               | 315   | 600   | 600               | 600              |
| Oleum Steam Plant Tap                        | 8" 10" 12"       | 250   | 250   | 275               | 275              |
| San Ramon Feeder                             | 16"              | 500   | 500   | 500               | 600              |
| Standard Oil Feeder                          | 22 <sup>11</sup> | 400   | 400 · | 400               | 400              |
| · · · · · · · · · · · · · · · · · · ·        |                  |       | 200   |                   | -100             |

1

Exh, A (Becken) Appendix B S.P. No. 463-8 Effective 5/1/75 Page 2/3

í

| Location  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP     | Design<br>Press. | Future<br>Design<br>Press. |
|---|---|---------------------|----------|------------------|----------------------------|
|   |   |                     |          |                  |                            |
| NORTH BAY DIVISION<br>Cotati Feeder             | 8"                                      | 450                 | 500      | 675              | 675                        |
| 12" Line 21 (V-16.15) to Pine Street Meter      | 0                                       | 400                 | ,<br>100 | 075              | 075                        |
| Station   | <sup>7</sup> 8 <sup>11</sup>            | 450                 | 500      | 675              | 675                        |
| 12" Line 21 (V-16.15) to Kilburn Regulator      | Ū                                       | 200                 | 500      | 075              | 075                        |
| Station   | 10"                                     | 450                 | . 500    | 675              | 675                        |
| Kilburn Regulator Station to Yountville         | 8" & 10"                                | 450                 | 500      | 675              | 675                        |
| 6" Sonoma Tap Line                              | 6"                                      | 450                 | 500      | 675              | 675                        |
| <b>_</b>  | • t                                     | •                   |          |                  |                            |
| SACRAMENTO DIVISION                             |   |                     |          |                  |                            |
| Sacramento Gas Plant to North Sacramento HPU    |   |                     |          |                  |                            |
| Holder  | 8" & 12"                                | 260                 | 260      | 400              | 400                        |
| Tremont Tap to Dixon Meter Station              | 6".                                     | 550                 | 750      | 800              | 800                        |
| Tap to Union Carbide (MP 0.00 - MP 4.05)        | 8" & 10"                                | 412                 | 412      | 720              | 720                        |
| SAN FRANCISCO DIVISION                          |   |                     |          |                  |                            |
| Peninsula Main                                  | 16" & 20"                               | 109                 | 109      | 275              | 275                        |
| Hunters Point Power Plant Feeder                | 20"                                     | 145                 | 145      | 275              | 275                        |
| · .   |   |                     | •        |                  |                            |
| SAN · JOAQUIN · DIVISION                        |   |                     |          | •                |                            |
| Tranquility Feeder                              | 3"                                      | 800                 | 800      | 900              | 900                        |
| yosemite Avenue Feeder                          | . 6"                                    | 400                 | 720      | 720              | 720                        |
| Line 300A to California-Portland Cement Company | 3"                                      | 803                 | 817      | 865              | 865                        |
| Snelling Highway Feeder                         | 6"                                      | 400                 | 400      | 400              | 720                        |
| Dixon Dryer Feeder                              | 4"                                      | 500                 | · 500    | · 720            | 720                        |
| Peach and Central Feeder                        | 6"                                      | 650                 | 720      | 720 .            | 720                        |
| Clovis Feeder Main                              | 6" & 12"                                | 650                 | 650      | 720              | 720                        |
| Vinewood Avenue Feeder                          | 4"                                      | 400                 | 720      | 720              | 720                        |
| Winton Avenue Feeder                            | 6 <b>"</b> .                            | 400                 | 720      | 720              | 720                        |
| Cressey Way Feeder                              | 4" & 6"                                 | 400                 | 400      | 720 ·            | 720                        |
| Valley Nitrogen Feeder                          | 6"                                      | 650                 | 650      | 800              | 720                        |
| SAN JOSE DIVISION                               |   |                     |          |                  |                            |
| Half Moon Bay Feeder Line                       | 8" 10" 12"                              | 400                 | 577      | 577**            | 577**                      |
| Santa Cruz to Davenport                         | 10" & 12"                               | 300                 | 303      | . 557**          | 400 ·                      |
| Milpitas Terminal to PLS #7, Kings Road,        | 168 008 008                             | 200                 | 200      | 075              | F76                        |
| 20" Feeder                                      | 16" 20" 30"                             | 200                 | 200      | 275              | 526                        |
| Natsonville to River Street Regulator           | 08 * 208                                | 200 '               | 202      | 29722            | 400                        |
| Station   | 8" & 10"                                | 300 '               | 303      | 577**            | 400                        |
| Watsonville to Rob Roy Junction                 | 10"                                     | 300                 | 303      | 557**            | 400                        |

\*\*See Paragraph 6

Exh.A (Becken) Appendix B S.P. No. 463-8 Effective 5/1/75 Page 3/3

.

| Location                             | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP  | Design<br>Press. | Future<br>Design<br>Press. |
|--------------------------------------|---|---------------------|-------|------------------|----------------------------|
| SHASTA DIVISION                      |   |                     |       |                  |                            |
| Simpson Lee Paper Mill Feeder        | 6"                                      | 300                 | . 300 | 720 .            | 720                        |
| U.S. Plywood Plant Feeder            | 4"                                      | 300                 | 720   | 720              | 720                        |
| Enterprise Town Feeder               | 4" & 6"                                 | 300                 | 300   | 720              | 720                        |
| Calaveras Cement Company Feeder      | 8"                                      | 300                 | 300   | 720              | 720                        |
| Red Bluff District Tap               | 21                                      | 911                 | 911   | 911              | 911                        |
| STOCKTON DIVISION                    |   |                     |       |                  |                            |
| Roth Road Feeder - Manteca           | 4"                                      | 408                 | 720   | 720              | 720                        |
| Valley Tomato Trunk Line             | 8"                                      | 412                 | 500   | 720              | 720                        |
| Eight Mile Road Trunk Line           | 4" & 8"                                 | 412                 | 426   | 720              | 720                        |
| Ripon-Modesto Feeder (Parallel)      | 8" & 12"                                | 408                 | 408   | 720              | 720                        |
| Dale Road to North Avenue Feeder     | 12"                                     | 408                 | 408   | 720              | 720                        |
| Riverbank Feeder                     | 8" & 10"                                | 408                 | 720   | 720              | 720                        |
| Carpenter Road Feeder                | 12"                                     | 412                 | 500   | 720              | 720                        |
| Modesto Feeder Via Pauline Boulevard | 4" & 6"                                 | 408                 | 408   | 720              | 720                        |
| Turner Road Feeder (Parallel)        | 4" & 8"                                 | 300                 | 300   | 720              | 720                        |
| McArthur Road Feeder                 | 4"                                      | 295                 | 295   | 400              | 720                        |
| Louise Avenue Feeder                 | 8"                                      | 408                 | 408   | 720              | 720                        |
| C.Y.A. Feeder - Stockton             | 6"                                      | 412                 | 426   | 720              | 720                        |
| Morgan Road Feeder - Modesto         | 12"                                     | 260                 | 720   | 720              | 720                        |
| Swain Road Feeder                    | 6" & 8"                                 | 125                 | 400   | <b>`400</b>      | 400                        |
| *Turlock to Ceres Regulator Station  | 10"                                     | 250                 | 260   | 720              | 720                        |

.

•

·· ·

• •

.

I

Exh.A(Becken) Appendix C S.P. No. 463-8 Page 1/1 Effective 5/1/75

# PIPE TYPE HIGH PRESSURE UNDERGROUND HOLDERS OPERATING AT OR OVER 20% SMYS

,

••

.

| Location               | Length<br>(Feet) | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP | Design<br>Press. | Future<br>Design<br>Press. |
|------------------------|------------------|---|---------------------|------|------------------|----------------------------|
| COLGATE DIVISION -     |                  |   |                     |      |                  |                            |
| Yuba City              | 24,784           | 34"                                     | 525                 | 525  | . 550            | 550                        |
| NORTH BAY -            | •                |   |                     |      |                  |                            |
| San Rafael             | 37,392           | 30"                                     | 650                 | 650  | 690              | 690                        |
| SACRAMENTO DIVISION -  |                  |   |                     |      |                  |                            |
| Sacramento             | 78,452           | 34"                                     | 445                 | 445  | 550              | 550                        |
| SAN JOAQUIN DIVISION - |                  |   |                     |      |                  |                            |
| Fresno                 | 43,722           | 30"                                     | 690                 | 690  | 690              | 690                        |
| SAN JOSE DIVISION -    |                  |   |                     |      |                  |                            |
| Santa Cruz             | 7,221            | 30"                                     | 660                 | 660  | 660              | 660                        |
|                        | 4,838            | 34"                                     | 660                 | 660  | 660              | 660                        |

## LINE NO. 101

.

| 1        | · · · ·        | 12          | 1              | [   |                                       |              | OLD  | 1         | 45-70   | DATE     | OFATION                                       | VID                                   |          | NE          | . W      |                                       | REMARKS                     |
|----------|----------------|-------------|----------------|---|---------------------------------------|--------------|------|-----------|---------|----------|---|---------------------------------------|----------|-------------|----------|---------------------------------------|-----------------------------|
|          | · - · · ·      | <u>DS</u> e | IGNAT          | 101   | 1 - 2 - 1 -                           | MAR          | MAOP | . DP      | HP      | ·        | 1   |                                       | MOP      | MADP        | IO P     | EDD                                   | 1                           |
| F        |                | 1           |                |   |                                       | <u></u>      |      |           |         | · ·      |   |                                       |          |             |          |                                       |                             |
| ١ł.      |                | 10          |                | P0.00) T                                      |                                       |              |      |           |         |          |   | ·                                     |          |             |          |                                       |                             |
| 4.       | MIL PIT        | TAS TE      | RIM. UN        | N63'80)                                       |                                       | 100          | 400  | 400       |         | + 12/65  |   | SAN<br>JOSE                           | .400     | 400         | 400      | 400                                   | TESTED IN DEC. 19           |
| -        | KENC           | STORFE      | <u>† STA.C</u> | 1<br>NG J180 )                                | 6                                     | -100-        | -100 | 400       |         | 1 14/23  |   | 1 300                                 | 1.00     | 19.2        |          |                                       | SAN JOSE DIV FEB,74         |
| +        | <u> </u>       | 1<br>1      | <u>.</u>       | 1   | <u> </u>                              |              |      |           |         |          |   |                                       |          |             |          |                                       |                             |
| +        |                | <u> </u>    |                | 1   | · · ·                                 | <u>.</u>     |      | ·         |         | ·        |   |                                       |          |             |          |                                       |                             |
| ·μ       | <u> Sevigs</u> | TO REF A    | VE STA         | VIA BAY                                       | SHORE                                 | <u> </u>     | 1    | ·         |         | ·        | · · ·   |                                       | <u> </u> |             |          |                                       |                             |
| :        | TO S           | E BORD      | ER MIT         | STA M   | P33.68)                               | استعديته معد |      |           | 100     | al-lio   |   | SAN                                   | 180      | 180         | 275      | 400                                   | 1974 LTR FROM D. WHI        |
|          |                |             |                |   | 20                                    | 2.50         | 250  | 400       | 180     | 8/5/69   | HENGSDRE                                      | JOSE .                                | 1-180-   | 100-        | <u> </u> | <u>-190</u>                           | TO R.L. SISLERI             |
|          |                | •           | <u> </u>       | 1   | ļ                                     |              |      |           |         |          |   | ·                                     |          |             |          |                                       | PENN, REG@ SP Border Mir    |
| ·        |                | 4           |                |   | <br>                                  |              |      |           |         |          | <u> </u>                                      |                                       | ·]       |             |          |                                       | operating 1-20-76 50 180111 |
| v a      | <u>5.F. B</u>  | ORDER       | MTR ST         | A. VIA BI                                     | WSHORE                                |              |      | <b> _</b> |         |          | <u> </u>                                      | ┼                                     |          |             |          | l                                     | is validi LCM 1-23-76       |
|          | To f           | GIREB       | <u>o Gas f</u> | LANT CM                                       | PA4.5%)                               |              | L    |           |         |          | SFBMS   | SAN                                   |          |             | 0        |                                       | 109 MOP BECAUSE C           |
| L        |                | <u> </u>    | <u> </u>       | <u> .                                    </u> | 20"                                   | 150          | 150  | 275       | 150     | 12/8/69  | SFBMS_  | FRAN                                  | 109      | 150         | 215      | 4.1.5                                 | PENN MAIN                   |
|          |                | ·           | 1.             |   | · · · · · ·                           |              |      |           | · · ·   |          |   | · · · · · · · · · · · · · · · · · · · | +        | 110 :       |          |                                       |                             |
| L        |                |             | 1              |   | 1<br>1                                |              |      | ļ         | ļ       | <u> </u> | Ļ   |                                       | ·····    |             |          | · · · · · · · · · · · · · · · · · · · | S.F. DIV FEE 74 L           |
|          |                | :           | 1              |   |                                       |              |      |           |         | <u></u>  |   | ļ                                     |          |             |          |                                       |                             |
|          |                | į           | 1              | .   | [                                     |              | L    |           |         |          |   | <u> </u>                              | l        | ·           |          |                                       |                             |
| Γ        |                | 1           |                |   |                                       |              |      |           |         |          | <u> .                                    </u> | ·                                     |          | 1           | · · ·    |                                       |                             |
|          |                | 1           | 1              |   |                                       |              |      |           | <u></u> |          |   |                                       |          |             |          | ه چېدېنېم م                           |                             |
| T        |                | 1           | 1              | 1   |                                       | 1            |      |           |         |          |   |                                       |          |             |          |                                       |                             |
| 1        |                | · .         | Ι.             | i   |                                       | 1            |      |           |         |          |   | <u></u>                               | <u></u>  | ·····       |          | )                                     |                             |
|          | • ;            | 1 .         |                | 1   | i                                     |              |      |           |         |          |   |                                       |          |             |          | <u></u>                               | A REAL MARK AND A REAL MARK |
| t        |                |             | ·· ·           | · · · ·                                       |                                       |              |      |           |         |          |   |                                       |          | <u> </u>    |          |                                       |                             |
| F        |                |             | 1              | · · · · · · ·                                 |                                       |              |      |           | 1       |          |   |                                       | · · ·    | · · · · · · | · · .    | ·                                     |                             |
|          |                | 1           | <u></u>        |   |                                       |              |      |           | 1       | ·        |   |                                       |          |             |          |                                       | <u> </u>                    |
|          |                | 1           | 1              |   | 1                                     |              |      |           | 1       |          |   |                                       |          |             |          |                                       |                             |
| t        |                | <u> </u>    | <u></u>        | 1   | i                                     |              |      |           |         | 1        |   | ·                                     |          |             |          |                                       |                             |
| ┢        | <u></u>        | <u>+</u>    | i              | - <del> </del>                                | 1                                     |              |      |           | 1       |          |   |                                       |          | 1           |          | Į                                     |                             |
| ┢        |                | l           | <u></u>        | <u>†</u>                                      | :<br>:                                |              |      |           |         |          |   | 1                                     |          |             |          |                                       |                             |
| +        |                |             | 1              | 1   |                                       |              |      |           | ·       |          |   |                                       |          | 1           |          |                                       | 1                           |
| +        |                | 1.<br>      | i              |   | · · · · · · · · · · · · · · · · · · · |              |      | [         | 1.      |          |   |                                       | 1        | 1           |          |                                       |                             |
| +        |                | 1           | !              |   |                                       | · · · ·      |      | <u> </u>  | +       | 1        |   |                                       |          |             | Ì        |                                       | i .                         |
| +        |                | ÷           | . <u></u>      | . <u> </u>                                    |                                       |              |      | <u> </u>  | 1       | 1        |   |                                       |          | 1           |          |                                       |                             |
| $\vdash$ |                | ;           | •<br>•         | 1   | ÷                                     |              |      | t         | +       |          | [   | 1                                     |          |             |          |                                       |                             |
| -        |                | 1           | +              |   | <u> </u>                              |              |      |           | +       | 1        |   |                                       |          | 1           |          | }                                     | 1                           |
|          |                | <u> </u>    | <u>  .</u>     | 1   |                                       |              |      |           |         |          | +   | +                                     |          | -}          | {        |                                       |                             |

•

+ 62+6218 (REV. 9-70)

# PG ME

DIVISION OR DEPARTMENT FILE NO. SUBJECT MAOP of Pipelines and Mains Operating Over 20% of SMYS

#### April 9, 1979

DIVISION MANAGERS MANAGER, GENERAL CONSTRUCTION MANAGER, PIPE LINE OPERATIONS DIVISION GAS SUPERINTENDENTS DISTRICT MANAGERS DISTRICT GAS SUPERINTENDENTS DIVISION ADMINISTRATIVE ANALYST OR EQUAL DIRECTOR, PROCEDURES AND ORGANIZATION:

The attached Standard Practice 463-8 dated April 9, 1979 replaces the revised Standard Practice issued on May 1, 1975.

The Standard Practice no longer contains Appendices A, B, and C which listed the pressure of pipelines, mains and high pressure underground holders operating at or above 20% of SMYS. This information is now contained in drawing 086868, which will be issued by the Manager of Gas System Design Department and updated as required. A copy of drawing 086868 is attached.

Additional copies of this Standard Practice may be obtained from Gas Operations by calling extension 1604.

Copies of drawing 086868 may be obtained by calling extension 3202.

Lough hy

HOWARD M. MCKINLEY

JYura (2863) : cm

cc: Gas Operations Managers

Attachments

Exh.C(Becken) Supplement S.P. No. 463-8 Page 1 Effective 4/9/79

#### PROCEDURAL DETAILS

- \*10. Piping systems shown on Drawing 086868 are not to be operated in excess of the MOP (PG&E). This limitation has been determined by the lowest of the following:
  - a) The test pressure or the rated working pressure of the pipe, valves, and fittings in the line.

·---- . . .

- b) The MAOP of the line as established in accordance with the provisions of the current edition of G.O. 112.
- c) The MAOP of another pipeline system connected to the first system where there is no pressure control complete with over pressure protection between the two systems.
- d) Operating conditions that limit pressure.
- \*11. The MOP (PG&E) may equal, but shall never exceed the MAOP or the DP. In some cases where the MAOP is less than DP, it is anticipated that the MAOP may be increased at some future time, in accordance with Subpart K (Uprating) of the current edition of G.O. 112. For this reason, all new additions to an existing system shall have a design pressure at least equal to the design pressure listed in Drawing O86868. Some sections of an existing system may not qualify for the established design pressure and would require reconstruction, testing, or replacement prior to increasing the MAOP. See' Paragraph 6.
- 12. New or replacement sections of line should be tested and qualified for the ultimate MAOP of the system, even though the MOP (PG&E) of the system is limited by the MAOP of other facilities connected to it.
- 13. Any changes contemplated in the MOP (PG&E) or the MAOP of a line operating at or over 20% of SMYS shall be submitted by the Division Gas Superintendent or the Manager of Pipe Line Operations, in letter form, to the Manager of Gas System Design, for review and approval. A copy should be sent to the Manager of Gas System Planning.
- \*14. The MOP (PG&E), MAOP and DP of all newly installed pipelines and mains operating at or above 20% of SMYS, along with those in Drawing 086868 shall be confirmed annually by letter on or before February 1, by the Division Gas Superintendents and the Manager of Pipe Line Operations to the Manager of Gas System Design Department, for each facility within the scope of this Standard Practice.
- \*15. The Manager of Gas System Design Department will issue and distribute an updated copy of Drawing 086868 giving pipeline pressures (Drawing 086868) as required.

\*Paragraph Revised \*\*Paragraph Added

ð

|               |   | Exh. C (Becken)  |
|---------------|---|--|
| 501 REV. 4.65 |   |  |
| CIFIC GAS AI  | ND ELECTRIC COMPANY   | STANDARD PRACTICE NO. 463-4  |
| ECUTIVE OFF   | CE OR DIVISION GAS OPERATIONS   | PAGE NO. 1 EFFECTIVE 4/9/7   |
| UING DEPAR    | TMENT GAS SYSTEM DESIGN   | REPLACING 1 EFFECTIVE 5/1/7  |
|               | IMUM OPERATING PRESSURES OF PIPELINES AND MAINS<br>RATING AT OR ABOVE 20% OF S.M.Y.S.   |  |
| PURPOSE       | AND POLICY  |  |
| *1.           | To establish a uniform procedure for identify<br>Design Pressure (DP), Maximum Allowable Opera<br>Maximum Operating Pressure (MOP) (PG&E) for a<br>holders operating at or above 20% of specifie<br>(SMYS) of the pipe material.  | ting Pressures (MAOP), and<br>11 pipelines, mains and  |
| RECISIO       | NS  |  |
| 2.            | All previous instructions, oral or written, the Standard Practice.  | hat may be contrary to this  |
| RESPONS       | IBILITY   |  |
| 3.            | Division Gas Superintendents and the Manager<br>shall be responsible for the performance requi<br>Practice. Performance will include reviews of<br>the lines and the records generated by the res<br>any time a change in MOP, MAOP, or DP is conten  | ired by this Standard<br>f design procedures for<br>ferenced Standard Practices                      |
| 4.            | The Manager of Gas System Design will establi<br>MOP (PG&E), MAOP and DP.   | sh and confirm changes to  |
| REFEREN       | CES   |  |
| *5            | Drawing 086868 "Maximum Operating Pressures of<br>Operating at or Above 20% of SMYS"<br>Current edition of California Public Utilities<br>S.P. 412-1, "External Corrosion Control of Buy<br>S.P. 460-1, "Location Class Changes: Pipelines<br>S.P. 460-2-2, "Physical Inspection: Pipelines<br>S.P. 460-21-4, "Periodic Leakage Surveys of Ga<br>Distribution Facilities"<br>S.P. 463.7, "Pipeline History File, Establish: | s G.O. 112<br>ried Gas Facilities"<br>es and Mains"<br>s, Mains and Services"<br>as Transmission and |
| DEFINIT       | IONS  |  |
| *6.           | Design Pressure (DP) is the maximum pressure p<br>sections of the current edition of G.O. 112, a<br>and locations involved. In some cases the DP<br>the maximum pressure for the minimum wall this<br>current edition of G.O. 112 for Type 3 constru  | applicable to the materials<br>has been established as<br>ckness required under the                  |

listed (See double asterisk entries in Drawing 086868).

62.7501 REV. 4.65

,

| ING AT OR<br>ure Design<br>itions to<br>wing 08680<br>imum Allow<br>ch a pipel<br>h all the<br>imum Opera<br>as system<br>tem Design<br>cified Mir<br>prescribe                            | vable Operating P<br>line or section of<br>applicable provi-<br>ating Pressure (M<br>may be operated<br>a Department.<br>ad by the specifi-<br>arer or as specifi  | IPELINES AN<br>L.Y.S.<br>Design Pre-<br>ties, as sho<br>ressure (MP<br>f a pipelin<br>sions of th<br>OP) (PG&E)<br>as specifie<br>gth (SMYS)<br>cation under   | OP) is the may be current is the may the is the marked by the is the mir which p  | PAGE NO.<br>PAGE N | used f<br>revisi<br>m pres<br>d in ac<br>n of G.<br>cessure<br>of the   | ion of<br>ssure at<br>ccordance<br>0. 112.<br>at whice<br>Gas<br>rrength i<br>sed from   | /1/7!   |
|--|--|--|---|--|---|--|---|
| M OPERATIN<br>ING AT OR<br>ure Design<br>itions to<br>wing 08680<br>imum Allow<br>ch a piper<br>h all the<br>imum Opera<br>as system<br>tem Design<br>cified Mir<br>prescribe<br>manufactu | NG PRESSURES OF P<br>ABOVE 20% OF S.M<br>Pressure is the<br>existing facilit<br>58.<br>vable Operating P<br>line or section of<br>applicable provi-<br>ting Pressure (M<br>may be operated<br>a Department.<br>enum Yield Stren<br>ing or as specifi-  | IPELINES AN<br>L.Y.S.<br>Design Pre-<br>ties, as sho<br>ressure (MP<br>f a pipelin<br>sions of th<br>OP) (PG&E)<br>as specifie<br>gth (SMYS)<br>cation under   | OP) is the may be current is the may the is the marked by the is the mir which p  | <ul> <li>e) to be</li> <li>e) to be</li> <li>e) latest</li> <li>operated</li> <li>e) edition</li> <li>e) aximum properated</li> <li>manager</li> <li>manager</li> <li>mimum yr</li> <li>mimum yr</li> <li>mimum yr</li> <li>mimum yr</li> </ul>  | used f<br>revisi<br>m pres<br>d in ac<br>n of G.<br>cessure<br>of the<br>leld st  | for futur<br>ion of<br>ssure at<br>ccordance<br>0. 112.<br>a at whice<br>Gas<br>crength i<br>sed from  | ce<br>ch  |
| ING AT OR<br>ure Design<br>itions to<br>wing 08680<br>imum Allow<br>ch a pipel<br>h all the<br>imum Opera<br>as system<br>tem Design<br>cified Mir<br>prescribe<br>manufactu               | ABOVE 20% OF S.M<br>A Pressure is the<br>existing facilit<br>bases<br>vable Operating P<br>line or section of<br>applicable provi-<br>ating Pressure (M<br>may be operated<br>a Department.<br>d by the specifi-<br>urer or as specifi   | Design Pre-<br>ties, as sho<br>ressure (MP<br>f a pipelir<br>sions of th<br>OP) (PG&E)<br>as specifie<br>gth (SMYS)<br>cation under  | OP) is the may be current is the may the is the marked by the is the mir which p  | e latest<br>operated<br>edition<br>aximum pu<br>Manager<br>.nimum yi<br>oipe is g  | revisi<br>um pres<br>d in ac<br>n of G.<br>cessure<br>of the<br>leld st<br>purchas  | ion of<br>ssure at<br>ccordance<br>0. 112.<br>at whice<br>Gas<br>rrength i<br>sed from   | e<br>zh   |
| itions to<br>wing 08680<br>imum Allow<br>ch a pipel<br>h all the<br>imum Opera<br>as system<br>tem Design<br>cified Mir<br>prescribe<br>manufactu  | existing facilit<br>bases<br>wable Operating P<br>time or section of<br>applicable provi-<br>ating Pressure (M<br>may be operated<br>a Department.<br>atimum Yield Stren<br>ad by the specifi-<br>arer or as specifi   | ies, as sho<br>ressure (MP<br>f a pipelir<br>sions of th<br>OP) (PG&E)<br>as specific<br>gth (SMYS)<br>cation unde   | OP) is the may be current is the ma<br>d by the min the m | e latest<br>operated<br>edition<br>aximum pu<br>Manager<br>.nimum yi<br>oipe is g  | revisi<br>um pres<br>d in ac<br>n of G.<br>cessure<br>of the<br>leld st<br>purchas  | ion of<br>ssure at<br>ccordance<br>0. 112.<br>at whice<br>Gas<br>rrength i<br>sed from   | e<br>2h   |
| itions to<br>wing 08680<br>imum Allow<br>ch a pipel<br>h all the<br>imum Opera<br>as system<br>tem Design<br>cified Mir<br>prescribe<br>manufactu  | existing facilit<br>bases<br>wable Operating P<br>time or section of<br>applicable provi-<br>ating Pressure (M<br>may be operated<br>a Department.<br>atimum Yield Stren<br>ad by the specifi-<br>arer or as specifi   | ies, as sho<br>ressure (MP<br>f a pipelir<br>sions of th<br>OP) (PG&E)<br>as specific<br>gth (SMYS)<br>cation unde   | OP) is the may be current is the ma<br>d by the min the m | e latest<br>operated<br>edition<br>aximum pu<br>Manager<br>.nimum yi<br>oipe is g  | revisi<br>um pres<br>d in ac<br>n of G.<br>cessure<br>of the<br>leld st<br>purchas  | ion of<br>ssure at<br>ccordance<br>0. 112.<br>at whice<br>Gas<br>rrength i<br>sed from   | e<br>2h   |
| ch a pipel<br>h all the<br>imum Opera<br>as system<br>tem Design<br>cified Mir<br>prescribe<br>manufactu   | tine or section of<br>applicable provi-<br>nting Pressure (M<br>may be operated<br>a Department.<br>nimum Yield Stren<br>ad by the specifi-<br>urer or as specifi  | f a pipelir<br>sions of th<br>OP) (PG&E)<br>as specific<br>gth (SMYS)<br>cation unde   | ie may be<br>le current<br>is the ma<br>d by the<br>is the mi<br>r which p  | operated<br>edition<br>aximum pr<br>Manager<br>.nimum yi<br>oipe is p  | d in ac<br>n of G.<br>cessure<br>of the<br>leld st<br>purchas   | ccordance<br>O. 112.<br>e at whice<br>Gas<br>crength ised from   | ch<br>In  |
| as system<br>tem Design<br>cified Mir<br>prescribe<br>manufactu  | may be operated<br>a Department.<br>aimum Yield Stren<br>ad by the specifi<br>arer or as specifi   | as specifie<br>gth (SMYS)<br>cation unde   | d by the<br>is the mi<br>r which p  | Manager<br>.nimum yi<br>pipe is g  | of the<br>leld st<br>purchas  | e Gas<br>rength i<br>sed from  | L <b>n</b>  |
| prescribe<br>manufactu   | ed by the specifinger or as specifinger or as specifinger or a specific spe | cation unde  | r which p   | pipe is g  | purchas   | sed from   |   |
|  |  |  |   |  | le curr   | ent  |   |
|  |  |  |   |  |   |  |   |
| cedural de   | tails appear in  | the addenda  | to this   | Standard   | l Pract   | cice.  |   |
|  |  |  |   |  |   |  |   |
| a) which d<br>cating at<br>/or Pipe I  | ocument the MAOP<br>or above 20% of<br>ine Operations D  | and/or MOP<br>SMYS shall<br>epartment a  | (PG&E) c<br>be kept c<br>ssigned w  | of pipeli<br>urrent k  | nes an<br>by the  | nd mains<br>Division   |   |
|  |  |  |   |  |   |  |   |
|  |  |  | for desi  | gnating.   | the MO  | P (PG&E)   | ,   |
|  |  | perations  |   |  | -   |  |   |
| -<br>Divisi<br>Distri  | on Gas Superinte<br>ct Gas Superinte   |  | Director  | , Proced   | lures <sup>°</sup> A  |  | al,   |
|  | a) which d<br>cating at<br>/or Pipe L<br>maintenanc<br>Supplement<br>and DP f<br>Howard<br>Vice P<br>Divisi<br>Divisi<br>Distri<br>Distri  | <ul> <li>a) which document the MAOP<br/>rating at or above 20% of a<br/>for Pipe Line Operations De<br/>maintenance and operation of<br/>Supplement establishes the<br/>and DP for each facility<br/>Howard M. McKinley<br/>Vice President - Gas Op<br/>Division Managers<br/>Division Gas Superinten<br/>District Gas Superinten<br/>District Managers</li> </ul> | <ul> <li>a) which document the MAOP and/or MOP<br/>rating at or above 20% of SMYS shall<br/>/or Pipe Line Operations Department a<br/>maintenance and operation of facility</li> <li>Supplement establishes the procedure<br/>e and DP for each facility.</li> <li>Howard M. McKinley<br/>Vice President - Gas Operations</li> <li>Division Managers<br/>Division Gas Superintendents<br/>District Gas Superintendents<br/>District Managers</li> <li>opies of this Standard Practice may b</li> </ul>  | <ul> <li>a) which document the MAOP and/or MOP (PG&amp;E) of rating at or above 20% of SMYS shall be kept of vor Pipe Line Operations Department assigned we maintenance and operation of facility.</li> <li>Supplement establishes the procedure for design and DP for each facility.</li> <li>Howard M. McKinley</li> <li>Vice President - Gas Operations</li> <li>Division Managers</li> <li>Division Gas Superintendents</li> <li>Division Gas Superintendents</li> <li>Division Superintendents</li> <li>Division Gas Superintendents</li> <li>Division Pipe Line</li> </ul>  | <ul> <li>a) which document the MAOP and/or MOP (PG&amp;E) of pipeline at or above 20% of SMYS shall be kept current key or pipe Line Operations Department assigned with the maintenance and operation of facility.</li> <li>Supplement establishes the procedure for designating and DP for each facility.</li> <li>Howard M. McKinley Vice President - Gas Operations</li> <li>Division Managers Division Admin. Division Gas Superintendents Director, Proceed District Gas Superintendents Pipe Line Operations</li> <li>Supplement of this Standard Practice may be obtained from Operation for the standard practice may be obtained from Operation for the standard practice may be obtained from Operation for the standard practice may be obtained from Operation for the standard practice may be obtained from Operation for the standard practice may be obtained from Operation for the standard practice may be obtained from Operation for the standard practice may be obtained from Operation for the standard practice may be obtained from Operation for the standard practice may be obtained from Operation for the standard practice may be obtained from the standard practice may be preserved.</li> </ul> | a) which document the MAOP and/or MOP (PG&E) of pipelines ar<br>rating at or above 20% of SMYS shall be kept current by the<br>/or Pipe Line Operations Department assigned with the respon-<br>maintenance and operation of facility.<br>Supplement establishes the procedure for designating the MC<br>e and DP for each facility.<br>Howard M. McKinley<br>Vice President - Gas Operations<br>Division Managers<br>Division Gas Superintendents<br>Division Gas Superintendents<br>District Gas Superintendents<br>District Managers<br>District Managers<br>District Managers<br>District Managers<br>District Managers<br>District Managers<br>District Managers<br>District Managers | Supplement establishes the procedure for designating the MOP (PG&E)<br>e and DP for each facility.<br>Howard M. McKinley<br>Vice President - Gas Operations<br>Division Managers<br>Division Gas Superintendents<br>Division Gas Superintendents<br>District Gas Superintendents<br>District Gas Superintendents<br>District Managers<br>District Managers<br>District Managers |

,

- ·

;

#### PURPOSE

This drawing lists the operating limitations and design requirements for all pipelines, mains and holders operating at or above 20% of the specified minimum yield strength (SMYS) of the pipe.

See S.P. 463-8 for detailed requirements for establishing and maintaining the MAOP of gas facilities.

#### DEFINITIONS

Maximum Allowable Operating Pressure (MAOP) is the maximum pressure at which a pipeline or section of a pipeline may be operated in accordance with all the applicable provisions of the current edition of G.O. 112-C.

<u>Maximum Operating Pressure</u> (MOP) (PG&E) is the maximum pressure at which a gas system may be operated as specified by the Manager of the Gas System Design Department.

Design Pressure (DP) is the maximum pressure permitted by the design sections of the current edition of G.O. 112-C, applicable to the materials and locations involved. In some cases, the DP has been established as the maximum pressure for the minimum wall thickness required under the current edition of G.O. 112-C for Type 3 construction for line size listed (see double asterisk entries).

Future Design Pressure is the Design Pressure (DP) to be used for future additions to existing facilities.

#### CHANGES IN THE MAOP REQUIRE CPUC NOTIFICATION

General Order 112-C (Subpart C) requires the Company to notify the CPUC 30 days prior to the uprating of any system operating, or to be operated, at 20 percent SMYS or greater.

The CPUC must be advised within 30 days after the lowering of the MAOP of a line operating at 20 percent or more of SMYS.

Any changes contemplated in the MOP (PG&E) or the MAOP of a line operating at or over 20% of SMYS shall be submitted by the Division Gas Superintendent or the Manager of Pipe Line Operations, in letter form, to the Manager of Gas System Design, for review and approval.

|        |            |       |      |         |   |    |        |         |       | •      |
|--------|------------|-------|------|---------|---|----|--------|---------|-------|--------|
| APPROV | VED BY     | 1     |      |         |   |    |        |         |       |        |
| HK.    |            |       |      |         | ··  |    |        |         |       |        |
| SKI .  |            |       |      |         |   |    |        |         |       |        |
| TOF    | Phil       |       |      |         |   |    | ·      |         | l     |        |
|        | <b>\$1</b> | REV.  | DATE |         | DESCRIPTION                                 | GM | DWN.   | CHKD.   | SUPV. | APVD.  |
| GM     |            |       |      |         |   |    | B/M    |         |       |        |
| SUPV.  |            |       |      |         | PIPELINE - DATA SHEET                       |    | DWG. L |         |       |        |
| DSGN.  |            |       |      | MAOD    | OF LINES OPERATING AT OR OVER 20% SHYS      |    | SUPSD  |         |       |        |
| DWN.   |            |       |      | 1.8 101 | OF THEMAS OF DEGLERAD IT. THE OVER 208 SP10 |    | SUPSD  | BY      |       |        |
| CHKD.  |            |       |      |         | TYPICAL                                     |    | SHEET  | NG. J.C | 5130  | SHEETS |
| 0.K.   |            |       | 1    |         |   |    |        |         |       | REV.   |
| DATE   |            | SCALE |      |         | PACIFIC GAS AND ELECTRIC COMPANY            |    | 08     | 6868    |       | $\cap$ |
| 4/9/7  | 79         |       |      |         | SAN FRANCISCO, CALIFORNIA                   |    |        |         |       |        |
| 62-180 | A Po       | v 7_7 | Γ.   |         |   |    | MICRO  | FILM    |       |        |

### MAOP INDEX

| Sheets 3 - 23  | Transmission Lines<br>Operating at or Over 20% SMYS .                        |
|----------------|--|
| Sheets 24 - 29 | Distribution Mains Operating<br>at or Over 20% SMYS                          |
| Sheet 30       | Pipe Type High Pressure Underground<br>Holders Operating at or Over 20% SMYS |

|                                     | ta da basiyezzy we szere a may wezere contractive basis H dasztata a szerekteret hárosan vezere vezere vezere k |                | An and the second of |
|-------------------------------------|---|----------------|----------------------|
|                                     | PG&ECO.   | DRAWING NUMBER | REV.                 |
| LINES OPERATING AT OR OVER 20% SMYS |   | 00000          | $\cap$               |
|                                     | SHEET 2 OF 30 SHEETS  |                |                      |
| -4344 Rev 1-76                      |   | MICROFILM      |                      |

61

| Trans.<br>Line<br>No. |         | to MP  | Description                                  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP | MAOP | Design<br>Press. | Future<br>Design<br>Press. |
|-----------------------|---------|--------|--|---|-------------|------|------------------|----------------------------|
| NO.                   | <u></u> |        | Description                                  |   | psig        | MACP | <u></u>          | FICOD.                     |
| 21                    | 0.00    | 1.07   | Crockett Station to MP 1.07                  | 24" & 26"                               | 400         | 405  | 650              | 675                        |
| 21                    | 1.07    | 1.52   | MP 1.07 to Herrmann Station                  | 24"                                     | 400         | 675  | 675              | 675                        |
| 21                    | 1.52    | 2.71   | Herrmann Station to Reis Avenue              | 16"                                     | 250         | 258  | 575**            | 575**                      |
| 21                    | 2.71    | 12.05  | Reis Avenue to Napa "Y"                      | 12"                                     | 250         | 375  | 585              | 585                        |
| 21                    | 12.05   | 35.05  | Napa "Y" to MP 35.05                         | 12" & 26" ·                             | 450         | 450  | 675              | 675                        |
| 21                    | 35.05   | 51,41  | MP 35.05 to MP 51.41                         | 12"                                     | · 450       | 500  | 720              | 675                        |
| 21                    | 51.41   | 53.12  | MP 51.41 to Santa Rosa Compressor<br>Station | 12"                                     | 450         | 494  | 720              | 675                        |
| 21                    | 53.12   | 137,38 | Santa Rosa Compressor Station to             |   |             |      |                  |                            |
|                       |         |        | Willits                                      | 8" & 12"                                | 820         | 820  | 890              | 89 0                       |
| 21                    | 0.00    | 18.64  | Napa "Y" to MP 18.64                         | 16"                                     | 450         | 500  | 720              | 675                        |
| 21                    | 18.64   | 25.84  | MP 18.64 to Pepper Road                      | 16"                                     | 450         | 500  | 720              | 675                        |
| 21                    | 34.84   | 35.86  | McDowell Road Tap to Petaluma                |   |             |      |                  |                            |
|                       |         |        | Meter Station                                | 12"                                     | 450         | 500  | 593              | 675                        |
| 21                    | 0.00    | 21.11  | Adobe to San Rafael HPU Holder               |   |             |      |                  |                            |
|                       |         |        | Station                                      | 16" & 20"                               | 450         | 500  | 500              | 500                        |
| 21                    | 0.00    | 21.11  | Adobe to San Rafael HPU                      | 12"                                     | 450         | 500  | 500              | 500                        |
| *50                   | 0.00    | 2.87   | 5th & Walnut Streets, Marysville             |   |             |      |                  |                            |
|                       |         |        | to Yuba City HPU                             | 8"                                      | 400         | 400  | 720**            | 720**                      |
| *50                   | 2.87    | 21.62  | Yuba City HPU to Biggs Regulator             |   |             |      |                  |                            |
|                       |         |        | Station                                      | 8"                                      | 250         | 250  | 720**            | 720**                      |
| *50                   | 21.62   | 26.94  | Biggs Regulator Station to                   |   |             |      |                  |                            |
|                       |         |        | Richvale "Y"                                 | 6" & 8"                                 | 250         | 250  | 720**            | 720**                      |
| *50                   | 26.94   | 44.87  | Richvale "Y" to Butte Station                | 6", 8", 12"                             | 400         | 400  | 686**            | 720**                      |
| 50                    | 0.00    | 7.81   | MP 0.00 to Paradise                          | 8"                                      | 400         | 720  | 720              | 720                        |
| 56                    |         |        | Pleasant Creek Field Storage Syst            | .em 4"                                  | 1300        | 1300 | 1300             | 1440                       |

\*Indicates that line or sections of line are under 20% SMYS, but are listed for the purpose of continuity.

\*\*DP has been established as the maximum pressure for the minimum wall thickness required under the current edition of General Order 112-C for Type construction for line size listed.

Note: Transmission line numbers which are underlined indicate changes by this revision of Standard Practice 463.8.

61-4344 Rev 1-76

LINES OPERATING

ΑŢ

OR OVER 20% SMYS

SHEET ω 0F **30 SHEETS** MICROFILM

086868

**DRAWING NUMBER** 

REV.

|                  |                  | gel 2009 al 2009 de la como participation de la company d | North and the state of the second | 1.1.1.4.1.1.1 |   | and a second | an a |         | and a second | <u>h.C.(Becken)</u> | Jeon |
|------------------|------------------|---|--|---------------|---|--|--|---------|--|---------------------|------|
| 61-4344 Rev 1-76 |                  |   |  |               |   |  |  |         | •  |                     |      |
| 434              | LINES            |   |  |               |   | Nominal  |  |         |  |                     |      |
| 4                | NE               | Trans   | •  |               | 1   | Pipe   | PG&E                                     |         | •  | Future              |      |
| Re               | 19               | Line  |  |               |   | Diameter   | MOP                                      |         | Design   | Design              |      |
| v<br>⊥           | OP ERATING       | No.   | MP   | to MP         | Description                                       | (Inches)   | psig                                     | MAOP    | Press.   | Press.              |      |
| - 7              | <b>R</b> RA      |   |  |               |   |  |  |         |  |                     |      |
| <b>б</b>         | TIL              | . 56  |  |               | Pleasant Creek Field Storage                      | 47 - 07  | * ~ ~ ~                                  | 3 4 4 6 | * • • • •  |                     |      |
|                  | NG               | 57  |  |               | System \<br>McDonald Island Field Storage         | 4" & 8"  | 1300                                     | 1440    | 1440   | 1440                |      |
|                  | AT               | 57  |  |               | System  | 4" - 12"   | 2160                                     | 2160    | 2160   | 2160                |      |
|                  | 1                | 57  | 0.00   | 7.47          | McDonald Island Compressor Statio                 |  | 2100                                     | 2700    | 2100   | 2100                |      |
|                  | OR               |   |  |               | to PLS  | 14",16",18"  | 1025                                     | 1025    | 1025   | 1025                |      |
|                  | OVER             | 57  | 7,47   | 16,64         | PLS to Brentwood Terminal                         | 18"  | 867                                      | 867     | 867  | 867                 |      |
|                  | ER               | 57B   | 0.00   | 16.46         | Brentwood Terminal to McDonald                    |  |  |         |  |                     |      |
|                  | 20%              |   |  |               | Island  | 22"  | 2160                                     | 2160    | 2160   | 2160                |      |
|                  | %C               | 65  |  |               | SP 3 (T176.7) to Los Medanos                      |  |  |         |  |                     |      |
|                  | ٨S               |   |  |               | Compressor Station                                | 4",6",10"  | 315                                      | 600     | 600  | 600                 |      |
|                  | SMXS             | 65  |  |               | Los Medanos Field Storage System                  | 4"   | 1000                                     | 1000    | 1000   | 1800                |      |
|                  |                  | 100   | 134.5  | 150.13        | MP 134.5 to Milpitas Terminal                     | 20"  | 400                                      | 400     | 552  | 552                 |      |
|                  |                  | 101   | 0.00   | 9,80          | Milpitas Terminal to Rengstorff<br>Avenue Station | 36"  | 400                                      | 400     | 400  | 400                 |      |
|                  |                  | *101  | 9.80   | 33.68         | Rengstorff Avenue Station Via                     | 20.  | 400                                      | 400     | 400  | 400                 |      |
|                  |                  | ~ ~ TOT   | 9.00   | 55.00         | Bayshore to San Francisco                         |  |  |         |  |                     |      |
|                  |                  |   |  | •             | Border Meter Station                              | 20"  | 180                                      | 180     | 275  | 400                 |      |
|                  |                  | *101  | 33.68  | 44.56         | San Francisco Meter Station Via                   |  |  |         |  |                     |      |
|                  | SHEET            |   |  |               | Bayshore Boulevard to Potrero                     |  |  |         |  |                     |      |
|                  | <b>—</b>         |   |  |               | Gas Plant   | 20"  | 109                                      | 110     | 275  | 275                 |      |
|                  |                  | *103  | 0.00   | 23.55         | Hollister Meter Station Regulator                 |  |  |         |  |                     |      |
|                  | -                |   |  |               | Station   | 12"  | 350                                      | 350     | 670**  | 500                 |      |
|                  |                  | 103   | 23,55  | 26.63         | California Street Regulator Stati                 | on   |  |         |  |                     |      |
|                  | 30 S             |   |  |               | To Harkins Road Meter and                         | 1.2 "  | 313                                      | 313     | 670**  | 500                 |      |
|                  | <u>ې</u>         | · 105   | 6.88   | 23.03         | Mixer Station<br>Irvington Station to San Lorenzo | 20", 24"   | 272                                      | 272     | 670**  | 500                 |      |
|                  | CO.<br>30 SHEETS | ; TOQ   | 0.00   | 20.03         | Regulator Station                                 | 26" & 34"  | 250                                      | 250     | 500  | 500                 |      |
|                  |                  |   |  |               | Regulator Deactor                                 | 20 8 94  | 200                                      | 200     | 500  | 200                 |      |
| MIC              | D                | 1   |  |               |   |  |  |         |  |                     |      |
|                  |                  |   |  |               |   |  |  |         |  |                     |      |
| ROFILM           | 186868<br>100 N  |   |  |               |   |  |  |         |  |                     |      |
| K                | 68 N             |   |  |               |   |  |  |         |  |                     |      |
|                  | U M              |   |  |               |   |  |  |         |  |                     |      |
|                  | BE               |   |  |               |   |  |  |         |  | ×                   |      |
| -                |                  |   |  |               |   |  |  |         |  | ŗ                   |      |
|                  |                  |   |  |               |   |  |  |         |  |                     |      |
| 1                | ·                | 1   |  |               |   |  |  |         |  |                     |      |

•

· ·

•

.

•

Exh.C. (Becken)

.

.

•

|            | LINES OF     | Trans.<br>Line |               |  |   | Nominal<br>Pipe<br>Diameter | PG&E       | ,          | Design  | Future<br>Design    |
|------------|--------------|----------------|---------------|--|---|-----------------------------|------------|------------|---------|---------------------|
|            | E            | <u>No.</u>     | MP            | to MP                                  | Description   | (Inches)                    | psig       | MAOP       | Press.  | Press.              |
|            | OP ERATING   | *105           | 23.03         | 52.01                                  | San Lorenzo Regulator Station to<br>San Pablo Station | 20", 22"<br>24" & 30"       | 150        | 198        | 275     | 275                 |
| 1999 B     |              | *105           | 0.00          | 2.03                                   | Oakland Holder Station to                             | 24 0 30                     | 100        | 170        | 270     | <i>L</i> 1 <i>L</i> |
| 1          | AT           |                |               |  | Berkeley City Limits (Parallel)                       | 24"                         | 150        | 198        | 275     | 275                 |
|            | OR           | 105            | 0.00          | 0.18                                   | Baine Avenue Crossover to Line 153                    | 20"                         | 250        | 250        | 590     | 500                 |
| 1          |              | *105           | 0.00          | 0.185                                  |   |                             |            |            |         |                     |
| 1. N. W.   | OVER         |                |               |  | Line 153  | 22" & 24"                   | 250        | 250        | 500     | 500                 |
|            |              | 105B           | 0.00          | 11.85                                  | Crockett Station to San Pablo                         |                             |            |            |         |                     |
|            | 20%          |                |               |  | Station   | 24"                         | 400        | 400        | 400     | 400                 |
|            |              | 107            | 0.00          | 13.11                                  | Tracy Station to Livermore                            |                             |            |            |         |                     |
|            | SMXS         |                | · · · ·       |  | Junction  | 22"                         | 500        | 500        | 500     | 720                 |
|            | SA           | 107            | 13.11         | 31.22                                  | Livermore Junction to Irvington                       |                             |            |            |         |                     |
|            |              |                |               |  | Station   | 22 <b>"</b>                 | 477        | 480        | 500     | 720                 |
| the state  |              | 107S           | 31.22         | 38.12                                  | Irvington Station to Milpitas                         |                             |            |            |         |                     |
| COLOR.     |              | 700            |               | 4 = 2                                  |   | 22",24" & 36"               | 477        | 477        | 500     | 720                 |
| 1000       |              | 108            | 0.00          | 4.59                                   | Stanpac 2 to Vernalis Field                           |                             |            |            |         |                     |
| 0.000      |              | 100            |               |  | Mixing Station  | 16"                         | 500        | 500        | 720     | 890                 |
|            |              | 108            | 4,59          | 8.79                                   | Vernalis Field Mixing Station to                      | 7                           | 400        | 100        | 500.h.t | <b>7</b> 00++       |
| 2014       | SHEET 5      | 108            | 8.79          | 16.7                                   | McMullin Ranch Mixer Station                          | 16"                         | 408        | 408        | 720**   | 720**               |
| dillo ma   | 四)           | 100            | 0.19          | 10./                                   | McMullin Ranch Mixer Station to<br>MP 16.7            | 16"                         | 400        | 408        | 720**   | 720**               |
|            | ຕ່າວ         | 108            | 16.7          | 43.5                                   | MP 10.7<br>MP 16.7 to Las Vinas Station               | 16"                         | 408<br>412 | 408<br>412 | 720**   | 720**               |
|            | ଜ            | 108            | 43.5          | 62.20                                  | Las Vinas Station to MP 62.20                         | 16"                         | 412        | 412<br>490 | 500     | 720                 |
| a de calor | 9 <b>8</b> E | 108            | 43.5<br>62.20 | 75.10                                  | MP 62.20 to Sacramento Division                       | 10                          | 490        | 490        | 500     | 720                 |
| anĝes ta   | ω            | 700            | 02.20         | /3.10                                  | Gas Load Center                                       | 16" & 24"                   | 412        | 412        | 500     | 656                 |
| 1000       |              | *108           | 27.10         | 1.71                                   | E. Hazleton & B Streets Regulator                     | 10 & 24                     | 412        | 412        | 500     | 000                 |
| 1. (M. 1   | SH .         | 100            | 27.10         | ***/**                                 | Station to Stockton Gas Plant                         | 12"                         | 175        | 185        | 275     | 275                 |
| 10 A 10    | SHEETS       | 109            | 0.00          | 43.47                                  | Milpitas Terminal to Sullivan                         | and a disc                  | 212        | - U U      | 213     | فيبال مناه          |
|            | ୍   ର        |                | 0.00          | ······································ | Avenue Regulator Station                              | 22" & 30"                   | 375        | 375        | 400     | 400                 |
| E          | DR           |                |               |  |   |                             | 0,0        |            | -100    |                     |

61-4344 Rev 1-76

 BRAWING NUMBER

 0F 30
 SHEETS

 0B6868

 MICROFILM

|               |            |       |       |    |       | ,  |             |      |                    |        |            |   |
|---------------|------------|-------|-------|----|-------|--|-------------|------|--------------------|--------|------------|---|
| LINES         |            |       |       |    |       |  | Nominal     |      |                    |        |            |   |
| NES           |            | Trans | •     |    |       |  | Pipe        | PG&E |                    |        | Future     |   |
|               |            | Line  |       |    |       |  | Diameter    | MOP  |                    | Design | Design     |   |
| OP ERA'ITI NG |            | No.   | MP    | to | MP    | Description                                | (Inches)    | psig | MAOP               | Press. | Press.     |   |
| JRA           |            |       |       |    |       |  |             |      | -                  |        | <u></u>    |   |
| E             |            | *109  | 43_47 |    | 52.71 | Sullivan Avenue Regulator to               |             |      |                    |        |            |   |
| NO            |            |       |       |    |       | Potrero Gas Plant                          | 26"         | 150  | 150                | 275    | 275        |   |
|               |            | 111   | 0.00  |    | 21.65 | Helm Junction to Fresno Junction           | 12"         | 650  | 650                | 800    | 720        |   |
| АТ            |            | 111   | 21.65 |    | 28.05 | Fresno Junction to Division Gas            |             |      |                    |        |            |   |
| OR            |            |       |       |    |       | Load Center                                | 8"          | 400  | 400                | 720    | 720        |   |
| 20            |            | 111   |       |    |       | Raisin City Field Collection               |             |      |                    |        |            |   |
| QU            |            |       |       |    |       | System                                     | 4 "         | 650  | 800                | 800    | 800        | • |
| OVER          | <b>1</b> - | 111   |       |    |       | San Joaquin Field Collection System        | 3" & 4"     | 650  | 800                | 960    | 960        |   |
|               |            | 112   |       |    |       | Vernalis Field Collection System           | 3" - 8"     | 594  | 594                | 800    | 800        |   |
| 20%           |            | 114   | 0.00  |    | 9,01  | West Rio Vista Field to Antioch            |             |      |                    |        |            |   |
|               |            |       |       |    |       | Terminal                                   | 12" & 16"   | 510  | 510                | 800    | 800        |   |
| SMAS          |            | 114   | 9,01  |    | 16.59 | Antioch Terminal to Brentwood              |             |      |                    |        |            |   |
| M<br>M        |            |       |       |    |       | Terminal                                   | 22"         | 595  | 595                | 595    | 720        |   |
|               |            | 114   | 16,59 |    | 28,97 | Brentwood Terminal to Dalton Avenue        | 22"         | 595  | 595                | 59 5   | 720        |   |
|               |            | 114   | 28,97 |    | 33.85 | Dalton Avenue to Livermore Junction        | 36"         | 595  | 595 <sup>(1)</sup> | 595    | 720        |   |
|               |            | 115   |       |    |       | Petaluma Gas Field                         | 2"          | 450  | 675                | 675    | 675        |   |
|               |            | *116  | 0.00  |    | 3,86  | Davis Meter Station to Swingle             |             |      |                    |        |            |   |
|               |            |       | ••••  |    |       | Junction                                   | 8"          | 500  | 500                | 500    | 800        |   |
|               |            | *116  | 3,86  |    | 6.19  | Swingle Junction to V-6.19                 | 16"         | 500  | 800 (2)            | 800    | 800        |   |
| SHEET         |            | *116  | 6.19  |    | 12.89 | V-6.19 to Sacramento Gas Plant             | 8"          | 500  | 500                | 500    | 720        |   |
| <u> </u>      | I          | *118  | 0.00  |    | 6.09  | Division Gas Load Center to Fresno         | Ū           | 000  | 200                | 500    | , 20       |   |
| 1 4           |            | ~110  | 0.00  | •  | 0.02  | Junction                                   | 8"          | 400  | 400                | 500    | 720        |   |
| ୍ ଜ           |            | 118   | 0,00  |    | 0.66  | Division Gas Load Center to Fresno         | Ŭ           | -200 |                    | 500    | 720        |   |
|               |            | TTO   | 0,00  |    | 0.00  |  | 12"         | 690  | 690                | 720    | 720        |   |
|               | 8          | 4710  | r or  |    | 10 57 | HPU Station<br>Fresno Junction to MP 12.57 | 12"         | 400  | 400                | 720    | 720        |   |
| 30 SHEET      |            | *118  | 5,86  |    | 12.57 |  | . 8"<br>12" |      |                    |        | 720        |   |
| SH .          |            | *118  | 12,57 |    | 73,26 | MP 12.57 to Livingston                     |             | 400  | 400                | 500    | 720<br>720 |   |
|               | 6          | 118   | 0.00  |    | 38,39 | Herndon to Athlone                         | 12"         | 400  | 400                | 720    | 720        |   |

(1) When this section of 22" Line 114 was abandoned in 1977, the existing 36" section of Line 303 (which had a 600 psig MAOP) became Line 114.

(2) The 800 psig MAOP of this section of Line 116 was established by hydrostatic tests completed on 12/10/75.

.

DRAWING NUMBER

REV.

| Trans.<br>Line<br>No. | MP          | to | MP    | Description  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP               | Design<br>Press. | Future<br>Design<br>Press. |
|-----------------------|-------------|----|-------|--|---|---------------------|--------------------|------------------|----------------------------|
| 118                   | 73.26       |    | 74.89 | Livingston to Collier Road                                     | 6"                                      | 400                 | 720                | 72.0             | 720                        |
| 118                   | 74.89       |    | 83.74 | Collier Road to Bradbury Road                                  | -                                       | -200                | 720                | 720              | 720                        |
|                       |             |    |       | Regulator Station  | 6"                                      | 400                 | 400                | 400              | 720                        |
| 118                   | 80.68       |    | 83.74 | MP 80.68 to Bradbury Road                                      | •                                       |                     |                    | 100              | 720                        |
|                       |             |    |       | Regulator Station  | 8"                                      | 400                 | 720 <sup>(3)</sup> | 720              | 720                        |
| 118                   | 83.74       |    | 84.69 | Bradbury Road Regulator Station to                             |   |                     | v                  | 720              | 720                        |
|                       |             |    |       | MP 84.69 (L-215 Tap) Parallel                                  | 6" & 8"                                 | 500                 | 890                | 890              | 890                        |
| 119                   | 0.00        |    | 3.85  | Davis Meter Station to Swingle                                 |   |                     | 000                | 020              | 0.50                       |
|                       |             |    |       | Junction   | 12"                                     | 792                 | 792                | 800              | 800                        |
| 119                   | 3.85        |    | 4.85  | Swingle Junction to MP 4.85                                    | 12"                                     | 500                 | 720                | 800              | 720                        |
| 119                   | 4.85        |    | 11.14 | MP 4.85 to MP 11.14  | 12"                                     | 500                 | 520                | 800              | 720                        |
| 119                   | 11.14       |    | 11.35 | MP 11.14 to MP 11.35   | 10" .                                   | 500                 | 520                | 800              | 720                        |
| 119                   | 11.35       |    | 16.46 | MP 11.35 to N. Sacramento HPU                                  | 12"                                     | 500                 | 520                | 800              | 720                        |
| 119                   | 0.00        |    | 10.17 | N. Sacramento HPU to Antelope Meter                            |   |                     |                    |                  |                            |
| 119                   | 0 00        |    |       | Station  | 12"                                     | 500                 | 500                | 500              | 600                        |
| 119                   | 0.00        |    | 8.41  | N. Sacramento HPU to Antelope Meter                            |   |                     |                    |                  |                            |
| 119                   | 0 00        |    | 0.00  | Station  | 6" & 16"                                | 500                 | 500                | 500              | 600                        |
| 119                   | 0.00<br>4.6 |    | 2.80  | N. Sacramento HPU to MP 2.80                                   | 24"                                     | 180                 | 180                | 545              | 545                        |
| 119                   | 4.6<br>0.00 |    | 5.5   | Elm and Traction Avenue Regulator                              | 12"                                     | 500                 | 500                | 500              | 600                        |
| 119                   | 0.00        |    | 5.25  | Sonoma Avenue Regulator and Del<br>Paso Boulevard to Roseville |   |                     |                    |                  |                            |
|                       |             |    |       | Regulator Station  | 6"                                      | 180                 | 500                | 500              | 500                        |
| 120                   |             |    |       | Sutter Creek Field Collection System                           | 4" & 6"                                 | 492                 | 492                | 720              | 720                        |
| 120                   |             |    |       | Sutter Buttes Field Collection                                 |   |                     |                    | . – -            |                            |
|                       | /           |    |       | System   | 4" & 6"                                 | 485                 | 485                | 720              | 720                        |
| 121                   | 0.00        |    | 11.54 | Marysville Buttes Meter Station to                             |   |                     |                    |                  | ,                          |
|                       |             |    |       | Yuba City HPU  | 6"                                      | 485                 | 485                | 720              | 720                        |

(3) The 720 psig MAOP of this new parallel section of Line 118 was established by hydrostatic tests completed on 2/4/75.

61-4344 Rev 1-76

LINES

OPERATING

AT OR

OVER

20%

SMYS

թ ն

& E CO.

DRAWING NUMBER

| NTITUES OF PARTITUG   | ד דאוקיפ הטקיטן | Trans.<br>Line<br>No.                                    | MP     | to    | MP       | Description  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP       | Design<br>Press. | Future<br>Design<br>Press. |
|---|-----------------|--|--------|-------|----------|--|---|---------------------|------------|------------------|----------------------------|
| AT TA   | A ULL VI        | 123  | 0.00   |       | 13.57    | Antelope Meter Station to Lincoln<br>Junction                                    | 10"                                     |                     |            |                  |                            |
| 1 12 L  |                 | 124  | 0.00   |       | 23.46    | Lincoln Junction to 5th & Walnut,  | 12"                                     | 500                 | 500        | 670**            | 670**                      |
|   |                 |  | ~ ~~   |       |          | Marysville   | 8"                                      | 400                 | 400        | 720              | 600                        |
|   |                 | 124  | 0.00   |       | 26.03    | Lincoln Junction to Yuba City HPU  | 16"                                     | 600                 | 600        | 600              | 600                        |
|   |                 | 124  | 0.00   |       | 3.76     | Beale Air Force Base Tap (T 13.31)   |   |                     |            |                  | 000                        |
|   | 171             |  |        |       |          | to MP 3.76   | 6"                                      | 400                 | 400        | 720              | 600                        |
|   |                 | 125  |        |       |          | Tompkins Hill Field Collection System  | n 3" 4" 6"                              | 448                 | 448        | 720              | 720                        |
| 20.0  | 2<br>2          | 126  | 0.00   |       | 10.57    | Tompkins Hill Meter Station to   |   | 440                 | 440        | 120              | 720                        |
|   | )& CMVC         | 126  | 0.00   |       | 10.89    | Union Street Regulator<br>Tompkins Hill Meter Station to                         | 4"                                      | 350                 | 425        | 720              | 720                        |
| 11  |                 |  |        |       |          | Union Street Regulator   | 6"                                      | 350                 | 405        |                  |                            |
| C C   | מ               | 126  | 0.00   |       | 3.62     | Elk River Road Regulator to T 12.38,   | 0                                       | 300                 | 425        | 720              | 720                        |
|   |                 |  |        |       |          | Line 126   |   |                     |            |                  |                            |
| W10777  |                 | *126   | 0.00   |       | 0.36     |  | 10"                                     | 167                 | 167        | 720              | 720                        |
| 2   |                 | 126  | 10,89  |       |          | MP 0.00 to Eureka Propane  | 10"                                     | 167                 | 167        | 720              | 720                        |
|   |                 |  |        |       | 12.61    | Union Street Regulator to Line 137   | 6"                                      | 167                 | 167        | 720              | 720                        |
| 1.<br>1.<br>1.<br>1.<br>1.<br>1.<br>1.<br>1.<br>1.<br>1.<br>1.<br>1.<br>1.<br>1 |                 | 130A   | 0.00   |       | 0.50     | HP Rio Vista Sacramento River  |   |                     |            |                  |                            |
|   | 202             | 330-   |        |       |          | Crossing   | 10"                                     | 800                 | 800        | 800              | 800                        |
| S   | T               | 130B   | 0.00   |       | 0.50     | LP Rio Vista Sacramento River  |   |                     |            |                  |                            |
| SHEET   | -               |  |        |       |          | Crossing   | 10"                                     | 510                 | 510        | 800              | 720                        |
| ļΫ.   |                 | 131  | 0.00   |       | 0.71     | E. Rio Vista Field   | 12"                                     | 510                 | 685        | 800              | 720                        |
|   |                 | 131  | 0.00   |       | 9.19     | E. Rio Vista Field to Antioch 10   | " & 12"                                 | 720(4)              | 720        | 720              | 720                        |
| ß   | 8               |  |        |       |          | Terminal   |   | 510(5)              | ,          | /20              | 720                        |
| 70  | <b>E</b>        | 131  | 9.19   |       | 10,47    | Antioch Terminal to MP 10.47   | 24"                                     | 438                 | 438        | 600              | 720                        |
| ω   | 1 2             | 131  | 10.47  |       | 16.87    | MP 10.47 to Brentwood Terminal   | 24"                                     | 438                 | 495        | 600              |                            |
| 0   | 6               | 131  | 16.87  |       | 50.57    | Brentwood Terminal to Irvington  | 2.7                                     | 400                 | 422        | 800              | 720                        |
| 30 SHEETS   |                 |  |        |       |          | Station  | 24"                                     | 500                 | <b>FOF</b> |                  |                            |
| E   | 4000            |  |        |       |          | · · · ·  | 24."                                    | 500                 | 525        | 600              | 650                        |
| IS Sapao  | DRA             | (4) <sub>The</sub><br>Coll<br>(5) <sub>The</sub><br>Coll | coulon | 510 I | osig whe | n this section of L-131 is operated in<br>n this section of L-131 is operated in |   |                     |            |                  |                            |
| <b>}</b>  |                 |  |        |       |          |  |   |                     |            |                  |                            |

AT-1744 Row 1-76

LINES OPERATING AT OR OVER 20% SMYS

MICROFILM

| LINES OPERATING | Trans.<br>Line<br><u>No.</u> | MP    | to | MP    | Description                          | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP    | Design<br>Press. | Future<br>Design<br>Press. |
|-----------------|------------------------------|-------|----|-------|--------------------------------------|---|---------------------|---------|------------------|----------------------------|
| AT              | 131                          | 50.57 |    | 57.45 | Irvington Station to Milpitas Termir | al 30"                                  | 590                 | 595     | 650              | 650                        |
| IN              | 132                          | 0.00  |    | 35.84 | Milpitas Terminal to MP 35.84        | 24",30",36"                             | 400                 | 400     | 400              | 400                        |
|                 | 132                          | 35,84 |    | 46.59 | MP 35.84 to Martin Station           | 30", 36"                                | 390                 | 390 (6) | 400              | 400                        |
| AT              | 132                          | 46.59 |    | 51.50 | Martin Station to Potrero Plant      | 24"                                     | 145                 | 145     | 275              | 275                        |
| OR              | 132                          | 10.32 |    | 0.00, | Sierra Vista Avenue to Rengstorff    | 27                                      | 140                 | 145     | 212              | 275                        |
| 찌               |                              |       |    | 1.47  | Avenue Station                       | 16" & 24"                               | 400                 | 400     | 400              | 400                        |
| V0              | 132                          | 46.59 |    | 39.86 | Martin Station to Geneva Avenue      | 20"                                     | 1.09                | 110     | 27.5             | 275                        |
| OVER            | 133                          |       |    |       | Gill Ranch Field Collection System   | 4",6",8"                                | 300                 | 300     | 500              | 720                        |
|                 | 134                          | 0,00  |    | 21.57 | Herndon Junction to MP 21.57         | 6" & 8"                                 | 400                 | 500     | 720              | 720                        |
| 20%             | 134                          | 21.57 |    | 27.04 | MP 21.57 to Arbios Meter Station     | 6"                                      | 500                 | 500     | 720              | 720                        |
| ß               | 134                          | 27.04 |    | 30,50 | Arbios Meter Station to MP 30.50     | 6" & 8"                                 | 500                 | 500     | 720              | 720                        |
| SMYS            | 134                          |       |    | 34.13 | Arbios Meter Station to Firebaugh    | u u                                     | 000                 | 500     | ,20              | ,                          |
| 01              |                              |       |    |       | Regulator Station                    | 3" & 4"                                 | 500                 | 500     | 720              | 720                        |
|                 | 136                          | 0.00  |    | 2.64  | Ord Bend Meter Station to MP 2.64    | 6"                                      | 479                 | 565     | 720              | 720                        |
|                 | 136                          | 5.14  |    | 12,89 | MP 5.14 to Butte Station             | 6"                                      | 550                 | 550     | 720              | 720                        |
|                 | *137                         | 0.00  |    | 11.83 | Whipple and Albee Streets, Eureka    | -                                       |                     | 000     |                  | . – •                      |
|                 |                              | Ţ     |    | -     | to MP 11.83                          | 4" & 6"                                 | 167                 | 167     | 720              | 720                        |
|                 | 137                          | 3.58  |    | 7.37  | Ryan Slough Regulator Station to     |   |                     |         |                  | ,                          |
| 6               |                              |       |    |       | Arcata                               | 8"                                      | 350                 | 350     | 720              | 720                        |
| SHEET           | 138A                         | 0.00  |    | 14.94 | Helm Tap Station to Helm Junction    | 16"                                     | <sub>800</sub> (7)  | 862     | 862              | 862                        |
| ≞ _             | 138B                         | 0.00  |    | 14.71 | Helm Tap Station to Helm Junction    | 20"                                     | 700                 | . 700   | 800              | 890                        |
| о<br>С<br>С     | 8 13 <u>2</u>                | 14.71 |    | 22.04 | Helm Junction to Elkhorn Station     | 18"                                     | <sub>800</sub> (7)  | 865     | 865              | 890                        |
| 1               | N 100                        | 20,50 |    | 22.04 | Elkhorn Station to Burrel Meter      |   |                     |         |                  |                            |
|                 |                              |       |    |       | Station                              | 18"                                     | 650                 | 650     | 865              | 720                        |
| ωο              | 138                          | 22.04 |    | 38.59 | Burrel Meter Station to Adams &      |   |                     |         |                  |                            |
| CO.<br>30 SHEE  |                              |       |    |       | Elm Meter and Regulator Station      | 16"                                     | 650                 | 650     | 720**            | 720**                      |

(6) Revised to conform to documented records.

(7) This section of L-138/L-138A has a 700 psig MOP when operating in conjunction with 20" L-138B.

61-4344 Rev 1-76

SHEET 9 OF 30 SHEETS 086868 MICROFILM

DRAWING NUMBER

C REV.

| PINES OF         | TTMEC OD       | Trans<br>Line | -     |    |       |   | Nominal<br>Pipe<br>Diameter | PG&E<br>MOP |      | Design  | Future<br>Design |
|------------------|----------------|---------------|-------|----|-------|---|-----------------------------|-------------|------|---------|------------------|
| EXE              | F 107          | No.           |       | to |       | Description   | (Inches)                    | psig        | MAOP | Press.  | Press.           |
| OPEKATING AT     | יחדר אורי א    | 138           | 38.59 |    | 49.42 | Adams & Elm Meter Station to San<br>Joaquin Division Gas Load<br>Center |                             |             |      | <u></u> |                  |
|                  |                | 138           | 43.58 |    | 50.02 | T 43.58 to Chestnut & Clay  | 10",12" & 16"               |             | 650  | 720     | 720              |
| Ĉ                |                | 138           | 45.10 |    | AC CA | Regulator Station   | 16"                         | 650         | 650  | 720     | 720              |
| 101              | 1177           | 138<br>141E   | 45.10 |    | 46.64 | MP 45.10 to Peach Avenue  | 10"                         | 650         | 720  | 720     | 720              |
| 5                | 10             | 7470          |       |    |       | Thornton Meter Station to E   |                             |             |      |         |                  |
| OK OVER 208      | ۶UC            | 141w          |       |    |       | Thornton Field Collection Syste<br>Thornton Meter Station to W.         | •                           | 538         | 538  | 800     | 800              |
| CINC             | CMV            | *141          |       |    |       | Thornton Field Collection Syste<br>N.E.River Island & Walnut Grove      | m 3" - 10"                  | 768         | 768  | 800     | 800              |
| ŭ                | מ              | 142N          | 0.00  |    | 14.05 | Field Collection System<br>Bakersfield Tap to Bakersfield               | 6" & 8"                     | 768         | 768  | 800     | 800              |
| -                |                | 142S          | 0.00  |    | 9.00  | Meter Station<br>Gosford Road Meter Station to                          | 12",16",20"                 | 475         | 475  | 720     | 720              |
| -                |                | *142          | 9.00  |    | 11,47 | Brundage Lane Regulator<br>Brundage Lane Regulator to                   | 6" & 10"                    | 600         | 600  | 720     | 720              |
|                  |                |               |       |    |       | Bakersfield Meter Station   | 8" & 12"                    | 300         | 300  | 720     | 720              |
|                  |                | *143          |       |    |       | Millar Field Collection System  | 3" & 4"                     | 792         | 800  | 800     | 800              |
| SHEET 10         |                | 144           | 0.00  |    | 3,50  | Millar Meter Station to Millar<br>Field                                 | 10" & 12"                   | 792         |      |         |                  |
|                  | P<br>G         | 145           |       |    |       | Maine Prairie Field Collection  |                             |             | 796  | 800     | 800              |
| 0F               | &<br>Е         | 146           | 0.00  |    | 6.00  | System<br>Maine Prairie Meter Station to                                | 3", 4", 6"                  | 510         | 796  | 800     | 800              |
| 30 S             | со <u>.</u>    | 147           | 0.00  |    | 3.39  | Maine Prairie Field<br>Edgewood Road Crossover to San                   | 8"                          | 510         | 796  | 800     | 800              |
| <b>30 SHEETS</b> |                | 148           | 0.00  |    | 17.63 | Carlos Regulator Station<br>McMullin Ranch Mixer Station to             | 20" & 24"                   | 400         | 400  | 400     | 400              |
| <u> </u>         |                |               |       |    |       | Morgan Road Station   | 8"                          | 408         | 408  | 720     | 720              |
|                  | DR/            | 149           |       |    |       | Winters Field Collection System   | 4" & 6"                     | 750         | 750  | 800     | 800              |
| 086868           | DRAWING NUMBER |               |       |    |       |   |                             |             |      |         |                  |

.

.

.

.

O'REV.

| -4344 Rev 1- | LINES OPER       |                | Trans.<br>Line<br>No. | MP    | to | MP _  | Description  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP |
|--------------|------------------|----------------|-----------------------|-------|----|-------|--|---|---------------------|------|
| 1-76         | OPERA TI NG      |                | 150                   | .0.00 |    | 18.09 | Winters Meter Station to Davis<br>Meter Station                      | 6"                                      | 750                 | 750  |
|              | ; AT             |                | 151                   | 0.42  |    | 14.05 | Afton Odorizer Station to Afton                                      |   |                     |      |
|              | F<br>O           |                | 152                   | 0.00  |    | 0 40  | Regulator Station  | 6"                                      | 250                 | 250  |
|              | _ R              | j              | 152                   | 0.00  |    | 0.42  | Afton Field to Afton Odorizer<br>Station                             | . en                                    | 250                 | 250  |
|              | OR OVER          |                | 153                   | 0.00  |    | 18.00 | Irvington Station to Marina Boulevar<br>Station                      | •                                       |                     | 420  |
|              | 20%              |                | *153                  | 18.00 |    | 27.89 | Marina Boulevard Station to 2nd and                                  | 30",32",34                              | 420                 | 420  |
|              |                  |                |                       | -,    |    | -     | Market Streets   | 24" & 30                                | 246                 | 246  |
|              | SMXS             | 2              | 153                   |       |    |       | Tap to 50th Avenue Holder Station                                    | 16" & 20"                               | 246                 | 246  |
|              | SXI              |                | 153                   |       |    |       | Tap to Oakland Holder Station  | 20 <b>"</b>                             | 246                 | 246  |
|              |                  |                | 153                   |       |    |       | Alvarado Crossover to Line 105                                       | 16"                                     | 246                 | 250  |
|              |                  |                | *153                  |       |    |       | Fairway Avenue Crossover to Line 105                                 |   | 150                 | 198  |
|              |                  |                | 155<br>156            | 0.00  |    | 5,72  | Durham Field Collection System<br>Durham Field to Durham Field Meter | 4"                                      | 680                 | 680  |
|              |                  |                |                       |       |    |       | Station  | 6"                                      | 680                 | 680  |
|              |                  |                | 158                   | 4.90  |    | 13.65 | Dunnigan Hills Field to Dunnigan<br>Hills Meter & Regulator          | 6"                                      | 500                 | 564  |
|              | HS               |                | *158                  |       |    |       | Woodland Field Collection System                                     | 3" & 4"                                 | 500                 | 564  |
|              | SHEET            | -              | 159                   | 0.00  |    | 0.65  | Pleasant Creek Compressor Station                                    |   |                     |      |
|              | 11               | \$<br>\$       | 159                   | 0.65  |    | 3,91  | to V 0.65<br>V 0.65 to Pleasant Creek Regulator                      | 4"                                      | 975                 | 975  |
|              | OF S             | ш              | 159                   | 3.91  |    | 6.08  | Station<br>Pleasant Creek Regulator Station to                       | 4"                                      | 975                 | 975  |
|              | õ                | 8              | 200                   |       |    |       | Winters Meter Station  | 4"                                      | 750                 | 750  |
|              | <b>30 SHEETS</b> | •              | 159                   |       |    |       | Winters Field Collection System                                      | 4"                                      | 750                 | 750  |
| R            | TS               |                |                       |       |    |       |  |   |                     |      |
| MICROFILM    | 80               | DRAWING NUMBER |                       |       |    |       |  |   |                     |      |
| FILM         | 08980            | ING N          |                       |       |    |       |  |   |                     |      |
|              | 3                | <b>UMB</b>     |                       |       |    |       |  |   |                     |      |
|              | ļ                | ER             |                       |       |    |       |  |   |                     |      |
|              |                  | S.             |                       |       | •  |       |  |   |                     |      |

-

Future

Design Press.

500\*\*

500\*\*

Design

Press.

500\*\*

500\*\*

|            | T.T.NES OPERATING | Trans.<br>Line<br>No. | MP     | to     | MP       | Description  | Nominal<br>Pipe<br>Diameter<br>(Inches) . | PG&E<br>MOP<br>psig | MAOP | Design<br>Press. | Future<br>Design<br>Press. |
|------------|-------------------|-----------------------|--------|--------|----------|--|---|---------------------|------|------------------|----------------------------|
|            | ATT               | *162                  | 0.00   | •      | 7.73     | Tracy Station to Banta Regulator                         |   |                     |      | ÷                |                            |
|            | N<br>G            | •                     |        |        |          | Station  | . 6" & 8"                                 | 365                 | 365  | 720              | 720                        |
|            | AT                | 162                   | 0.00   |        | 6.61     | Tracy Station to Holly Road                              | 10"                                       | 365                 | 720  | 720              | 720                        |
|            |                   | 164                   |        |        |          | Coalinga Field Collection System                         | 10" & 8"                                  | 498                 | 498  | 865              | 890                        |
|            | OR                | 167                   | 0.00   |        | 34.50    | E. Beehive Bend Odorizer Station                         |   |                     |      |                  |                            |
|            | 0                 |                       |        |        |          | to Yuba City HPU   | · 12" & 16"                               | 800                 | 800  | 800              | 800                        |
|            | OVER              | 167                   | 0.00   |        | 4.60     | Wild Goose Field Meter to Wild<br>Goose Mixer & Odorizer |   |                     |      |                  |                            |
|            | 20%               |                       |        |        |          | Station (Parallel)                                       | 10"                                       | 800                 | 800  | 800              | 800                        |
|            | %                 | 167                   | 4.60   |        | 6.54     | Wild Goose Mixer to Gridley                              |   |                     |      |                  |                            |
|            | ររូរ              |                       |        |        |          | Junction   | 8ª  | 800                 | 800  | 800              | 800                        |
|            | SMXS              | 167                   |        |        |          | Wild Goose Collection System                             | 3" & 4"                                   | 800                 | 800  | 800              | 800                        |
|            | 101               | 167                   | 4.12   |        | 7.60     | Princeton Field Collection                               |   |                     |      |                  |                            |
|            |                   |                       | ,      |        |          | System   | 3"  | 800                 | 800  | 800              | 800                        |
|            |                   | 167                   |        |        |          | Compton Landing Field Collection                         |   |                     |      |                  |                            |
| 8 B.       |                   |                       |        |        |          | System   | 4" & 6"                                   | 800                 | 800  | 800              | 800                        |
| the second |                   | 167                   |        |        |          | Bounde Creek Field Collection                            |   |                     |      |                  |                            |
|            |                   |                       |        |        |          | System   | 4 "                                       | 800                 | 800  | 800              | 800                        |
|            |                   | 168                   |        |        |          | River Island Field Collection                            |   |                     |      |                  |                            |
| SHEEL      |                   |                       |        |        |          | System HP  | 4", 6", 8"                                | 800<br>720 (8)      | 800  | 800              | 800                        |
|            | ې<br>م            | 168                   |        |        |          | River Island Field Collection                            |   |                     |      |                  |                            |
|            |                   |                       |        |        |          | System LP  | 3" - 8"                                   | 698                 | 698  | 800              | 800                        |
| 5          |                   | 169                   |        |        |          | Beehive Bend, Willows, Llano                             |   |                     |      |                  |                            |
| A          |                   |                       |        |        |          | Seco & Perkins Lake Field                                |   |                     |      |                  |                            |
| 00 00EET0  | 50                |                       |        |        |          | Collection System  | 3" - 20"                                  | 800                 | 800  | 800              | 800                        |
|            |                   | 172                   | 0.00   |        | 69.81    | W. Beehive Bend Meter Station to                         |   |                     |      |                  |                            |
|            |                   |                       |        |        | ,        | Swingle Junction   | 18" & 20"                                 | 800                 | 800  | 800              | 800                        |
| _ C        | n                 |                       |        |        |          |  |   |                     |      |                  |                            |
|            | DRAWING NUMBER    | <sup>(8)</sup> The    | MOP of | E Line | e 168 sh | all be 720 when operated in conjunc                      | tion with Line                            | ⊋ 131.              |      |                  | ·                          |
| _ <u>_</u> |                   |                       |        |        |          |  |   |                     |      |                  |                            |

·

.`

.

.

٠

.

•

·

MICROFILM

REV.

| LINES OPE         | 2010年代に、1910年代の「日本の」の                    | Trans<br>Line<br>No. | •<br><u>MP</u> | to | MP     | Description   | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>_psig | MAOP  | Design<br>Press. | Future<br>Design<br>Press. |
|-------------------|--|----------------------|----------------|----|--------|---|---|----------------------|-------|------------------|----------------------------|
| OPERATING         | 1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-   | 172                  | 69,81          |    | 79.51  | Swingle Junction to Sacramento<br>Gas Plant                       | 16"                                     | 500                  | 520   | 720              | 720                        |
| ig at             |  | 172                  | 0.00           |    | 0.60   | Crosstie Between Line 172 and                                     | 10"                                     |                      |       |                  |                            |
| T OR              |  | 172                  | 75.45          |    | 9.68   | Line 167<br>Crosstie Between Line 172 and                         |   | 800                  | 800   | 800              | 800                        |
| <b>VER</b>        | 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1 | *173                 | 0.00           |    | 17.56  | Line 119<br>Line 123 (V 6.51) to Aurburn                          | 12"                                     | 500                  | 520   | 720              | 720                        |
| ER                | •  |                      |                |    |        | Regulator Station   | 4" 6" 8"                                | 500                  | . 500 | 720              | . 720                      |
| N                 | a la sur                                 | *174                 |                |    |        | Aurbuckle Field Collection System                                 | 2" - 10"                                | 800                  | 800   | 800              | 800                        |
| 20%               |  | 176                  |                |    |        | Roberts Island Field Collection                                   |   | /                    |       |                  |                            |
| SMAS              |  | 176                  | 0.00           |    | 10 05  | System  | 2" - 8"                                 | 500                  | 555   | 800              | 800                        |
| SAI               | 1.00                                     | 176                  | 0.00           |    | 18.85  | Roberts Island Field to Tracy<br>Station                          | 6" & 8"                                 | 500                  | 555   | 800              | 800                        |
|                   | 317-5 B                                  | 177                  | 0.00           |    | 0.87   | Sacramento Avenue Junction to                                     | 0 & 0                                   | 500                  | 555   |                  | 800                        |
|                   |  |                      | ••••           |    | ••••   | Grapeway Regulator Station  | 10"                                     | 819                  | 819   | 960              | 960                        |
|                   |  | 177                  | 0.86           |    | 7.13   | Grapeway Regulator to Butte                                       |   |                      |       |                  |                            |
|                   |  |                      |                |    |        | Station   | 6" & 10"                                | 469                  | 469   | 600              | 600                        |
|                   |  | 177                  | 0.00           |    | 4.75   | Fell Regulator & Odorizer to                                      |   |                      |       |                  |                            |
| 8                 |  |                      |                |    |        | Sacramento Avenue Junction  | 16"                                     | 819                  | 819   | 960              | 960                        |
| SHEET             |  | 177                  | 4.75           |    | 29.09  | Sacramento Avenue Junction to                                     |   |                      |       |                  |                            |
| <del>'''</del>  . | τ  |                      |                |    |        | Corning N. Dome Station   | 10"                                     | 819                  | 819   | 960              | 960                        |
| μ<br>μ            | ດ  | 177                  | 0.00           |    | 2.19   | Tap 27.60 to Tap 29.87 Parallel                                   | 6" & 8"                                 | 819                  | 819   | 960              | 960                        |
|                   | р I                                      | 177                  | 29.09          |    | 37.84  | Section Near Corning N. Dome<br>Corning N. Dome Station to Gerber | 0. 7 9.                                 | 919                  | 012   | 960              | 900                        |
|                   | П  | ±//                  | 29.09          |    | 37.04  | Compressor Station  | 12"                                     | 819                  | 819   | 960              | 960                        |
| õ                 | 0  | 177                  | 37.84          |    | 163.04 | Gerber Compressor Station to                                      |   | 020                  | 0     |                  | 500                        |
| l ₹               |  |                      |                |    |        | Cummings Creek PLS  | 12"                                     | 819                  | 819   | 960              | 960                        |
| 30 SHEETS         | " and the second                         |                      |                |    |        | 5   |   |                      |       |                  |                            |
| _ v I             |  |                      |                |    |        |   |   |                      |       |                  |                            |
| 0                 | DRAWING NUMBER                           |                      |                |    |        |   |   |                      |       |                  |                            |
| 086868            | 3  |                      |                |    |        |   |   |                      |       |                  |                            |
| 86                | 6  |                      |                |    |        |   |   |                      |       |                  |                            |
| ω                 | S  |                      |                |    |        | ·   |   |                      |       |                  |                            |
|                   | BE                                       |                      |                |    |        |   |   |                      |       |                  |                            |
| <b> </b>          | 20                                       |                      |                |    |        |   |   |                      |       |                  |                            |

61-4344 Rev 1-76

٠

LINES OPERATING AT OR OVER 20% SMYS

13 0F **30 SHEETS** MICROFILM

| 1 × 1 = 1 = 1   | (1) e         | ~      |          |   | Nominal                |             |            |                  |                  |
|---|---------------|--------|----------|---|------------------------|-------------|------------|------------------|------------------|
| 14.5 T 12.1 A   | Tran<br>Line  | •      |          |   | Pipe<br>Diameter       | PG&E<br>MOP |            | Docien           | Future           |
|   | No.           | MP     | to MP    | Description                               | (Inches)               | psig        | MAOP       | Design<br>Press. | Design<br>Press. |
| 3 C.C.  |               |        | <u> </u> |   |                        | Ford        |            |                  |                  |
| 5 44 4 <sup>1</sup> 2 4   | 177           | 163.04 | 178.18   | Cummings Creek PLS to Tompkins            |                        |             |            |                  |                  |
| and the second secon |               |        |          | Hill Meter & Regulator Sta.               | 12"                    | 430         | 430        | 720              | 720              |
|   | 177           | 178.18 | 192.29   | Tompkins Hill Meter & Regulator           |                        |             |            |                  |                  |
| Contraction   |               |        |          | Station to Ryan Slough                    |                        |             |            |                  |                  |
| NAME OF CASE  |               |        |          | Regulator Station                         | 12 <b>"</b>            | 350         | 425        | 600              | 600              |
| 198 Ta 11   | 177           | 37.8   | 149.18   | Crosstie Between Lines 177 and            |                        |             |            |                  |                  |
| 1111 N. C. S.   |               |        |          | Line 400                                  | 12"                    | 819         | 819        | 960              | 960              |
| 10000   | 177           | 43.87  | 1.24     | Tap to Red Bluff and Diamond              | <b>e</b> 19            | 07.0        | ~~~        | 0.50             | 0.10             |
| 43.648a   | 1-7-7         |        |          | National                                  | 6 <sup>10</sup>        | 819         | 819        | 960              | 960              |
| 10 XIII   | 177           |        |          | Rancho Capay Field Collection             | 4"                     | 819         | 819        | 960              | 960              |
|   | 179           |        |          | System<br>Corning Field Collection System | 4"<br>6"               | 819         | 819        | 960              | 960<br>960       |
|   | 180           |        |          | Kettleman Hills Field Collection          | U                      |             | 010        | 200              | 200              |
|   | TOO           |        |          | System                                    | 8" - 20"               | 421         | 421        | 500              | . 500            |
| 10000   | 181A          | 0.00   | 1.56     | Soap Lake Meter Station to V 1.56         | 10"                    | 300         | 300        | 400              | 400              |
|   | 181A          | 6.19   | 20.15    | V-6.19 to Watsonville Meter               |                        |             |            |                  |                  |
|   |               |        |          | Station                                   | 10" & 12"              | 300         | 303        | 400              | 400              |
|   | $18l_{\rm B}$ | 0.00   | 10.85    | Anzar Road Meter and Regulator to         |                        |             |            |                  |                  |
|   |               |        |          | Watsonville Meter Station                 | 10",16",20"            | 400         | 400        | 400              | 400              |
|   | *182          | 0.00   | 16.77    | Serpa "Y" to V-81                         | 4" - 12"               | 400         | 435        | 800              | 800              |
| 1000  | 182           | 16.77  | 18.23    | V-81 to Shell Chemical Meter              |                        |             |            |                  |                  |
|   |               |        |          | Station                                   | 4" - 12"               | 435         | 435        | 800              | 800              |
|   | *182          | 18.23  | 18.87    | Shell Chemical Meter Station to           |                        |             |            |                  |                  |
|   |               |        |          | Suisun Junction Meter Station             | 12"                    | 435         | 435        | 600              | 800              |
|   | 182           |        |          | Kirby Hills Field Collection              | 3" - 8"                | 125         | 435        | 800              | 800              |
| 100   | 1.00          |        |          | System<br>Suisun Field Collection System  | 3'' - 8''<br>2'' - 6'' | 435<br>435  | 435<br>435 | 800              | 800              |
|   | 182           |        |          | Sursun Liera correction System            | 2 - 0                  | - <u>-</u>  | ~~~        |                  | 000              |

P G & E

с<u>о</u>.

DRAWING NUMBER

REV.

.

•

·

,

.

.

.

| LINES OPER       |        | Trans<br>Line<br>No. | 5.<br><u>MP</u> | to | MP    | Description  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP | Design<br>Press. | Future<br>Design<br>Press. |
|------------------|--------|----------------------|-----------------|----|-------|--|---|---------------------|------|------------------|----------------------------|
| OP ERATI NG      |        | 183                  | 0.00            |    | 6.35  | Firebaugh Regulator Station to<br>Moffat Field Meter Station             | 3 "                                     | 175                 | 320  | 800              | 800                        |
| АŢ               | a<br>a | 186                  | 0.00            |    | 26.1  | Dos Palos Meter Station to Red<br>Top Regulator                          | 3" 4" 6"                                | 500                 | 625  | 720              | 720                        |
|                  |        | 186                  | 26.1            |    | 29.4  | Red Top Regulator Station to<br>Chowchilla Field                         | 2" 3" 4"                                | 500                 | 960  | 960              | 960                        |
| OVER 2           |        | 187                  | 0.00            |    | 22,58 | San Ardo Field Meter Station to<br>Jolon Road Regulator Station          | 6"                                      | 313                 | 313  | 720              | 720                        |
| 202<br>0         |        | 187                  | 22.58           |    | 65,70 | Jolon Road Regulator Station to<br>Harkins Road Meter & Mixer<br>Station | 8 <b>n</b>                              | 313                 | 313  | 720              | 720                        |
| C T TIC          | NVC    | 189                  | 0.00            |    | 1.72  | Elk River Road Regulator Station<br>to Humboldt Bay P.P.                 | 10"                                     | 350                 | 425  | 720              | 720                        |
|                  |        | 190                  | 0.00            |    | 16.08 | Kettleman Compressor Station to<br>Coalinga Nose Storage Field           | 12" & 16"                               | 2160                | 2160 | 2160             | 2160                       |
|                  |        | 190                  | 16.08           |    | 16.22 | Coalinga Nose Storage Field to<br>Union Oil Company                      | 16"                                     | 2160                | 2160 | 2160             | 2160                       |
| S                |        | 191                  | 0.00            |    | 3.86  | Antioch Terminal to Antioch<br>Town Meter Station                        | 30" & 34"                               | 315                 | 600  | 600              | 600                        |
| SHEET            | -      | 191                  |                 |    |       | Antioch Town Meter Station Cross<br>Tie                                  | 16"                                     | 315                 | 600  | 600              | 600                        |
| 15 OF            | ଜ<br>ହ | 191                  | 3.87            |    | 9.93  | MP 3.87 to MP 9.93 Via Pittsburg<br>Power Plant                          | 20" & 24"                               | 315                 | 390  | 600              | 600                        |
|                  | E CO   | 191                  | 9.93            |    | 25.30 | MP 9.93 to Reliez Station Road<br>Regulator Station                      | 16" 20" &24"                            | 315                 | 338  | 600              | 600                        |
| <b>30 SHEETS</b> |        | *191                 | 25.30           |    | 29.36 | Reliez Station Road Regulator<br>Station to Junction L-191               | 8" 10" & 12"                            | 268                 | 283  | 400              | 400                        |
| TS               |        |                      |                 |    |       |  |   |                     |      |                  |                            |

.

61-4344 Rev 1-76

 P G & E CO.
 DRAWING NUMBER

 SHEET 15 OF 30 SHEETS
 086868

 MICROFILM
 MICROFILM

.

.

O.

| Trans<br>Line |       |    |        |                                    | Nominal<br>Pipe<br>Diameter | PG&E<br>MOP |             | Design | Future<br>Design |
|---------------|-------|----|--------|------------------------------------|-----------------------------|-------------|-------------|--------|------------------|
| NO.           |       | to |        | Description                        | (Inches)                    | psig        | MAOP        | Press. | Press.           |
| *191          | 29.30 | 5  | 32,.76 | Junction Line 191 to MP 32.76      | 10"                         | 268         | 270         | 400    | 400              |
| *191          | 32.70 | 5  | 35,83  | MP 32.76 to Martinez Meter and     |                             |             |             |        |                  |
|               |       |    |        | Regulator Station                  | 10"                         | 268         | 268         | 400    | 400              |
| *191A         |       |    |        | Junction Line 191 to Ardilla and   |                             |             |             |        |                  |
|               |       |    |        | Camino Pablo & Orinda Regulator    | •                           |             |             |        |                  |
|               |       |    |        | Station                            | 3" 6" & 8"                  | 268         | 283         | 400    | 400              |
| *191B         | 0.0   | C  | 1.53   | Junction Line 191 to Reliez Valley |                             |             |             |        |                  |
|               |       |    |        | Road Regulator Station             | 8ª .                        | 268         | 283         | 400    | 400              |
| 193           |       |    |        | Rice Creek Field Collection System | $2^{n} - 8^{n}$             | 819         | 960         | 960    | 960              |
| 193           |       |    |        | Malton Field Collection System     | 4",6",8"                    | 819         | 960         | 960    | 960              |
| 193           |       |    |        | Kirkwood & Rice Creek Field        |                             |             |             |        |                  |
|               |       |    |        | North Collection System            | 6"                          | 819         | 819         | 960    | 960              |
| 194           | 0.0   | 0  | 4.39   | McMullin Field Dehydrator Station  |                             |             |             |        |                  |
|               |       |    |        | to California Ammonia Company      | 6"                          | 437         | 437         | 960    | 960              |
| 194           |       |    |        | McMullin Ranch Field Collection    |                             |             |             |        |                  |
|               |       |    |        | System                             | 2" - 10"                    | 437         | 437         | 800    | 800              |
| 195           |       |    |        | Rio Vista Field Collection System  |                             | 800         |             |        |                  |
|               |       |    |        | (HP)                               | 2" - 16"                    | 720 (9)     | 80 <b>0</b> | 800    | 800              |
| *195          |       |    |        | Rio Vista Field Collection System  |                             |             |             |        |                  |
|               |       |    |        | (LP)                               | 2" - 16"                    | 510         | 510         | 800    | 800              |
| 196           | 0.0   | 0  | 13.45  | Las Vinas Station to Isleton       |                             |             |             |        |                  |
|               |       |    |        | Meter Station                      | 8" & 12"                    | 800 (9)     | 800         | 800    | 800              |
| 197A          | 0.2   | 5  | 21.41  | Las Vinas Station to MP 21.41      | 10"                         | 385         | 388         | 720    | 720              |
| 197A          | 21.4  | 1  | 31.23  | MP 21.41 to MP 31.23               | 10" & 12"                   | 320         | 720(10)     | 720    | 720              |
| 197A          | 31.2  | 3  | 39,57  | MP 31.23 to MP 39.57               | 12" .                       | 320         | 320         | 720    | 720              |
| 197A          | 39.5  | 7  | 41.78  | MP 39,57 to Calaveras Cement       | 8"                          | 320         | 320         | 720    | 720              |

(9) The MOP of this section of line is 720 psig when it is operated in conjunction with L-131.

(10) After reviewing records and the requirements of Section 192.619 of G.O. 112-C, it has been determined that the 500 psig limitation of this section of L-197A did not exist, and the section of Line has an MAOP of 720 psig. The 720 psig MAOP of this section of L-197A was established by hydrostatic tests completed on 1/18/66 and 7/23/69.

AL-L WORLD'

LINES OPERATING AT OR OVER 20% SMYS

SHEET 16 OF 30 SHEETS

MICROFILM

DRAWING NUMBER

086868

| LINE OPERATING |        | Trans<br>Line<br>No. | MP    | to    | MP        | Description   | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig                     | MAOP | Design<br>Press. | Future<br>Design<br>Press. |
|----------------|--------|----------------------|-------|-------|-----------|---|---|---|------|------------------|----------------------------|
| 111            |        | 197B                 | 0.25  | 5     | 5.50      | Las Vinas Station to MP 5.50                                | 6"                                      | 385                                     | 388  | 720              | 720                        |
| NG.            | 5      | 197B                 | 21.47 | ,     | 31.24     | V 21.47 to V 31.24  | ğıı                                     | 320                                     | 320  | 720              | 720                        |
| AT.            | 2      | 197C                 | 17.44 | ł     | 23.02     | Ione Tap to MP 23.02  | 10"                                     | 385                                     | 720  | 720              | 720                        |
|                |        | 199                  |       |       |           | Bunker Field Collection System                              | 3" - 8"                                 | 792                                     | 796  | 800              |                            |
| Ox<br>X        | 3      | 200                  |       |       |           | W. Rio Vista Field Collection                               | 5 - 0                                   | 132                                     | 790  | 800              | 800                        |
| AG AO          |        | *200                 |       |       |           | System (HP)<br>W. Rio Vista Field Collection                | 2" - 16"                                | <sub>800</sub> (9)                      | 800  | 800              | 800                        |
|                |        | 200                  |       |       |           | System (LP)<br>W. Rio Vista Field Collection                | 2" - 16"                                | 510                                     | 510  | 800              | 800                        |
| 202 S02        |        | 200                  |       |       |           | System (30 psig)<br>Liberty Islands Field Collection        | 3" - 10"                                | 400                                     | 510  | 800              | 800                        |
| SUIC<br>STUC   | 05     |                      |       |       |           | System  | 4"                                      | 800<br>720 (9)                          | 800  | 800              | 800                        |
|                |        | 200                  |       |       |           | Lindsay Slough Field Collection<br>System                   | 3" - 10"                                | 800 (9)                                 | 868  | 960              | 960                        |
|                |        | 201                  |       |       |           | Todhunters Lake Field Collection<br>System                  | 2" - 12"                                | 792                                     | 960  | 960              | 960                        |
| s              |        | 202                  | 0.00  | )     | 23.72     | Grass Valley Tap to Regulator<br>Station near Robin Avenue, |   | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | 200  | 200              | 500                        |
| SHEET          |        | 203                  |       |       |           | Grass Valley<br>Greens Lake Field Collection                | 6" & 8"                                 | 400                                     | 720  | 720              | 600                        |
| 17             | PG     | 204                  |       |       |           | System<br>Cheney Ranch Field Collection                     | 4 <sup>11</sup>                         | 500                                     | 800  | 800              | 800                        |
| 0F             | ф<br>П | 200                  |       |       |           | System  | 3" & 4"                                 | 500                                     | 890  | 890              | 890                        |
| 30 s           | 0      | 206                  |       |       | ·         | Pleasant Creek Tap to Pleasant<br>Creek Compressor Station  | 12".                                    | 975                                     | 1440 | 1440             | 1440                       |
| 30 SHEETS      |        | 207                  |       |       |           | Conway Ranch Field Collection<br>System                     | 4", 6", 8"                              | 800                                     | 1000 | 1000             | 1000                       |
| TS Uababa      | DR/    | (9) <sub>The</sub>   | MOP O | f thi | s section | n of line is 720 psig when it is op                         |   |   |      |                  | 1000                       |

61-4344 Rev 1-76

LINE OPERATING AT OR OVER 20% SMYS SHEET

O.REV.

MICROFILM

| Line  |           |    |          |   | Pipe<br>Diameter | PG&E<br>MOP |             | Design  | Future<br>Design |
|-------|-----------|----|----------|---|------------------|-------------|-------------|---------|------------------|
| No.   | <u>MP</u> | to | MP       | Description   | (Inches)         | psig        | MAOP        | Press.  | Press.           |
| 208   |           |    |          | Union Island Field to Lathrop                               |                  |             |             |         |                  |
|       |           |    |          | Dehydrator Station  | 12"              | 825         | 1000        | 1000    | 1000             |
| 209   |           |    |          | Line 400 to Line 128 at Willows                             | 4 <sup>11</sup>  | 479         | 720         | 720     | 720              |
| 210   | 0.00      |    | 1.40     | Rio Vista "Y" to Creed Station                              | 16"              | 737         | 800         | 800     | 800              |
| 210   | 1.40      |    | 25.98    | Creed Station to Napa "Y"                                   | ير"16 & 18       | 650         | 650         | 740     | 720              |
| 210   | 1.40      |    | 19.47    | Creed Station to Cordelia Regulat                           | 32" <b>* 3</b> * | replace     | = with 2    | 6 * ()  | · <u> </u>       |
|       |           | •  |          | Station   | 32"              | 650         | 675         | 675     | 675              |
| 210   | 19.47     |    | 25.62    | Cordelia Regulator to Napa "Y"                              | 10" & 12"        | 650         | <u></u> 650 | 200-675 | - 800 ·          |
| 210   | 0,00      |    | 1.36     | Rio Vista "Y" to Creed Station                              | 10"              | 650         | 650         | 800     | 800              |
| 210   | 19.47     |    | 32.11    | Cordelia Regulator to Herrmann                              |                  |             |             |         |                  |
| ~ ~ ~ |           |    |          | Station   | 24"              | 650         | 675         | 675     | 675              |
| 210   | 0.00      |    | 3.7      | V 27.67 to Exxon Oil Meter                                  |                  |             |             |         | •                |
| 010   |           |    |          | Station   | 18"              | 650         | 720         | 720     | 675              |
| 212   |           |    |          | Tremont Field Collection System                             | 4" & 6"          | 792         | 800         | 800     | 800              |
| 215   | 0.00      |    | 20.05    | Oak Flat Road Meter to West                                 |                  |             |             |         |                  |
|       |           |    | <b>a</b> | Avenue Regulator Station                                    | 12"              | 500         | 890         | 890     | 890              |
| 220   | 0.00      |    | 2.41     | Rio Vista "Y" to Maine Prairie                              |                  |             |             |         |                  |
| ~~~   |           |    | ,<br>    | Meter Station   | 16"              | 792         | 800         | 800     | 800              |
| 220   | 0.00      | •  | 2.41     | Rio Vista "Y" to Maine Prairie                              |                  |             |             |         |                  |
| ~~~   | ~ ~       |    |          | Meter Station   | 10"              | 510         | 796         | 800     | 800              |
| 220   | 2.41      |    | 22.01    | Maine Prairie Meter Station to<br>Davis Meter and Regulator |                  |             |             |         |                  |
|       |           |    |          | Station   | 8",10",12"       | 792         | 796         | 800     | 800              |
| 220   | 22.01     |    | 34.46    | Davis Meter & Regulator to                                  | •••••••          |             |             |         |                  |
|       |           |    |          | Dunnigan Spreckels Regulator                                |                  |             |             |         |                  |
|       |           |    |          | Station   | 6" & 8"          | 500         | 500         | 500     | 800              |

.

•

61-4344 Rev 1-76

LINES OPERATING AT OR OVER 20% SMYS

SHEET 18 OF 30 SHEETS

I MICROFILM

PG&E

0

DRAWING NUMBER 086868

.

.

.

| LINES OP  | Trans.<br>Line<br>No. MP | to <u>MP</u> | Description                        | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP | Design<br>Press. | Future<br>Design<br>Press |
|-----------|--------------------------|--------------|------------------------------------|---|---------------------|------|------------------|---------------------------|
| OPERATING |                          |              |                                    |   |                     |      |                  |                           |
| AT        | 300A 0.00                | 0.64         | Colorado River to Topock           |   |                     |      |                  |                           |
|           |                          |              |                                    | 30" & 34"                               | 660                 | 700  | 700              | 700                       |
|           | 300 <u>A</u> 0.64        | 40.87        | Topock Compressor Station to       |   |                     |      |                  |                           |
| AΤ        |                          |              | PIS 1A                             | 34"                                     | 867                 | 867  | 890              | 890                       |
|           | 300A 40.87               |              | PLS 1A to PLS 2A                   | 34"                                     | 815                 | 815  | 815              | 815                       |
| 0R        | 300A 103.72              |              | PLS 2A to PLS 2AX                  | 34"                                     | 688                 | 688  | 688              | 688                       |
| OVER      | 300A 130,37              | 159.33       | PLS 2AX to Hinkley Compressor      |   |                     |      |                  |                           |
| 뎕         |                          |              | Station                            | 26" & 34"                               | 573                 | 573  | 573              | 573                       |
|           | 300A 159.33              | 203.02       | Hinkley Compressor Station to      |   |                     |      |                  |                           |
| 20%       |                          |              | PLS 3A                             | 34"                                     | 861                 | 861  | 890              | 890                       |
|           | 300A 203.02              |              | PLS 3A to PLS 4A                   | 34"                                     | 803                 | 817  | 817              | 817                       |
| SMXS      | 300A 256.21              | 299.01       | PLS 4A to PLS 5A                   | 34"                                     | 736                 | 757  | 757              | 757                       |
| ស៊        | 300A 299.01              | 353.85       | PLS 5A to Kettleman Compressor     |   |                     |      |                  |                           |
|           |                          |              | Station                            | 34"                                     | 66 <b>9</b>         | 688  | 688              | 688                       |
|           | 300A 353.85              | 436.74       | Kettleman Compressor Station to    |   |                     |      |                  |                           |
|           |                          |              | PLS 6A                             | 34"                                     | 840                 | 840  | 890              | 890                       |
|           | 300A 436.74              | 461.07       | PLS 6A to Pacheco Pass PLS         | 34"                                     | 715                 | 715  | 715              | 715                       |
|           | 300A 461.07              | 490.65       | Pacheco Pass PLS to PLS 7A Silver  |   |                     |      |                  | 1                         |
| 1         |                          |              | Creek                              | 34"                                     | 631                 | 631  | 715              | 715                       |
|           | 300A 490.65              | 502.34       | PLS 7A to Milpitas Terminal Statio | n 34"                                   | 558                 | 558  | 676              | 676                       |
| l _       | 300B 0.00                | 0.45         | Colorado River to Topock Compresso | r .                                     |                     |      |                  |                           |
| P G       | Į                        |              | Station                            | 34"                                     | 660                 | 660  | 735              | 735                       |
| 8         | 300B 0.45                | 40.49        | Topock Compressor Station to PLS   |   |                     |      |                  |                           |
| ĥ         |                          | -            | lB                                 | 34"                                     | 867                 | 867  | 894              | 894                       |
| 1         | 300B 40.49               | 103.51       | PLS 1B to PLS 2B                   | 34"                                     | 815                 | 821  | 821              | 821                       |
| 6         | 300B 103.51              |              | PLS 2B to PLS 2BX                  | 34"                                     | 688                 | 688  | 688              | 688                       |
|           | 300B 130.40              |              | PLS 2BX to Hinkley Compressor      |   |                     |      |                  |                           |
| il 🛛      |                          |              | Station                            | 34"                                     | 573                 | 573  | 573              | 573                       |
| 5         |                          |              |                                    |   | -                   |      |                  |                           |

61-4344 Rev 1-76

LINES OPERATING AT OR OVER 20% SMYS

SHEET 19 OF 30 SHEETS

MICROFILM

DRAWING NUMBER 086868

O REV.

|                    | LINES OPERATING          | Trans.<br>Line<br>No.      | MP       | to MP       | Description   | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>. psig |         | Design<br>Press. | Future<br>Design<br>Press. |
|--------------------|--------------------------|----------------------------|----------|-------------|---|---|-----------------------|---------|------------------|----------------------------|
| AT A LOCATION OF   | ATJ                      | 300B                       | 161.02   | 203.07      | Hinkley Compressor Station to   |   |                       |         |                  |                            |
| and a state of the | NG                       | <b>D D D D D D D D D D</b> |          |             | PLS 3B  | 34"                                     | 861                   | 861     | 897              | 897                        |
|                    | AT                       | 300B                       | 203.07   |             | PLS 3B to PLS 4B  | 34"                                     | 803                   | 816     | 816              | 816                        |
|                    |                          | 300B                       | 256.64   | • •         | PLS 4B to PLS 5B  | 34"                                     | 736                   | 757     | 757              | 757                        |
|                    | OR                       | 300B                       | 299.00   | 354.02      | PLS 5B to Kettleman Compressor  |   |                       |         |                  |                            |
|                    |                          | 300B                       | 254 02   |             | Station   | 34 "                                    | 669                   | 688     | 688              | 688 ·                      |
| - Constant         | OVER                     | 200B                       | 354.02   | 436.85      | FILL FILL FILL FILL FILL FILL FILL FILL                               |   |                       |         |                  |                            |
| Sense a            |                          | 300B                       | 436.85   |             | PLS 6B  | 34"                                     | 840                   | 840     | 890              | 890                        |
| 1000               | 20%                      | 300B                       | 430.05   |             | PLS 6B to Pacheco Pass PLS  | 34"                                     | 715                   | 715     | 715              | 715                        |
| 0018100            |                          | 2000                       | 401.00   | 490,92      | Pacheco Pass PLS to PLS 7B Silver<br>Creek                            |   |                       |         |                  |                            |
| 1000000            | SMXS                     | 300B                       | 490.92   | 502,64      | PLS 7B to Milpitas Terminal Station                                   | 34"<br>1 34"                            | 631                   | 631     | 715              | 715                        |
| 2-63,25            | રુ                       | 301G                       | 0.00     |             | Hollister Meter Station to Moss                                       | 1 34"                                   | 600                   | 600(11) | 669              | 669                        |
| 12.5               |                          |                            |          |             | Landing Power Plant   | 24" & 30"                               | 500                   | 500     | 500              |                            |
| a luta             |                          | 301A                       | 0.00     | 24.84       | Hollister Meter Station to Moss                                       | 24 a 30                                 | 500                   | 500     | 500              | 500                        |
| 11111              |                          |                            |          |             | Landing Power Plant   | 20"                                     | 396                   | 396     | 500              | 500                        |
| 100 and 100        |                          | 301B                       | 0.00     | 14.02       | Dolan Road Meter Station to   |   | 040                   | 550     | 500              | 500                        |
|                    |                          |                            |          |             | Hilltown Regulator Station  | 12"                                     | 408                   | 408     | 600              | 500                        |
|                    | P C<br>SHEET 20          | *301C                      | 14.02    | 17.20       | Hilltown Regulator Station to<br>Harkins Road Meter and Mixer         |   |                       |         |                  | 500                        |
| No.                | T2 P                     | *301F                      | 0.00     |             | Station   | 8" & 12"                                | 313                   | 313     | 500              | 500                        |
|                    | (44                      | ~20TF.                     | 0.00     | 7.94        | Espinosa Road to Marina Regulator                                     |   |                       |         |                  |                            |
| 100                | 우 <mark>않</mark> 표       | *301E                      | 0.00     | 1.02        | Station   | 16"                                     | 408                   | 412     | 412              | 412                        |
| 10.04              |                          | 301D                       | 0100     | 1.02        | Crosstie - Monterey #2 to Main 301<br>Anzar Tap Station to Anzar Road | 12"                                     | 408                   | 408     | 500              | 500                        |
| 10.00              | 3 CO                     |                            | 0.00     |             | Meter & Regulator Station   | 10"                                     | 500                   | 500     | 500              |                            |
| 1.2.1              | CO.<br>30 SHEETS         | 301H                       | 0.00     | 1.72        | Anzar Tap Station to Anzar Road                                       | TO                                      | 500                   | 500     | 500              | 500                        |
|                    | EET                      |                            |          | ~~~~~       | Meter & Regulator Station   | 16"                                     | 500                   | 500     | 500              | 500                        |
|                    |                          |                            |          |             |   | 10                                      | 500                   | 500     | 500              | 500                        |
|                    | DRAWING NUMBER<br>086868 | (11) <sub>R</sub>          | evised t | o conform 1 | to documented records.  |   |                       |         |                  |                            |
|                    |                          |                            |          |             |   |   |                       |         |                  |                            |

- 61-4344 RAV 1-76
- LINES OPERATING AT OR OVER 20% SMYS

MICROFILM

O REV.

|  | LINES OPER       | Trans.<br>Line<br><u>No.</u> | MP      | to   | <u>MP</u> | Description  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig |                     | esing<br>Press. | Future<br>Design<br>Press. |
|--|------------------|------------------------------|---------|------|-----------|--|---|---------------------|---------------------|-----------------|----------------------------|
| and the second second second second second   | OPERATING AT     | 302                          |         |      |           | Sutter Buttes, W. Butte, Butte<br>Slough, Grimes, Sycamore, Kirk,<br>Moon Bend & Buckeye Field |   |                     |                     |                 |                            |
| a transformer  | OR               | 302                          | 0.00    |      | 5.76      | Collection System<br>Buckeye Creek PLS to Hershey  | 2" - 20"                                | 1000                | 1000                | 1000            | 1000                       |
| ga Paramatan Ing   | OVER             | 303                          | 0.00    |      | 7.95      | Junction<br>Antioch Terminal to Brentwood<br>Terminal  | · 20"<br>36"                            | 975<br>720          | 975<br>720          | 1000<br>720     | 975<br>720                 |
| 0.000  | 20%              | <u>303</u>                   | 7,95    |      | 11.97     | Brentwood Terminal to Vasco Road   | 36"                                     | 725                 | 793(lla             | 864             | 864                        |
| 1 N N 2  |                  | 303                          | 11.97   |      | 20.43     | Vasco Road to Dalton Avenue  | 36"                                     | 725                 | 776 (11b            | 864             | 864                        |
| 22/2012  | ន                | 303                          | 20.43   |      | 25,54     | Dalton Avenue to Livermore Junctio   | n 36"                                   | 725                 | 864(11c             | 864             | 864                        |
| des la consecuencia  | SMXS             | 303                          | 25.54   |      | 36.56     | Livermore Junction to Sheridan   |   |                     |                     |                 |                            |
| 1999 B   | 01               |                              |         |      |           | Road PLS   | 36"                                     | 725                 | 731 <sup>(11d</sup> | ) 877           | 877                        |
| 1. S. M. T. L.   |                  | 303                          | 36,56   |      | 42.86     | Sheridan Road PLS to Irvington   | 36"                                     | 590                 | 590                 | 600             | 877                        |
| 232.22   |                  | 304                          | 0.00    |      | 11.29     | Tracy Station to Lathrop Dehydrato   | r                                       |                     |                     |                 |                            |
|  |                  |                              |         |      |           | & Odorizer Station   | 12"                                     | 825                 | 825                 | 825             | 825                        |
|  |                  | 304                          |         |      |           | Lathrop Field Collection System  | 3" - 12"                                | 825                 | 825                 | 825             | 825                        |
|  |                  | 306                          | 0.00    |      | 43.3      | Kettleman Compressor Station to<br>Dry Creek PLS   | 20"                                     | 840                 | 840                 | 840             | 840                        |
| STREET, STREET | SHEET            | 306                          | 43.3    |      | 70.02     | Dry Creek PLS to Morro Bay Power   |   |                     |                     |                 |                            |
| -24.032600   | P G              | 307                          | 0.00    |      | 16.36     | Plant<br>Spreckels Sugar Meter Station to  | 20"                                     | 650                 | 650                 | 840             | 840                        |
|  |                  | 307                          | 12.05   |      | 16.92     | Spreckels Sugar Regulator<br>Derrick Road Tap to Arbios  | 8"                                      | 500                 | 500                 | 915             | 890                        |
|  |                  | 311                          | 0,00    |      | 54.44     | Regulator Station<br>Main 300 (V 180.64A) to Westend   | 8"                                      | 500                 | 890                 | 915             | 890                        |
|  | CO.<br>30 SHEETS |                              | 0.00    |      | 34.44     | Primary Regulator Station  | 10" & 12"                               | 700                 | 700                 | 960             | 890                        |
| 1212   | <u>s</u>         |                              |         |      |           |  |   |                     |                     |                 |                            |
|  | D                | (11a),                       | The 793 | psia | MAOP of   | this Section of L-303 was establis   | hed hy hydro                            | ostatic t           | est complet         | ed on 11        | /23/66                     |
|  | DRAWIN<br>080    |                              |         |      |           |  | wy wydd                                 |                     |                     |                 | -,,,                       |
|  | ୁନ୍ମ କ           | 2                            | he 776  | psig | MAOP of   | this Section of L-303 was establis   | hed by hydro                            | ostatic t           | est complet         | eđ on ll        | ./26/66.                   |
|  | NOWRER           | (llc)                        | The 864 | psig | MAOP of   | this new Section of L-303 was esta   | blished by i                            | nydrostat           | ic test com         | pleted c        | on 11/22/77.               |
|  | O.               | (11d)                        | The 731 | psig | MAOP of   | tnis Section of L-303 was establis   | hed by gas t                            | upgrating           | on 9/28/78          | 3               |                            |

61-4344 Rev 1-76

MICROFILM

.

| LINES OPERATING    | Trans<br>Line<br><u>No.</u> |          | ţo   | MP        | Description  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig |         | esign<br>Press. | Future<br>Design<br>Press. |
|--------------------|-----------------------------|----------|------|-----------|--|---|---------------------|---------|-----------------|----------------------------|
| ATI                | 311                         | 31.97    |      | 38.49     | Parallel Section to MP 38.49                                 | 12"                                     | 700                 | 810     | 960             | 890                        |
| IG AT              | 312                         | 0.00     |      | 8.00      | Line 300A (T 273.27) to Paloma<br>Field Meter Station        | 8 <sup>11</sup>                         | 736                 | 740     | 820             | 820                        |
| 8                  | 313                         | 0.00     |      | 34.4      | Lucerne Valley Tap Meter Station                             |   |                     |         |                 |                            |
| OR C               | 314                         | 0.00     |      | 24.19     | to Permanente Company Meter<br>Hinkley Compressor Station to | 8" & 10"                                | 573                 | 573     | 720             | 720                        |
| OVER               |                             |          |      |           | MP 24.19   | 12"                                     | 861                 | 861     | 890             | 890                        |
|                    | *314                        | 24.19    |      | 29.00     | MP 24.10 to MP 29.00   | 10"                                     | 293                 | 293     | 720             | 720                        |
| 20%                | *314                        | 29.00    |      | 43.18     | MP 29.00 to Black Mountain Meter                             |   |                     |         |                 |                            |
|                    |                             |          |      |           | and Regulator Station  | 8" & 10"                                | 293                 | 293     | 720             | 720                        |
| SMXS               | *314                        |          |      |           | Tap to Riverside Cement                                      | 8"                                      | 293                 | 293     | 720             | 720                        |
| IVS                | *314                        |          |      |           | Tap to Airbase Road Meter Station                            | 8"                                      | 293                 | 293     | 720             | 720                        |
| 01                 | *316                        |          |      |           | Dutch Slough & River Break Field                             |   |                     |         |                 |                            |
|                    | 317                         |          |      |           | Collection System<br>Chickahominy Field Collection           | 2" - 12"                                | 800                 | 800     | 800             | 800                        |
|                    |                             |          |      |           | System   | 3"                                      | 975                 | 975     | 975             | 975                        |
|                    | 318                         |          |      |           | Black Butte Field Collection                                 | •                                       |                     |         |                 |                            |
|                    | 010                         |          |      |           | System   | 3 **                                    | 911                 | 911·    | 960             | 960                        |
|                    | 331                         |          |      |           | Santa Nella Tap to Tri Valley                                |   |                     |         |                 |                            |
| SHEET              | 001                         |          |      |           | Growers  | 4" & 6"                                 | 500                 | 890     | 890             | 890                        |
|                    | 334                         |          |      |           | Poppy Ridge Field  | A 17                                    | 412                 | 490(12) | 800             | 800                        |
| ll ⊾∖l ♥           | 336                         |          |      |           | Harte Field Collection System                                | 3"                                      | 412                 | 800     | 800             | 800                        |
|                    | 372                         | 0,00     |      | 3.7       | Ridgecrest Tap to Ridgecrest                                 | -                                       |                     |         |                 |                            |
|                    |                             | 0.00     |      | 2.        | Primary Regulator  | 6"                                      | 700                 | 700     | 960             | 960                        |
|                    | 400                         | 0.00     |      | 24.60     | California-Oregon Border to                                  | -                                       |                     |         |                 |                            |
| S S                |                             | 0.00     |      | 24.00     | Tionesta Compressor Station                                  | 36"                                     | 911                 | 911     | 911             | 911                        |
| CO. DRAWING NUMBER | (12) <sub>]</sub>           | Line 334 | is a | a new li. | ne. The 490 psig MAOP was establis                           | hed by hydro                            |                     |         |                 |                            |

۰.

.

61-171 Rav 1-76

•

SHEET 22 OF 30 SHEETS

MICROFILM

REV. 3

•

|        |           |      |         | Ballet Augustinisco moderne gallet finninger ander eine eine einer Heiner ander | nn an general 1997. Daar waarde een teenaam general Belleville al oo daar de d | 141 mars - Ang ar T a' N and Annexember of Annexember of Annexember of Annexember of Annexember of Annexember of | n ya katalan ya katala na katal | n i literation e dans a Atiques <sup>tin</sup> (° 15 Jacobar 1999) | Shanning a Maria Maria da Antonina Shanning Shanning Shanning Shanning Shanning Shanning Shanning Shanning Shan | nen an de la resta de la re |
|--------|-----------|------|---------|---|---|--|---|--|---|---|
|        | LINES     |      |         |   |   | Nominal  |   |  |   |   |
|        | ĒS        | Tran | s.      |   |   | Pipe   | PG&E  |  |   | Future  |
|        |           | Line | - •     |   |   | Diameter   | MOP   |  | Design  | Design  |
|        | ਬੁਕ       | NO.  | MP      | to MP   | Description   | (Inches)   | psig  | MAOP   | Press.  | Press.  |
|        | RA        |      |         | ****  |   |  | Porg  | <u></u>  |   | <u></u>   |
|        | OPERATING | 400  | 24.60   | 48.64   | Tionesta Compressor Station to  | c  |   |  |   |   |
|        | តី        |      |         |   | Indian Springs PLS  | 36"  | 911   | 911  | 911   | 911   |
|        | AT        | 400  | 48.64   | 82,33   | Indian Springs PLS to Burney  | ,  |   |  |   |   |
| 1000   |           |      |         |   | Compressor Station  | 36"  | 911   | 911  | 911   | 911   |
|        | OR I      | 400  | 82.33   | 104.20  | Burney Compressor Station to  |  |   |  |   |   |
|        | 9         |      |         |   | MP 104.20   | 36"  | 911   | 911  | 911   | 911   |
|        | OVER      | 400  | 104.20  | 115.26  | MP 104.20 to Shingletown PLS  | 36"  | 911   | 915  | 942   | 942   |
|        |           | 400  | 115.26  | 149.18  | Shingletown PLS to Gerber   |  |   |  |   |   |
|        | 20%       |      |         |   | Compressor Station  | 26" & 36"  | 911   | 911  | 911   | 911   |
|        | 1         | 400  | 149.18  | 180.77  | Gerber Compressor Station to  |  |   |  |   |   |
|        | SMYS      |      |         |   | V-180.77  | 24" & 36"  | 911   | 911  | 911   | 911   |
|        | 3         | 400A | 180.77  | 197.83  | V 180.77 to Delevan Compresso   |  |   |  |   |   |
|        |           |      |         |   | Station   | 36"  | 911   | 911  | 911   | 911   |
|        |           | 400B | 180.76  | 197.72  | MP 180.76 to Delevan Compress   |  |   |  |   |   |
|        | i         |      |         |   | Station   | 36 "   | 911   | 911  | 911   | 911   |
|        |           | 400  | 197.72  | 233_87  | Delevan Compressor Station to   |  |   |  | <b>.</b>  |   |
|        |           |      |         |   | Buckeye Creek PLS   | 36"  | 1040  | 1040   | 1040  | 1040  |
|        |           | 400  | 233.87  | 298.87  | Buckeye Creek PLS to Antioch  |  |   | <u> </u>   |   | 0.75  |
| ٥<br>٩ | CHE       |      |         |   | Terminal  | 26" & 36"  | 975   | 975  | 975   | 975   |
|        |           | 402  | 0.00    | 9.96  | Redding-Calaveras Tap to PLS  | 12"  | 300   | 300  | 865   | 865   |
|        | E p       | 402  | 9.96    | 38.10   | PLS to Calaveras Cement Tap   | 8",10" & 12"   | 300   | 300  | 720   | 720   |
| 1      | പ്പ       | 403  | 0.00    | 1.38  | Rio Vista "Y" to Creed  | 2 6 11   | 650 <sup>(13</sup>  | )  | 055   | 000   |
| 6      | &_E       |      |         |   | Station   | 16"  | 650   | 800  | 855   | 800   |
|        | I         |      |         |   |   |  |   |  |   |   |
|        | 300       |      |         |   |   |  |   |  |   |   |
| 2      | ۹ · ·     |      |         |   |   |  |   |  |   |   |
| r<br>r | D.        | (12) |         |   |   |  |   |  |   |   |
| 6      | 7         | (12) | The MOP | of L-403 is   | 650 when operated in conjunctio   | n with L-210.  |   |  |   |   |
| 1      |           |      |         |   |   |  |   |  |   |   |

61-4344 Rev

1-76

MICROFILM

DRAWING NUMBER 086868

REV

\*Indicates that line or sections of line are under 20% SMYS, but are listed for the purpose of continuity.

\*\*DP has been established as the maximum pressure for the minimum wall thickness required under the current edition of General Order 112-C for Type 3 construction for line size listed.

| Fxh. | C | Rec | kon |
|------|---|-----|-----|
|      |   |     |     |

|                                  | LINES OP                        | Location   | Nominal<br>Pipe<br>Diameter<br>(Inches)  | PG&E<br>MOP<br>psig  | MAOP   | Design<br>Press.  | Future<br>Design<br>Press.   |
|----------------------------------|---------------------------------|--|--|--|--|---|--|
|                                  | ERI                             | COAST VALLEYS DIVISION   |  |  |  |   |  |
|                                  | OPERATING AT OR OVER 20% SMYS   | <ul> <li>Monterey #1 - Harkins Road Meter &amp; Mixer Station to<br/>Fig-Frank Streets Regulator Station</li> <li>Monterey #2 - Fort Ord to Fig-Frank Streets Regulator<br/>Station</li> <li>Monterey (V-18.65 to Carmel V-2.13) Aquajito Road<br/>Regulator Station</li> <li>Harkins Road Meter and Mixer Station to MP 2.45</li> <li>MP 2.45 to MP 3.50</li> <li>MP 3.50 to California Street Regulator Station</li> <li>Salinas Main - Foster Road to San Miguel Avenue</li> <li>DFM-6 Espinosa Road Main from 301-B, V-3.18</li> <li>DFM-7 Union Carbide Main from 187, MP 17.42</li> <li>DFM-8 Paradise Road to Meridian Road Main</li> </ul> | 8" & 12"<br>10" 12" 16"<br>8" & 10"<br>8" & 10"<br>8"<br>8"<br>8"<br>8"<br>6"<br>3"<br>4" & 6" | 313<br>313<br>313<br>313<br>313<br>313<br>313<br>408<br>313<br>500   | 313<br>313<br>313<br>313<br>313<br>313<br>313<br>500<br>313<br>500 | 500<br>400<br>500<br>500<br>500<br>500<br>720<br>720<br>720 | 400<br>400<br>500<br>500<br>500<br>500<br>500<br>500<br>870<br>500 |
|                                  | PG&ECO.<br>SHEET24 OF 30 SHEETS | <u>COLGATE DIVISION</u><br>Yuba City HPU Holder to Market Street Regulator Pit<br>Tap to Schohr Ranch<br>Tap to Strain Ranch Dryer<br><u>DE SABLA DIVISION</u><br>Butte College Tap<br>Orland Tap from L-177 to Second Stage Regulator   | 5" & 8"<br>6"<br>4"<br>3" & 4"<br>6"   | 135<br>250<br>800<br>400<br>490  | 135<br>250<br>800<br>720<br>490                                    | 400<br>720<br>800<br>720<br>720<br>720                      | 400<br>720<br>800<br>720<br>720<br>720                             |
|                                  | DRAWING NUMBER                  | · · ·  |  |  |  |   |  |
| Active Contractor Section of the |                                 |  |  | a a star a s | na statististististististististististististist                     |   | a ny fan filmen a star filmen a star filmen a star                 |

·

61-4344 RAV 1-76

MICROFUM

-

٠

,

.

| LINES OF          | Location  | Nominal<br>Pipe<br>Diameter<br>(Inches) | P.G&E<br>MOP<br><u>psig</u> | MAOP | Design<br>Press. | Future<br>Design<br>Press. |
|-------------------|---|---|-----------------------------|------|------------------|----------------------------|
| ERA               | DRUM DIVISION                                     |   |                             |      |                  |                            |
| <b>OP ERATING</b> | Diamond Oaks Feeder                               | 6"                                      | 500                         | 500  | 500              | 600                        |
| AT                | EAST BAY DIVISION                                 |   |                             |      |                  |                            |
| OR<br>R           |   |   |                             |      |                  |                            |
|                   | Avon Power Station Feeder                         | 8" & 12"                                | 315                         | 338  | 600              | 600                        |
| OVER              | Lion Oil Company Feeder                           | 12"                                     | 315                         | 338  | 600              | 600                        |
|                   | Nichols Road Tap                                  | 4 m                                     | 315                         | 338  | 600              | 600                        |
| 20%               | Pacific States Steel Feeder                       | 12"                                     | 420                         | 420  | 500              | 500                        |
| <b>B</b>          | Warm Springs Feeder                               | 2" & 4"                                 | 465                         | 465  | 500              | 600                        |
| SMXS              | Port Costa Feeder                                 | 6"                                      | 315                         | 338  | 600              | 600                        |
| SY                | 50th Avenue Holder Feeder Off Line 105            | 16" & 20"                               | 150                         | 198  | 275              | 275                        |
|                   | Pittsburg Town Feeder                             | 12"                                     | 315                         | 338  | 350              | 600                        |
| ř.                | Concord Feeder to Alpha Beta Regulator            | 6" & 8"                                 | 315                         | 600  | 600              | 600                        |
|                   | Oleum Steam Plant Tap                             | 8" 10" 12" 16"                          | 250                         | 250  | 275              | 275                        |
|                   | San Ramon Feeder                                  | 16"                                     | 500                         | 500  | 500              | 600                        |
|                   | Standard Oil Feeder                               | 22"                                     | 400                         | 400  | 400              | 400                        |
| <u>s</u>          | Rodeo Feeder                                      | 6" & 8"                                 | 204                         | 204  | 400              | 400                        |
| SHEET             | Concord Feeder                                    | 8" 10" 12"                              | 170                         | 170  | 600              | 600                        |
|                   | Antioch Feeder                                    | 6"                                      | 315                         | 600  | 720              | 720                        |
| 25 <b>G</b>       | Danville Feeder                                   | 6" 8" 10"                               | 315                         | 338  | 600              | 600                        |
|                   | Discovery Bay Feeder - From Line 57A to Secondary | _                                       |                             |      |                  |                            |
| דת ריי            | Stage Regulator (Bixler Road)                     | 3" & 4"                                 | 867                         | 867  | 867              | 867                        |
| 3 <mark>8</mark>  | Discovery Bay Feeder - From Bixler Road Regulator | A.M                                     |                             |      |                  |                            |
| B IU              | to Pt. of Timber Regulator                        | 4" 6" 8"                                | 400                         | 400  | 400              | 400                        |
| E                 | Atlas Road Feeder                                 | 8"                                      | 400                         | 400  | 400              | 400                        |
| ).<br>Sheets      |   |   |                             |      |                  |                            |

61-4344 Rev 1-76

MICROFILM

DRAWING NUMBER 086868

Exh. C (Becken)

| Location  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP        | Design<br>Press. | Futur<br>Desig<br>Press |
|---|---|---------------------|-------------|------------------|-------------------------|
| NORTH BAY DIVISION                                      |   |                     | <del></del> |                  |                         |
| Cotati Feeder   | 8"                                      | 450                 | 500         | 675              | 675                     |
| 12" Line 21 (V-16.15) to Pine Street Meter Station      | 8"                                      | 450                 | 500         | 675              | 675                     |
| 12" Line 21 (V-16.15) to Kilburn Regulator Station      | 10"                                     | 450                 | 500         | 675              | 675                     |
| Kilburn Regulator Station to Rutherford                 | 8" & 10"                                | 450                 | 500         | 675              | 675                     |
| 6" Sonoma Tap Line                                      | 6"                                      | 450                 | 500         | 675              | 675                     |
| Tap to Kaiser Steel East of Napa River                  | 4"                                      | 450                 | 500         | 675              | 675                     |
| Line 21-S, V-4.59 to V-4.63                             | 8"                                      | 450                 | 500         | 500              | 500                     |
| 16" L-108 to Galt Primary Regulator                     | 4"                                      | 490                 | 490         | 500              | 720                     |
| Sacramento Division Gas Load Center to North Sacramento |   |                     |             |                  |                         |
| Holder  | 8" & 12"                                | 260                 | 260         | 275              | 275                     |
| 16" L-108 Tap to Sacramento Boulevard Regulator         | 10",12",16"                             | 412                 | 412         | 500              | 656                     |
| L-108 to Florin Road Primary                            | 6" & 10"                                | 412                 | 412         | 500              | 656                     |
| Union Carbide Tap to Union Carbide Corp.                | 8" & 10"                                | 412                 | 412         | 500              | 656                     |
| L-108 to Florin Road and Woodline Avenue                | 6"                                      | 412                 | 412         | 500              | 656                     |
| Sutterville Road to 43rd and Riverside                  | 6" & 8"                                 | 412                 | 412         | 500              | 656                     |
| L-108 to Elk Grove Primary                              | 4"                                      | 412                 | 412         | 500              | 656                     |
| Tremont Tap to Dixon Meter Station                      | 6"                                      | 750                 | 750         | 800              | 800                     |
| Hunts Feeder Main                                       | 6"<br>4"                                | 500                 | 500         | 500              | 800                     |
| Fairfield - Knolls Feeder                               | <u>4</u> "                              | 500                 | 500         | 500              | 800                     |
| Illinois Street 10" Feeder .                            | 6" & 10"                                | 650<br>500          | 675         | 740              | 720                     |
| Gibson Feeder Main                                      | ć 6"                                    | 500                 | 500         | 500              | 800                     |

(14)A number of DFMs have been added by Sacramento Division because of operation at pressure of 20% or more of SMYS.

\_ / ጋ / / ኮላ\*\* ገ . ግድ

ħ

LINES OPERATING AT OR OVER 20% SMYS

| Location                                   | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>Psig | MAOP   | Design<br>Press. | Future<br>Desigr<br>Press. |
|--|---|---------------------|--------|------------------|----------------------------|
| Sacramento Division (Continued)            |   |                     |        |                  |                            |
| American Home Foods Feeder                 | 2" & 4"                                 | 720                 | 720    | 720              | 720                        |
| Vacaville Feeder                           | 6"                                      | 400                 | 400    | 400              | 400                        |
| Vacaville - Eldridge to Nut Tree Road      | 6"                                      | 400                 | 400    | 720              | 720                        |
| Vacaville - Travis to Vacaville Junction   | 3", 4", 6"                              | 400                 | 400    | 400              | 400                        |
| Vacaville - SNRR to Elmira Road            | 3" & 6"                                 | 400                 | 400    | 400              | 720                        |
| Anheuser Busch Feeder                      | 2" & 4"                                 | 650                 | 650    | 720              | 720                        |
| Fairfield Feeder - Scandia Road - Vaca Tap | 10"                                     | 675                 | 675    | 675              | 675                        |
| Fairfield Feeder - Scandia Road - Vaca Tap | 12"                                     | 650                 | 650    | 740              | 740                        |
| Robben Road Feeder - Dixon                 | 6"                                      | 750                 | 750    | 800              | 800                        |
| SAN FRANCISCO DIVISION                     |   |                     |        | 1->>             | ·                          |
| Peninsula Main                             | 16" & 20"                               | 109                 | 110(14 |                  | 275                        |
| Hunters Point Power Plant Feeder           | 20"                                     | 145                 | 145    | 275              | 275                        |
| SAN JOAQUIN DIVISION                       |   |                     |        |                  |                            |
| Tranquility Feeder                         | 3 11                                    | 650                 | 800    | 900              | 900                        |
| Yosemite Avenue Feeder                     | 6"                                      | 400                 | 720    | 720              | 720                        |
| Snelling Highway Feeder                    | 6"                                      | 400                 | 400    | 400              | 720                        |
| Dixon Dryer Feeder                         | 4"                                      | 500                 | 500    | 720              | 720                        |
| Peach and Central Feeder                   | 6"                                      | 650                 | 720    | 720              | 720                        |
| Clovis Feeder Main                         | 6" & 12"                                | 650                 | 650    | 720              | 720                        |
| Vinewood Avenue Feeder                     | 4"                                      | 400                 | 720    | 720              | 720                        |

(14a) Revised to conform to documented records.

Nominal Pipe PG&E Future Diameter MOP Design Design Location (Inches) psig MAOP Press. Press. San Joaquin Division (Continued) Winton Avenue Feeder 6" 400 720 720 720 Elm Avenue Feeder 8" 263 263 400 400 US Borax Feeder 4" & 6" 490 490 720 720 Cressey Way Feeder 4" & 6" 400 400 720 720 Valley Nitrogen Feeder 6" 650 650 800 720 Ashland Avenue Feeder 4" & 6" 400 593 720 720 SAN JOSE DIVISION Half Moon Bay Feeder Line 8" 10" 12" 400 577 577\*\* 577\*\* Santa Cruz to Davenport 10" & 12" 300 303 557\*\* 400 Milpitas Terminal to PLS #7, Kings Road, 20" Feeder 16" 20" 30" 200 200 275 526 Watsonville to River Street Regulator Station 8" & 10" 300 303 577\*\* 400 Watsonville to Rob Roy Junction 10" 300 400 577\*\* 400 SHASTA DIVISION Simpson Lee Paper Mill Feeder 6" 300 300 720 720 U. S. Plywood Plant Feeder 4 m 300 720 720 720 Enterprise Town Feeder 4" & 6" 300 300 720 720 Calaveras Cement Company Feeder 81 300 300 720 720 Red Bluff District Tap 2" 911 911 911 911

Exh. C (Becken)

\*\*See Paragraph 6

LINES

OP ERATING

SHEET

J

DRAWING NUMBER

RΕ

| Location                             | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP    | Design<br>Press. | Future<br>Design<br>Press. |
|--------------------------------------|---|---------------------|---------|------------------|----------------------------|
| STOCKTON DIVISION (15)               |   |                     |         |                  |                            |
| Valley Tomato Trunk Line             | 8"                                      | 412                 | 500     | 720              | 720                        |
| Eight Mile Road Trunk Line           | 4" & 8"                                 | 412                 | 412(16) | 720              | 720                        |
| Ripon-Modesto Feeder (Parallel)      | 8" & 12"                                | 408                 | 408     | 720              | 720                        |
| Dale Road to North Avenue Feeder     | 4", 6", 8", 12"                         | 408                 | 408     | 720              | 720                        |
| Riverbank Feeder                     | 8" & 10"                                | 408                 | 408(16) | 720              | 720                        |
| Carpenter Road Feeder (Modesto)      | 4" & 12"                                | 408                 | 500     | 720              | 720                        |
| Modesto Feeder Via Pauline Boulevard | 4" & 6"                                 | 408                 | 408     | 720              | 720                        |
| Turner Road Feeder                   | 8"                                      | 300                 | 720     | 720              | 720                        |
| Turner Road Feeder (Parallel)        | 4" & 6"                                 | 300                 | 300     | 720              | 400                        |
| McArthur Road Feeder                 | 4"                                      | 295                 | 295     | 400              | 400                        |
| Louise Avenue Feeder                 | 817                                     | 408                 | 408     | 720              | 720                        |

(15) A number of DFMs have been deleted by Stockton Division because of operation at pressures less than 20% of SMYS.

(16) Revised to conform to documented records.

REV.

KIWAZAA Dave 1-76 LINES OPERATI

REV.

| ת | ING            | COLGATE DIVISION     |  |
|---|----------------|----------------------|--|
|   | ат о           | Yuba City            | 24,784   |
|   | OR OVER        | NORTH BAY            |  |
|   | ER 20%         | San Rafael           | 37,392   |
|   | IS %C          | SACRAMENTO DIVISION  |  |
|   | SMYS           | Sacramento           | 78,452   |
|   |                | SAN JOAQUIN DIVISION |  |
|   |                | Fresno               | 43,722   |
|   |                | SAN JOSE DIVISION    |  |
|   | SHEET          | Santa Cruz           | 7,221  |
|   | 30 G           |                      | 4,838  |
|   | & E CO.        |                      | pending a hydrotest to confirm MAOP.<br>to documented records. |
| 1 | DRAWING NUMBER |                      |  |

Location

Future

Design

Press.

550

690

550

690

660

660

. •

Nominal Pipe

Diameter

(Inches)

34"

30"

34"

30"

30"

34"

Length

(Feet)

.

PG&E

MOP

psig

525

445

618

618

MAOP

525

445

618<sup>(19)</sup>

618(19)

625 (18) 650

650<sup>(18)</sup> 690

Design

Press.

550

690

550

690

618

618

Attachment C

# **BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking on the Commission's Own Motion to Adopt New Safety and Reliability Regulations for Natural Gas Transmission and Distribution Pipelines and Related Ratemaking Mechanisms

R.11-02-019 (Filed February 24, 2011)

# **DECLARATION OF JAMES R. GRINSTEAD**

I, JAMES R. GRINSTEAD, do declare:

- I am currently the Vice-President of Grinstead and Associates, Inc., a management consulting firm. Pacific Gas and Electric Company ("PG&E") has retained my services as an engineering management consultant to work on various projects. I am a California Registered Professional Mechanical Engineer and my registration number is M-18054. I have personal knowledge of the following facts and, if called as a witness, would testify thereto.
- I was previously employed by PG&E from July 1973 to mid-1998. During that time, I worked in various gas engineering positions within PG&E's gas transmission and distribution organization, as well as PG&E's subsidiary, Pacific Gas Transmission Company.
- 3. From approximately March 1975 to mid-1976, I worked as a gas engineer in the Codes and Standards Section of the Gas System Design Department. The Codes and Standards Section was responsible for ensuring PG&E's compliance with relevant state and federal regulations regarding gas transmission facilities. The Supervising Engineer for whom I worked was Phillip Lathrap.

- 4. In my position as a gas engineer in the Codes and Standards Section, one of my primary roles was to assume the responsibilities previously assigned to my predecessor, Steven H. Phillips, of verifying and recording the Maximum Allowable Operating Pressures ("MAOPs") for all of PG&E's natural gas transmission pipelines operating at or above 20% specified minimum yield strength ("SMYS") in service at that time ("Transmission Pipelines"). During this time, I also worked on drafting PG&E's gas standards to clarify and communicate federal and state pipeline regulations. I further worked with the California Public Utilities Commission's ("CPUC") Safety Branch engineers in accompanying those engineers to witness transmission pipeline upratings and hydro-tests to establish new MAOPs.
- 5. In assuming Mr. Phillips' role of verifying and recording the MAOPs for Transmission Pipelines, my responsibility was to maintain the MAOP records previously compiled by Mr. Phillips, as well as to update these records in order to incorporate additional data as it was developed.
- 6. In maintaining and updating the MAOP records, I reviewed and relied upon data developed in conjunction with gas engineers throughout PG&E's gas department.
- 7. My objective in reviewing this data was to collect, verify and distribute information related to MAOPs, Maximum Operating Pressures ("MOPs") and Design Pressures ("DP"). My responsibilities in maintaining the records of MAOPs, MOPs and design pressures consisted of 1) regular verbal and written communications with engineers with design and/or operations responsibilities throughout PG&E's gas department and 2) technical peer review of existing and new information developed in conjunction with gas engineers to confirm the validity of data, including analyzing new information and discussing supporting records in the possession of the design and/or operations engineers. In instances where I discovered changes in MAOP or MOP

2

data that I was unable to adequately validate, I would investigate and resolve these issues by reviewing records and further discussing individual conclusions with the appropriate source engineers.

- 8. As part of this effort and using the information previously compiled by Mr. Phillips, I also documented and recorded the MAOP Records into PG&E's Standard Practice 463-8, as Appendix A, "Lines in Transmission Capitol Operating at or over 20% SMYS," and Appendix B, "Distribution Mains Operating at Over 20% SMYS." PG&E's Standard Practice 463-8 provided policies and procedures for MAOP and related pressure limits. From April 1975 to mid-1976, I updated Appendices A and B to Standard Practice 463-8 to include the most up-to-date data on the MOP, MAOP and DP for all of PG&E's numbered transmission pipelines and Distribution Feeder Mains operating at or above 20% SMYS in service at that time. Appendices A and B were continuously updated and periodically published both prior to and following my holding the gas engineer position in the Codes and Standards Section. I prepared the version of Standard Practice 463-8 that went into effect on May 1, 1975, replacing the version issued on June 1, 1973. This version of Standard Practice 463-8 was sent to PG&E's Division Managers, Gas Operations Managers, Gas Construction Manager, Pipeline Operations Manager, Division Gas Superintendents, District Managers, District Gas Superintendents, Division Administrative Analysts, and Director of Procedures and Organization on April 15, 1975. Attached hereto as Exhibit A is a true and correct copy of Standard Practice 463-8, including Appendices A and B thereto, effective May 1, 1975.
- 9. I can affirm that PG&E properly verified, recorded and maintained the MAOP values for all Transmission Pipelines. I oversaw this process on behalf of PG&E by collecting data from design and operations engineers, reviewing records and

3

operating histories, and resolving quality issues. I can further attest that this effort met California's requirements for establishing MAOPs pursuant to CPUC GO 112-C.

I declare under penalty of perjury under the laws of the State of California and the United States of America that the foregoing is true and correct.

Executed this 14<sup>h</sup> day of March 2011, at Walnut Creek, California.

/s/ JAMES R. GRINSTEAD + 62.6218 (REV 9.70)

# PG™E

FOR INTRA - COMPANY USES

DIVISION OR DEPARTMENT FILE NO SUBJECT VICE PRESIDENT - GAS OPERATIONS 463 RE LETTER OP SUBJECT Standard Practice No. 463-8 MAOP of Pipelines and Mains Operating At or Above 20% of SMYS

## April 15, 1975

DIVISION MANAGERS GAS OPERATIONS MANAGERS MANAGER, GAS CONSTRUCTION MANAGER, PIPE LINE OPERATIONS DIVISION GAS SUPERINTENDENTS DISTRICT MANAGERS DISTRICT GAS SUPERINTENDENTS DIVISION ADMINISTRATIVE ANALYST OR EQUAL DIRECTOR, PROCEDURES AND ORGANIZATION

The attached copy of Standard Practice No. 463-8, -including the Supplement-Procedural Details and Appendices A, B, and C, dated May 1, 1975, replaces Standard Practice No. 463-8 and Supplement-Procedural Details dated June 1, 1973, and Appendices A, B, and C dated March 1, 1975.

Additional copies of this standard practice may be obtained from Gas Operations by calling Extension 1604.

SIBLEY

JRGrinstead:sm

Attachment

Exh. A (Grinstead)

| 62.7501 | REV. | 4.65 |
|---------|------|------|
|         |      |      |

#### PACIFIC GAS AND ELECTRIC COMPANY STANDARD PRACTICE

EXECUTIVE OFFICE OR DIVISION \_\_

ISSUING DEPARTMENT\_

|   | STANDARD PRACTICE NO. 463-8  |
|---|------------------------------|
| · | PAGE NO. 1 EFFECTIVE 5/1/75  |
|   | REPLACING 1 EFFECTIVE 6/1/73 |

SUBJECT: MAXIMUM OPERATING PRESSURES OF PIPELINES AND MAINS OPERATING AT OR ABOVE 20% OF S.M.Y.S.

GAS OPERATIONS

GAS SYSTEM DESIGN

#### PURPOSE AND POLICY

\*1. To establish a uniform procedure for identifying, reviewing and revising Design Pressure (DP), Maximum Allowable Operating Pressures (MAOP), and Maximum Operating Pressure (MOP) (PG&E) for all pipelines, mains and holders operating at or above 20% of specified minimum yield strength (SMYS) of the pipe material (See Appendixes A, B and C).

#### RECISIONS

2. All previous instructions, oral or written, that may be contrary to this Standard Practice.

#### RESPONSIBILITY

- 3. Division Gas Superintendents and the Manager of Pipe Line Operations shall be responsible for the performance required by this Standard Practice. Performance will include reviews of design procedures for the lines and the records generated by the referenced Standard Practices any time a change in MOP, MAOP or DP is contemplated.
- 4. The Manager of Gas System Design will establish and confirm changes to MOP (PG&E), MAOP and DP.

#### REFERENCES

\*5. Current edition of California Public Utilities G.O. 112 S.P. 412-1, "External Corrosion Control of Buried Gas Facilities" S.P. 460-1, "Location Class Changes: Pipelines and Mains" S.P. 460.2-2, "Physical Inspection: Pipelines, Mains and Services" S.P. 460-21-4, "Periodic Leakage Surveys of Gas Transmission and Distribution Facilities" S.P. 463.7, "Pipeline History File, Establishing and Maintaining"

#### DEFINITIONS

\*6. <u>Design Pressure (DP)</u> is the maximum pressure permitted by the design sections of the current edition of G.O. 112, applicable to the materials and locations involved. In some cases the DP has been established as the maximum pressure for the minimum wall thickness required under the current edition of G.O. 112 for Type 3 construction for line size listed (See double asterisk entries in Appendix A).

Future Design Pressure is the Design Pressure (DP) to be used for future additions to existing facilities, effective March 1, 1975.

|           | S AND ELECTRIC COMPANY.   | standard practice no. 463-8                              |
|-----------|---|--|
| ÷ч,       | OFFICE OR DIVISION GAS OPERATIONS   | page no. <u>2</u> effective $5/1/75$                     |
| SUING DEI | OAG CREWENT DESTON  | REPLACING PAGE NO. 2 EFFECTIVE 6/1/73                    |
| SUBJECT:  | MAXIMUM OPERATING PRESSURES OF PIPELINES AND M<br>OPERATING AT OR ABOVE 20% OF S.M.Y.S.   | AINS .   |
| DEFINI    | TIONS   |  |
| . د       | Maximum Allowable Operating Pressure (MAOP) is<br>a pipeline or section of a pipeline may be oper<br>the applicable provisions of the current edition   | rated in accordance with all.                            |
| :•        | Maximum Operating Pressure (MOP) (PG&E) is the<br>gas system may be operated as specified by the<br>Design Department.  | maximum pressure at which a<br>Manager of the Gas System |
|           | Specified Minimum Yield Strength (SMYS) is the<br>psi prescribed by the specification under which<br>manufacturer or as specified in Section 192.10<br>G.O. 112.  | 1 pipe is purchased from the                             |
| APPLIC    |   |  |
| *7.       | Procedural details and supplemental data appear<br>Practice.  | in addenda to this Standard                              |
|           | Supplement - Procedural Details<br>Appendix A - Lines in Transmission Capital Oper<br>Appendix B - Distribution Mains Operating at or<br>Appendix C - Pipe Type Underground Holders Oper  | above 20% of SMYS  |
| RECORD    |   | ۹<br>•   |
| 8.        | Pressure Recording Charts and Operating Sheets<br>document the MAOP and/or MOP (PG&E) of pipeline<br>above 20% of SMYS shall be kept current by the<br>Operations Department assigned with the response<br>operation of facility. | s and mains operating at or<br>Division and/or Pipe Line |
| SUPPLEN   | MENT  |  |
| :.<br>:   | MAOP and DP for each facility.  | signating the MOP (PG&E),                                |
| APPROVE   | ED BY: E. F. Sibley<br>Vice President - Gas Operations  | · ·  |
| DISTRIE   | BUTION: Division Managers Divis<br>Division Gas Superintendents Direc   | ion Admin. Analyst or Equal<br>tor, Procedures Analysis  |
|           | District Gas Superintendents Fibe   | Line Operations  |

.

Exh. A (Grinstead)

٢,

١,

Supplement S.P. 463-3 Page 1 Effective 5/1/75

#### PROCEDURAL DETAILS

- \*10. Piping systems listed are not to be operated in excess of the MOP (PG&E). This limitation has been determined by the lowest of the following:
  - a) The test pressure or the rated working pressure of the pipe, valves, and fittings in the line.
  - b) The MAOP of the line as established in accordance with the provisions of the current edition of G.O. 112.
  - c) The MAOP of another pipeline system connected to the first system where there is no pressure control complete with over pressure protection between the two systems.
  - d) Operating conditions that limit pressure.
- \*11. The MOP (PG&E) may equal, but shall never exceed the MAOP or the DP. In some cases where the MAOP is less than DP, it is anticipated that the MOAP may be increased at some future time, in accordance with Subpart K (Uprating) of the current edition of G.O. 112. For this reason, all new additions to an existing system shall have a design pressure at least equal to the design pressure listed in Appendixes A, B and C. Some sections of an existing system may not qualify for the established design pressure and would require reconstruction, testing, or replacement prior to increasing the MAOP. See paragraph 6.
- , 12. New or replacement sections of line should be tested and qualified for the ultimate MAOP of the system, even though the MOP (PG&E) of the system is limited by the MAOP of other facilities connected to it.
- \*13. Any changes contemplated in the MOP (PG&E) or the MAOP of a line operating at or over 20% of SMYS shall be submitted by the Division Gas Superintendent or the Manager of Pipe Line Operations, in letter form, to the Manager of Gas System Design, for review and approval. A copy should be sent to the Manager of Gas System Planning.
- \*14. The MOP (PG&E), MAOP and DP of all newly installed pipelines and mains operating at or above 20% of SMYS, along with those in Appendixes A, B and C shall be confirmed annually by letter on or before February 1, by the Division Gas Superintendents and the Manager of Pipe Line Operations to the Manager of Gas System Design Department, for each facility within the scope of this Standard Practice.
- \*15. The Manager of Gas System Design Department will publish and distribute updated lists of pipeline pressures (Appendixes A, B and C) as required.

Attachment: Appendix A - "Lines in Transmission Capital Operating at or over 20% of SMYS" Appendix B - "Distribution Mains Operating at or above 20% of SMYS" Appendix C - "Pipe Type Underground Holders Operating at or above 20% of SMYS"

I

\* Paragraph Revised \*\* Paragraph Added

### Exh. A (Grinstead)

Appendix A S.P. No. 463-8 Effective 5/1/75 Page 1/15

# LINES IN TRANSMISSION CAPITOL OPERATING AT OR OVER 20% SMYS

•

| Trans.   |   | Nominal<br>Pipe   |             |       |            | -             |
|----------|---|-------------------|-------------|-------|------------|---------------|
| Line     | 1   | Diameter          | PG&E        |       | <b>D 1</b> | Futur         |
| NO.      | Location  | (Inches)          | MOP<br>psig | MAOD  | Design     | Desig         |
|          |   | (Inches)          | psig        | MAOP  | Press.     | Press         |
| 21       | Crockett Station (MP 0.00) to                       | -                 |             |       |            |               |
| 0.7      | MP 0.54   | 24" & 26"         | 400         | 405   | 650        | 675           |
| . 21     | MP 0,54 to Herrmann Station (MP 1.52)               | 24"               | 400         | 675   | 675        | 675           |
| 21       | Herrmann Station to Reis Avenue                     |                   |             |       | •          |               |
|          | (MP 2.71)   | 16"               | 250         | 258   | 575**      | 575*1         |
| 21       | Reis Avenue to Napa "Y" (MP 12.05)                  | 12"               | 250         | 375   | 585        | 585           |
| 21       | Napa "Y" to MP 35.05                                | 12" & 26"         | 450         | 450   | 675        | 675           |
| 21       | MP 35.05 to MP 51.41                                | ,12"              | 450         | 500   | 720        | 675           |
| 21       | MP 51.41 to Santa Rosa Compressor                   |                   |             |       |            |               |
| 2.1      | Station (MP 53.12)                                  | 12"               | . 450       | 500   | 720        | 675           |
| 21       | MP 53.12 to MP 110.4                                | 12"               | 600,        | 890   | 890        | 890           |
| 21       | MP 110.4 to MP 111.2                                | 12".              | 600         | 720   | 890        | 890           |
| 21       | MP 111.2 to MP 111.9                                | 12"               | 600         | 890   | 890        | 890           |
| 21       | MP 111.9 to MP 112.1                                | 12"               | 600         | 720   | 890        | 890           |
| 21       | MP 112.1 to MP 113.9                                | 12"               | 600         | 890   | 890        | 890           |
| 21       | MP 113.9 to Ukiah (MP 114.9)                        | 12"               | . 600       | 720   | 890        | 890           |
| 21       | MP 114.9 to Willits (MP 136.8)                      | . 8"              | 600         | 832   | 832        | <u>89</u> 0   |
| . 21     | Napa "Y" (MP 0.00) to MP 18.64                      | 16"               | 450         | 500   | 720        | 675           |
| 21       | MP 18.64 to Denman Flat Tap                         |                   | •           | •     |            | •             |
| 21       | (MP 24.6)   | 16"               | 450         | 500   | 720        | 675           |
| 21       | McDowell Road Tap (MP 34.84) to                     |                   | •           |       |            |               |
| 21       | Petaluma Meter Station (MP 35.86)                   | · 12"             | 450         | 500   | 593        | 675           |
| 21       | Adobe (MP 0.00) to San Rafael HPU                   |                   |             | •     |            |               |
| 21       | Holder Station                                      | 16" & 20"         | 450         | 500   | 600        | 675           |
| 21       | Adobe (MP 0.00) to San Rafael HPU<br>(MP 21.11)     | 100               |             |       | •          |               |
| *50      | •   | 12"               | 450         | 500   | 675        | 675           |
|          | 5th & Walnut Streets, Marysville                    |                   |             | •     | • •        | -             |
|          | (MP 0.00) to Yuba City HPU                          | <b>• 1</b>        |             |       |            |               |
| *50      | (MP 2.87)   | 8.0               | 400         | 400   | 720**      | 720**         |
|          | Yuba City HPU to Biggs Regulator                    | <b>•</b> ••       | <b>.</b>    | • • • |            |               |
| *50      | Station (MP 21.62)                                  | 8.0               | 250         | 250   | 720**      | 720**         |
| *30      | Biggs Regulator Station to Richvale                 | <b>C U C U</b>    |             |       |            |               |
| *50      | "Y" (MP 26.94)<br>Richwolo "Y" to Stipling Typetion | 6" & 8"           | 250         | 250   | 720**      | · 720* *      |
| ~3Q      | Richvale "Y" to Stirling Junction                   | <b>* *</b> * *    |             |       | •          |               |
| FO       | (MP 44.87)  | 6" & 8"           | 400         | 400   | 720**      | <b>72</b> 0** |
| 50<br>56 | MP 0.00 to Paradise (MP 7.81)                       | - 8 <sup>11</sup> | 400         | 720   | 720        | 720           |
| 56       | Pleasant Creek Field Storage System                 | - 4"              | 1300        | 1300  | 1250       | 1440          |
| 00       | Pleasant Creek Field Storage System                 | 8"                | 1300        | 1440  | 1440       | 1440          |
|          |   |                   |             |       |            |               |

\*\*See Paragraph 6

· · .

Appendix A S.P. No. 463-8 Effective 5/1/75 Page 2/15

| Trans.<br>Line | • • • •   | Nominal<br>Pipe<br>Diameter | PG&E<br>MOP |        | Design | Future           |
|----------------|---|-----------------------------|-------------|--------|--------|------------------|
| No.            | Location  | (Inches)                    | psig        | MAOP   | Press. | Design<br>Press. |
| · · · · · ·    | · · · · · · · · · · · · · · · · · · ·                                       | (21101100)                  | 5019        |        | FICSS. | FLESS.           |
|                | McDonald Island Field Storage   |                             |             |        | •      |                  |
| 57             | System  | 4" - 12"                    | 2160        | 2160   | 2160   | 2160             |
| 57             | McDonald island Compressor Station  | •                           |             |        | -200   | 2,100            |
|                | (MP 0.00) to PLS (MP 7.47)  | 14" 16" 18"                 | 1025        | 1025   | 1025   | 1025             |
| . 57           | PLS (MP 7.47) to Brentwood Terminal   |                             |             |        |        |                  |
| • •            | (MP 16.64)  | 1.8"                        | 867         | .867   | 867    | 867              |
| 57B            | Brentwood Terminal to McDonald  |                             |             |        |        |                  |
| ··· ·          | Island  | 22"                         | 2160        | 2160   | 2160   | 2160             |
| ~1,00          | MP.134.5 to Milpitas Terminal   | •                           |             |        | •••    |                  |
|                | (MP 150.13)   | 20 <sup>11</sup> .          | 400         | 400    | 552    | 552              |
| .101           | Milpitas Terminal (MP 0.00) to  |                             |             | •      |        |                  |
|                | Rengstorff Avenue Station (MP 9.80)   | · 36"                       | 400         | 400    | 400    | 400              |
| *101           | Rengstorff Avenue Station Via   |                             |             |        |        |                  |
| ۰`             | Bayshore to San Francisco Border  |                             |             | •      |        |                  |
| * . ··         | Meter Station (MP 33.68)  | 20"                         | 180         | 180    | 275    | 400              |
| *101           | San Francisco Meter Station Via   |                             |             |        | ••     |                  |
| 54             | Bayshore Boulevard to Potrero Gas   | <b>6</b> .5.11              |             |        | ·      |                  |
| *103           | Plant (MP. 44.56)   | 20"                         | 109         | 150    | 275    | 275              |
| v,±05          | Hollister Meter Station (MP 0.00) to<br>California Street Regulator Station |                             |             |        |        |                  |
|                | (MP 23,55)  | 12"                         | 250         | 250    |        |                  |
| 103            | California Street Regulator Station   | 12                          | 350         | 350    | 670**  | 500              |
| ÷              | to Harkins Road Meter and Mixer   |                             |             | •      |        |                  |
| · · *          | Station (MP 26.63)  | 12"                         | 313         | 313    | 670**  | 500              |
| 105            | Irvington Station (MP 6.88) to San  | 74                          | J 13        | 313    | 070**  | 500              |
| • •            | Lorenzo Regulator Station (MP 23.03)  | 20"                         | 250         | 250    | 500    | 500              |
| *105           | San Lorenzo Regulator Station to San  | -•                          | 200         | 250    |        | 500              |
|                | Pablo Station (MP 52.01)  | 20"                         | 150         | 198    | 275    | 275              |
| *105           | Oakland Holder Station (MP 0.00) to   |                             |             |        | 275    | 275              |
|                | Berkeley City Limits (Parallel)   |                             |             |        |        |                  |
|                | (MP 2.03)   | 24"                         | 150         | 198    | 275    | 275              |
| · · 105        | Baine Avenue Crossover (MP 0.00) to   |                             | •           |        |        |                  |
|                | Line 153 (MP 0.18)  | 20"                         | -250        | · 250· | 590    | 500              |
| *105           | West Winton Avenue Crossover  | •                           |             |        |        |                  |
|                | (MP 0.00) to Line 153 (MP 0.185)  | 22" & 24"                   | 250         | 250    | 500    | 500              |
| 105B           | . Crockett Station (MP 0.00) to San   |                             |             |        |        |                  |
| 1050           | Pablo Station (MP 11.85)  | 24"                         | 400         | 400    | 400    | 400              |
| 105s           | Milpitas Terminal (MP 0.00) to  | • • *                       |             |        |        |                  |
| 1.07           | Irvington Station (MP 6.88)   | .20"                        | 465         | 480    | 500    | 720              |
| 107            | Tracy Station (MP 0.00) to Livermore  |                             |             | ****   |        |                  |
| : •:           | Junction (MP 13.11)   | 22 <sup>n</sup> .           | 500 ·       | 500 .  | 500    | 720              |
|                |   |                             |             |        |        |                  |

\*\*See Paragraph 6

۰. •

• -:

: ...

.

Ĺ

Ú,

Exh. A (Grinstead)

Appendix A S.P. No. 463-8 Effective 1/8/76 Page 3/15

| Trans<br>Line<br>No. |  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP         | Design<br>Press. | Future<br>Design<br>Press. |
|----------------------|--|---|---------------------|--------------|------------------|----------------------------|
| 107                  | Livermore Junction to Irvington  |   |                     |              |                  |                            |
| 1075                 | Station (MP 31.22)<br>Irvington Station to Milpitas                        | 22 " ·                                  | 477                 | 480          | 500              | 720                        |
|                      | Terminal (MP 38.06)  | 22"                                     | 477                 | 500          | 500              | 720                        |
| . 108                | Stanpac 2 (MP 0.00) to Vernalis<br>Field Mixing Station (MP 4.59)          | 16"                                     | 500                 | 500          |                  |                            |
| 108                  | Vernalis Field Mixing Station to<br>McMullin Ranch Mixer Station           | 10                                      | 500                 | 500          | 720              | 890                        |
| 108                  | (MP 8.79)<br>McMullin Ranch Mixer Station to                               | 16"                                     | 408                 | 408          | 720**            | 720**                      |
| 108                  | MP 16.7<br>MP 16.7 to Las Vinas Station                                    | 16"                                     | 408                 | 408          | 720**            | 720**                      |
|                      | (MP 43.5)  | 16"                                     | 412                 | 412*         | ** 720**         | 720**                      |
| 108                  | Las Vinas Station to MP 56.25  | 16"                                     | 490                 | 500          | 500              | 720**                      |
| 108                  | MP 56.25 to Sacramento Gas Plant   |   |                     | 000          | 200              | /20                        |
|                      | (MP 75.10)   | 16"                                     | 412                 | 412          | 500              | 720                        |
| *108                 | E. Hazleton & B Streets Regulator<br>Station (MP 27.10) to Stockton        |   |                     |              |                  | 720                        |
| 109                  | Gas Plant (MP 1.71)<br>Milpitas Terminal (MP 0.00) to                      | 12"                                     | 185                 | 185          | 275              | 275                        |
| -                    | Sullivan Avenue Regulator  |   |                     |              |                  |                            |
|                      | Station (MP 43.47)   | 22" & 30"                               | 375                 | 375          | 400              | 400                        |
| *109                 | Sullivan Avenue Regulator to   |   |                     |              |                  |                            |
|                      | Potrero Gas Plant (MP 52.70)   | 26 "                                    | 150                 | 150          | 275              | 275                        |
| 111                  | Helm Junction (MP 0.00) to Fresno  |   |                     |              |                  |                            |
| 111                  | Junction (MP 21.65)  | 12"                                     | 650                 | 650          | 800              | 720                        |
| بالم عالم اللو       | Fresno Junction to Division Gas  |   |                     |              |                  |                            |
| 111                  | Load Center (MP 28.05)   | 8"                                      | 400                 | 400          | 720              | 720                        |
| 111                  | Raisin City Field Collection System<br>San Joaquin Field Collection System | 4"                                      | 800                 | 800          | 800              | 800                        |
| 112                  |  | 3" & 4"                                 | 800                 | 800          | 960              | 960                        |
| 114                  | Vernalis Field Collection System<br>West Rio Vista Field (MP 0.00) to      | 3" - 8"                                 | 594                 | 594          | 800              | 800                        |
| 474                  | Antioch Terminal (MP 9.01)   | 308                                     |                     |              |                  |                            |
| 114                  | Antioch Terminal to Brentwood  | 12" & 16"                               | 510                 | 510          | 800              | 800                        |
| њт. <u>т</u>         | Terminal (MP 16:59)  | 001                                     |                     |              |                  |                            |
| 114                  | Brentwood Terminal to Dalton Avenue  | 22"                                     | 595                 | 595          | 595              | 720                        |
|                      | PLS (MP 28,97)   | 20.0                                    | 505                 | <b>w</b> + - |                  |                            |
| 114                  | Dalton Avenue PLS to Livermore   | 22"                                     | 595                 | - 595        | 595              | 720                        |
|                      | Junction (MP 34.05)  | 22"                                     | 405                 | 405          |                  |                            |
| *116                 | Davis Meter Station (MP 0.00) to   | 42"                                     | 495                 | 495          | 595              | 720                        |
|                      | Swingle Junction (MP 3.86)   | 8"                                      | 500                 | E00 .        | 500              |                            |
| *116                 | Swingle Junction to Sacramento Gas   | 0                                       | 500                 | 500          | 500              | 800                        |
|                      | Plant (MP 12.89)   | 8"                                      | 500                 | 500          | 500              | 200                        |
|                      |  | 0                                       | 500                 | 500          | . 500            | 720                        |
| **See P              | aragraph 6   |   |                     |              |                  |                            |

\*\*See Paragraph 6

2

1

1

1

\*\*\* MAOP reduced from 426 psig to 412 psig to match 412 psig MOP.

(See Over)

.

Exh. A (Grinstead) Appendix A S.P. No. 463-8 Effective 5/1/75 Page 4/15

| Trans.<br>Line<br>No. | Location  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP | Design<br>Press.                        | Future<br>Design<br>Press. |
|-----------------------|---|---|---------------------|------|---|----------------------------|
| *118                  | Division Gas Foad Center (MP 0.00)                                    | 811                                     | 40.0                | 400  | 730                                     |                            |
|                       | to Fresno Junction (MP.6.09)  | 8                                       | 400                 | 400  | 720                                     | 720                        |
| 118<br>`              | Division Gas Load Center (MP 0.00)<br>to Fresno HPU Station (MP 0.66) | . 12"                                   | 690                 | 690  | 720                                     | 720                        |
| *118                  | Fresno Junction to MP 12.57   | . 12"                                   | 400                 | 400  | 720                                     | 720                        |
| *118                  | MP 12.57 to Livingston (MP 73.26)                                     | 8".                                     | 400                 | 400  | 720                                     | 720                        |
| 118                   | Herndon (MP 0.00) to Athlone  | 0.                                      | 100                 | 100  | .,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |                            |
| 1.00                  | (MP 38.39)  | 12"                                     | 400                 | 400  | 720                                     | 720                        |
| 118                   | 'Livingston to Collier Road (MP 74.89)                                | 6"                                      | 400                 | 720  | 720                                     | 720                        |
| 118                   | Collier Road to Bradbury Road   |   |                     |      |   | •                          |
| • •                   | Regulator Station (MP 83,74)  | б"                                      | 400                 | 400  | 400                                     | 400                        |
| 118                   | Bradbury Road Regulator Station to                                    |   |                     |      |   |                            |
| X * .                 | MP 84,69  | 6"                                      | 500                 | 890  | 890                                     | 890                        |
| 119                   | Davis Meter Station (MP 0.00) to                                      |   |                     |      |   |                            |
|                       | Swingle Junction (MP 3.85)  | 12"                                     | 780                 | 792  | 800                                     | 800                        |
| 119                   | Swingle Junction to MP 4.85   | 12"                                     | 500                 | 720  | 800                                     | 720                        |
| 119 ·                 | MP 4.85 to MP 11.14   | 12"                                     | 500                 | 520  | 800                                     | 720 <sup>-</sup>           |
| 119                   | MP·11.14 to MP 11.35  | 10"                                     | · 500               | 520  | 800                                     | 720                        |
| 119                   | MP 11.35 to N. Sacramento HPU   |   | ~ ~ ~               |      |   |                            |
| •                     | (MP 16,46)  | 12"                                     | 500                 | 520  | 800                                     | 720                        |
| 119                   | N. Sacramento HPU (MP 0.00) to  | 201                                     | 600                 | 500  | 500                                     | coo (                      |
|                       | Antelope Meter Station (MP 10.17)                                     | 12"                                     | 500                 | 500  | 500                                     | 600 (                      |
| 119                   | N. Sacramento HPU (MP 0.00) to  | 6".& 16"                                | 500                 | 500  | 500                                     | 600                        |
| 119                   | Antelope Meter Station (MP 8.41)<br>N. Sacramento HPU (MP 0.00) to    | 0 · 6 TO                                | 500                 | 500  | 500                                     | 000                        |
| 119                   | MP 2.80   | 24"                                     | 180                 | 180  | 545                                     | 545                        |
| 119                   | Elm and Traction Avenue Regulator                                     | 22                                      |                     |      |   |                            |
| 773                   | (MP 4.6 to MP 5.5)  | 12"                                     | . 500               | 500  | 50 <b>0</b>                             | 600                        |
| 119                   | Sonoma Avenue Regulator and Del Paso                                  |   |                     |      | •                                       |                            |
| 3 1                   | Boulevard (MP 0.00) to Roseville                                      |   |                     |      |   |                            |
|                       | Regulator Station (MP 5.25)   | 6"                                      | 180                 | 500  | 500                                     | 500                        |
| 120                   | Sutter Creek Field Collection System                                  | 4" & 6"                                 | 492                 | 492  | 720                                     | 720                        |
| 120                   | Sutter Buttes Field Collection System                                 | 4" & 6"                                 | 485                 | 485  | 720                                     | 720                        |
| 121                   | Marysville Buttes Meter Station                                       |   | •                   |      | -                                       | •                          |
| • .                   | (MP 0.00) to Yuba City HPU  |   |                     |      |   |                            |
|                       | (MP 11.54)  | 6."                                     | 485                 | 485  | 720                                     | 720                        |
| 123                   | Antelope Meter Station (MP 0.00) to                                   |   |                     |      |   |                            |
|                       | Lincoln Junction (MP 13.57)   | 12 <sup>11</sup>                        | 500                 | 500  | 670**                                   | 670**                      |
| 124                   | Lincoln Junction (MP 0.00) to 5th &                                   | 0"                                      | 400                 | 400  | <b>70</b>                               | coo                        |
| 104                   | Walnut, Marysville (MP 23.46)   | 8"                                      | 400                 | 400  | 720.                                    | 600                        |
| 124                   | Lincoln Junction (MP 0.00) to Yuba                                    | 16"                                     | 600                 | 600  | 600                                     | 600 ·                      |
|                       | City HPU (MP 26.03)   | TO                                      | 600                 | 600  | 600                                     | 600                        |
|                       |   |   |                     |      |   |                            |

\*\*See Paragraph 6

Exh. A (Grinstead) Appendix A S.P. No. 463-8 Effective 5/1/75 Page 5/15

| Trans.<br>Line<br>No. | Location  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP        | Design<br>Press. | Future<br>Deșign<br>Press. |
|-----------------------|---|---|---------------------|-------------|------------------|----------------------------|
| 124                   | Beale Air Force Base Tap (MP 0.00)                                      |   |                     |             |                  | • I                        |
| <b>T-</b> <i>x</i>    | (T.13.31) to MP 3.76  | 6"                                      | 400                 | 400         | 720              | 600                        |
| 125                   | Thompkins Hill Field Collection   |   |                     | -           |                  |                            |
|                       | System  | 3" 4" 6"                                | 448                 | 448         | 720              | 720                        |
| 126                   | Thompkins Hill Meter Station  |   |                     |             |                  |                            |
|                       | (MP 0.00) to Union Street Regulator                                     |   | 250                 | 4.40        |                  |                            |
| 105                   | (MP 10.57)  | 4"                                      | 350                 | 442         | 720              | 720                        |
| 126                   | Thompkins Hill Meter Station<br>(MP 0.00) to Union Street Regulator     |   |                     |             | -                |                            |
|                       | (MP 10.89)  | 6"                                      | <b>3</b> 50         | 442         | 720              | 720                        |
| 126                   | Elk River Road Regulator (MP 0.00)                                      |   | 200                 | 772         | 720              | ,20                        |
| 120                   | to MP 3.62 (T 12.38, Line 126)  | 10"                                     | 167                 | 167         | 720              | 720                        |
| *126                  | MP 0.00 to Eureka Propane (MP 0.36)                                     | 10"                                     | 167                 | 167         | 720              | 720                        |
| 126                   | Union Street Regulator to Line 137                                      |   |                     |             |                  |                            |
|                       | (MP 12.61)  | 6"                                      | 167                 | 167         | 720              | 720                        |
| 130A                  | HP Rio Vista Sacramento River   |   |                     |             |                  |                            |
|                       | Crossing (MP 0.00 to MP 0.50)   | 10"                                     | 800                 | 800         | 800              | 800                        |
| 130B                  | LP Rio Vista Sacramento River   |   |                     |             |                  |                            |
|                       | Crossing (MP 0.00 to MP 0.50)   | 10"                                     | . 420               | 510         | 800              | 800                        |
| 131                   | E. Rio Vista Field (MP 0.00 to  | 100                                     | 605                 | <b>60</b> 5 | 800              | 000                        |
| 101                   | MP 0.71)  | 12"                                     | 685                 | 685         | 800              | 800                        |
| . 131                 | E. Rio Vista Field (MP 0.00) to<br>Antioch Terminal (MP 9.19)           | 10" & 12"                               | . 800               | 800         | 800              | 800                        |
| 131                   | Antioch Terminal to MP 10.47  | 24"                                     | 438                 | 438         | 600              | 720                        |
| 131                   | MP 10.47 to Brentwood Terminal  |   | 100                 | 100         | 900              | 100                        |
|                       | (MP 16.87)  | 24"                                     | 438                 | 495         | 600              | 720                        |
| 131                   | Brentwood Terminal to Irvington   |   |                     | •           |                  |                            |
| •                     | Station (MP 50.57)  | 24"                                     | 500                 | 525         | 600              | 650                        |
| 131                   | Irvington Station to Milpitas   | • •                                     |                     |             |                  |                            |
|                       | Terminal (MP 57.45)   | 30"                                     | 595                 | 595         | 650              | 650                        |
| 132                   | Milpitas Terminal (MP 0.00) to  |   |                     |             |                  |                            |
|                       | Martin Station (MP 46.59)   | 24" 30" 36"                             | 400                 | 400         | . 400            | 400                        |
| 132                   | Martin Station to Potrero Plant   | 248                                     | 145                 | 145         | 225              | 245                        |
| 100                   | (MP 51.50)  | 24"                                     | 145                 | 145         | 275              | 275                        |
| 132                   | Sierra Vista Avenue (MP 10.32) to<br>Rengstorff Avenue Station (MP 0.00 |   |                     |             |                  |                            |
|                       | to MP 1.47)   | 16" & 24"                               | 400                 | 400         | 400              | 400                        |
| 132                   | Martin Station to Geneva Avenue   |   |                     |             |                  |                            |
|                       | (MP 39.86)  | 20"                                     | 109                 | 150         | 275              | 275                        |
| 133                   | Gill Ranch Field Collection System                                      | 4" 6" 8"                                | 400                 | 500         | 720              | 720                        |
| 134                   | Herndon Junction (MP 0.00) to   | •                                       |                     |             |                  |                            |
|                       | MP 21.57  | 6" & 8"                                 | 400                 | 500         | 720              | 720                        |
| 134                   | MP 21.57 to Arbios Meter Station  |   |                     |             |                  |                            |
|                       | (MP 27.04)  | 6"                                      | 500                 | 500         | 720              | 720                        |
|                       |   |   |                     |             |                  |                            |

Appendix A S.P. No. 463-8 Effective 5/1/75 Page 6/15

t

| Trans.<br>Line   |   | Nominal<br>Pipe<br>Diameter | PG&E<br>MOP      |      | Design | Future<br>Design |
|------------------|---|-----------------------------|------------------|------|--------|------------------|
| NO.              | Location  | (Inches)                    | psig             | MAOP | Press. | Press.           |
| 104              | Arbigg Materia Station to MD 20 50                                    |                             | 500              | 500  |        |                  |
| 134<br>134       | Arbios Meter Station to MP 30,50<br>Arbios Meter Station to Firebaugh | 6" & 8"                     | . 500            | 500  | 720    | 720              |
| 3.0 %            | Regulator Station (MP 34,13)  | 3" & 4"                     | 500              | 500  | 720    | 720              |
| 136              | Ord Bend Meter Station (MP 0.00) to                                   | 5 a 2                       | 500              | 500  |        | 720              |
|                  | MP 3.21   | 6" .                        | 479              | 565  | 720    | 720              |
| 136              | MP 3.21 to Stirling Junction (MP                                      |                             |                  |      |        |                  |
|                  | 12.87)  | 6" ·                        | 550              | 550  | 720    | 720              |
| *137             | Whipple and Albee Streets, Eureka                                     | • • •                       |                  |      |        |                  |
|                  | (MP 0.00) to MP 11.83   | 4"& 6"                      | 167              | 167  | 720    | 720              |
| 137              | Ryan Slough Regulator Station   | • 1                         | •                |      |        |                  |
|                  | (MP 3.58) to Arcata (MP 7.37)   | · 8"                        | 350              | 350  | 720    | 720              |
| 138              | Helm Tap Station (MP 0.00) to Helm                                    | 101                         |                  |      |        |                  |
| <b>1</b> 38      | Junction (MP 14.94)   | 10"                         | 500              | 500  | 650    | 650              |
| 1.28             | Helm Tap Station (MP 0.00) to Helm                                    | 201                         | 700              | 200  |        |                  |
| 138              | Junction (MP 14.71)<br>Helm Junction to Elkhorn Station               | 20" ·                       | 700              | 700  | 800    | 890              |
| T10              | (MP 20.50)  | 18 <sup>4</sup> -           | 7,00             | 865  | 865    | 000              |
| 138              | Elkhorn Station to Burrel Meter                                       | 10                          | 7,00             | 600  | 605    | 890              |
| 700              | Station (MP 22.04)  | ··18"                       | 650 <sup>.</sup> | 650  | 865    | 720              |
| 138 <sup>.</sup> | Burrel Meter Station to Adams & Elm                                   | 10                          | 000              | 050  |        | 720              |
|                  | Meter and Regulator Station (MP 38.5                                  | 9) 16"                      | 650              | 650  | 720**  | 720**            |
| 138              | Adams & Elm Meter Station to Cherry                                   | ,                           |                  |      |        |                  |
| •                | & Jensen Regulator (MP 45.00)   | 12" & 16"                   | 650              | 650  | 720    | 720              |
| 138              | MP 45.00 to San Joaquin Division Gas                                  | •                           |                  | •    |        |                  |
| •                | Load Center (MP 49.42)  | 10" & 12"                   | 650              | 650  | 720    | 720              |
| 138              | T 43.58 to Chestnut & Clay Regulator                                  |                             |                  |      |        |                  |
|                  | Station (MP 50,02)  | 16"                         | 650              | 650  | 720    | 720              |
| 138              | MP 45.10 to Peach Avenue (T 46.64)                                    | 10" .                       | 650              | 720  | 720    | 720              |
| 141E             | Thornton Meter Station to E. Thornton                                 | 44 - 64                     | <b>F00</b>       |      |        |                  |
| 141w             | Field Collection System<br>Thornton Meter Station to W. Thornton      | 4" & 6"                     | 538              | 538  | 800    | 800 -            |
| TATM             | Field Collection System   | 3" - 10"                    | 768              | 760  | 000    | 000              |
| *141             | N.E. River Island & Walnut Grove                                      | 3 - 10"                     | /00              | 768  | 800    | 800              |
| . T-I T          | Field Collection System   | 6" & 8"                     | 768              | 768  | 800    | 800              |
| 142N             | Bakersfield Tap to Bakersfield  | u u u                       | ,00              | 700  | 000    | 000              |
|                  | Meter Station (MP 14.05)  | 12" 16" 20"                 | 475              | 475  | 720    | 720              |
| 142S             | Gosford Road Meter Station (MP 0.00)                                  |                             |                  |      | •      | 180              |
| I                | to Brundage Lane Regulator  |                             |                  |      |        |                  |
|                  | (MP 9.00)   | 6" & 10"                    | 600 <sup>°</sup> | 600  | 720    | 720              |
| *1.42            | MP 9.00 to Bakersfield Meter  |                             | •                |      | 8      |                  |
|                  | Station (MP 11.47)  | 8" & 12"                    | 300              | 300  | 720    | 720              |
| *143             | Millar Field Collection System  | 3" & 4" ·                   | 796              | 800  | 800    | 800              |
| •                | •   | •                           |                  |      |        | •                |

\*\*See Paragraph 6

÷

. :

Appendix A S.P. No. 463-8 Effective 5/1/75 Page 7/15

| Trans.       | <u>.</u>                              | Nominal<br>Pipe                       | PG&E             |       |                   |        |
|--------------|---------------------------------------|---------------------------------------|------------------|-------|-------------------|--------|
| Line         | , · ·                                 | Diameter                              |                  |       | Dogion            | Future |
| No.          | Location                              | (Inches)                              |                  | MAOD  | Design            | Design |
|              | Hocación                              | (Tucues)                              | psig             | MAOP  | Press.            | Press. |
| 144          | Millar Meter Station (MP 0.00) to     |                                       | •                | ,     |                   | •      |
| ~~~ <b>4</b> | Millar Field (MP 3.50)                | 10" & 12"                             | · 796            | 796   | 000               | 000    |
| 145          | Maine Prairie Field Coll. System      | 3" 4" 6"                              | 796              |       | 800               | 800    |
| 145          | Maine Prairie Meter Station           | 540                                   | 190              | . 796 | 800               | 800    |
| 140          | (MP 0.00) to Maine Prairie            | •                                     | •                |       |                   |        |
|              | Field (MP 6.00)                       | 8 <sup>'1</sup>                       | 700              |       |                   |        |
| 147          | · · · · · · · · · · · · · · · · · · · | . 0                                   | 796              | 796   | 800               | 800    |
| 147          | Whipple Road Crossover (MP 0.00) to   |                                       |                  |       |                   | -      |
|              | San Carlos Regulator Station          | · · · · · · · · · · · · · · · · · · · |                  |       |                   |        |
| 1 40         | (MP 3,39)                             | 20" à 24"                             | 400              | 400   | 400               | 400    |
| 148          | McMullin Ranch Mixer Station          |                                       |                  |       |                   |        |
|              | (MP 0.00) to Ceres Regulator          |                                       |                  |       | • •               |        |
|              | Station (MP 18.24)                    | 8"                                    | 408              | 408   | 720               | 720    |
| 149          | Winters Field Collection System       | 4" & 6"                               | <sup>-</sup> 750 | 750   | 800               | 800    |
| 150          | Winters Meter Station to Davis        | • •                                   |                  |       | • •               |        |
|              | Meter Station (MP 18.09)              | 6"                                    | 750              | ·750  | 800               | 800    |
| 151          | Afton Odorizer Station (MP 0.42) to   |                                       |                  |       | •••••             | ·      |
|              | Afton Regulator Station (MP 14.05)    | 6"                                    | 250              | 250   | 720               | 720    |
| 152          | Afton Field (MP 0.00) to Afton        |                                       |                  |       |                   | •••    |
|              | Odorizer Station (MP 0.42)            | 6"                                    | 250              | 250   | 720               | 720    |
| 153          | Irvington Station (MP 0.00) to        |                                       |                  |       |                   |        |
|              | Marina Boulevard Station (MP 18.00)   | 30"                                   | 420              | 420   | 500**             | 500**  |
| *153         | Marina Boulevard Station to 2nd and   |                                       |                  |       |                   |        |
|              | Market Streets (MP 27.89)             | 24" ·                                 | 246              | 246   | 275               | 275    |
| 153          | Tap to 50th Avenue Holder             | · · ·                                 | -                |       |                   |        |
| ·            | Station                               | 16" & 20"                             | 246              | 246   | 275               | 275    |
| 153          | Tap to Oakland Holder Station         | 20" ·                                 | 246              | 246   | 275               | 275    |
| 153          | Alvarado Crossover to Line 105        | 16"                                   | 250              | 250   | 500**             | 500**  |
| *153         | Fairway Avenue Crossover to Line      |                                       |                  |       |                   |        |
|              | 105                                   | `20"'& 30" `                          | 150              | 198   | 542               | 500    |
| 155          | Durham Field Collection System        | 4"                                    | 680              | 680   | 800               | 800    |
| 156          | Durham Field (MP 0.00) to Durham      |                                       |                  | ••••  |                   | •.     |
|              | Field Meter Station (MP 5.72)         | 6"                                    | 680              | 680   | <sup>-,</sup> 800 | 800    |
| 158          | Dunnigan Hills Field (MP 4.90) to     | ••••                                  | •                |       |                   | •      |
|              | Dunnigan Hills Meter & Regulator      |                                       |                  | •     |                   |        |
| -            | (MP 13.65)                            | 6"                                    | 500              | 564   | 800               | 800    |
| *158         | Woodland Field Collection System      | 3" & 4"                               | 500 ·            | 564   | 800               | 800    |
| 159          | Pleasant Creek Compressor Station     | ,                                     | • • •            | •     |                   |        |
|              | (MP 0.00) to V 0.65                   | 4" <sup>*</sup>                       | 975              | 975   | 1000              | 975    |
| 159          | V 0.65 to Pleasant Creek Regulator    |                                       |                  |       |                   | 210    |
|              | Station (MP 3.91)                     | 4"                                    | 975              | 975   | 1000              | 975    |
| 159          | Pleasant Creek Regulator Station to   | •                                     |                  |       |                   | 2,0    |
|              | Winters Meter Station (MP 6.08)       | 4º '                                  | 750              | 750   | `800 <sup>°</sup> | 800 .  |
| 159          | Winters Field Collection System       | -4 <sup>n</sup>                       | · 750            | 750   | 800               | 800    |
|              | · · · · · · · · · · · · · · · · · · · | -                                     |                  |       | 0,0               | 000    |

\*\*See Paragraph 6

۱,

:

Exh. A (Grinstead) Appendix A S.P. No. 463-8 Effective 5/1/75 Page 8/15

| Trans.<br>Line    | . :   | Nominal<br>Pipe<br>Diameter                     | PG&E<br>MOP |       | Design | Future<br>Design | t  |
|-------------------|---|---|-------------|-------|--------|------------------|----|
| No.               | Location  | (Inches)  | psig        | MAOP  | Press. | Press.           |    |
| *162              | Tracy Station (MP 0.00) to Banta<br>Regulator Station (MP 7.73)       | .6 <sup>n</sup> & 8 <sup>n</sup>                | 365         | 365   | 720    | 720              |    |
| 162               | Tracy Station to Byron Road<br>(MP 5.59)                              | . 10"   | . 365       | 720   | 720    | 720              |    |
| 164               | Coalinga Field Collection System                                      | 10" & 8"  | 498         | 498   | 865    | 890              |    |
| 1.67              | E. Beehive Bend Odorizer Station<br>(MP 0.00) to Yuba City HPU        |   |             |       |        |                  | •  |
| 167               | (MP 34.50)<br>Wild Goose Field Meter (MP 0.00) to                     | 12" & 16"                                       | 800         | 800   | 800    | 800              |    |
| 160               | Wild Goose Mixer & Odorizer Station<br>(Parallel)                     | 10"   | 800 -       | 800   | 800    | 800              |    |
| 167               | Wild Goose Mixer to Gridley<br>Junction (MP 6.54)                     | 8"  | 800         | 800   | 800    | 200              |    |
| 167               | Wild Goose Collection System  | 3" & 4" .                                       | 800         | 800   | 800    | 800<br>800       |    |
| 167               | Princeton Field Collection System<br>(MP 4.12 to MP 7.60)             | 3"  | 800         | 800   | 800    | 800              |    |
| 167               | Compton Landing Field Collection                                      | 5   | 000         | 000   | 000    | 800              |    |
| 107               | System  | 4" & 6"   | 800         | 800   | 800    | 800              |    |
| 167               | Bounde Creek Field Collection System                                  | 4 u<br>4 u                                      | 800         | 800   | 800    | 800              |    |
| 168.              | River Island Field Collection System                                  | 4" 6" 8"  | 800         | 800   | 800    | 800              |    |
| 168               | River Island Field Collection System                                  | 1 0 0   | 000         | 000   | 000    | 000              | -  |
|                   | LP  | 3" - 8"   | 698         | 698   | 800    | 800              | ۰_ |
| 169 <sub>.</sub>  | Beehive Bend, Willows, Llano Seco,<br>& Perkins Lake Field Collection |   | ·           |       |        |                  |    |
| 172               | System<br>W. Beehive Bend Meter Station                               | 3" - 20"  | 800         | 800   | 800    | 800              |    |
|                   | (MP 0.00) to Swingle Junction   |   |             |       |        |                  |    |
|                   | (MP 69.81)  | 18" & 20"                                       | 800         | 800   | 800    | 800              |    |
| 172               | Swingle Junction to Sacramento Gas                                    |   |             |       | _      |                  |    |
|                   | Plant (MP 79,15)  | 16"   | 500         | 520   | 720    | 720              |    |
| 172               | Crosstie Between Line 172 (MP 0.00)                                   |   | 000         | 000   |        |                  |    |
| 170               | & Line 167 (MP 0.60)  | 10"   | 800         | . 800 | 800    | 800              |    |
| 172               | Crosstie Between Line 172 (MP 75.45)<br>& Line 119 (MP 9.68)          | 12"   | 500         | 520   | 720    | 720              |    |
| *173 <sub>.</sub> | Line 123 (MP 0.00) (V 6.51) to  | 4 <sup>11</sup> 6 <sup>11</sup> 8 <sup>11</sup> | 500         | 500   |        | -                |    |
| 4778              | Auburn Regulator Station (MP 17.56)                                   | 2" - 10"  | 500         | 500   | 720    | 720              |    |
| *174<br>176       | Arbuckle Field Collection System<br>Roberts Island Field Collection   | 2" = 10"  | 800         | 800   | 800    | 800              |    |
|                   | System  | 2" <b>-</b> 8"                                  | 555         | 555   | 800    | 800              |    |
| 176               | Roberts Island Field (MP 0.00) to<br>Tracy Station (MP 18.85)         | 6" & 8"   | 555         | 555   | 800    | 800              |    |
| 177               | Sacramento Avenue Junction (MP 0.00)                                  |   | 555         | 555   | 800    | 800              |    |
| -                 | to Grapeway Regulator Station<br>(MP 0.87)                            | 10"   | 819         | 819   | 960    | 960              |    |
|                   |   |   |             |       |        |                  |    |

.

. .

Exh A (Grinstead) Appendix A S.P. No. 463-8 Effective 5/1/75 Page 9/15

.

| Trans.<br>Line<br>No. | Location  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP | Design<br>Press. | Future<br>Design<br>Press. |
|-----------------------|---|---|---------------------|------|------------------|----------------------------|
| 177                   | Grapeway Regulator to Stirling<br>Junction Meter Station (MP 7.68)  | <br>6" & 10"                            | 469                 | 469  | 600              | 600                        |
| 177                   | Fell Regulator & Odorizer (MP 0.00)<br>to Sacramento Avenue Junction                                      |   |                     | •    | •                |                            |
|                       | (MP 4.75)   | 16"                                     | 819                 | 819  | 960              | 960                        |
| 177                   | Sacramento Avenue Junction to<br>Corning N. Dome Station (MP 29.09)                                       | 10"                                     | 819                 | 819  | 960              | 960                        |
| 177                   | Tap 27.60 (MP 0.00) to Tap 29.87<br>(MP 2.19) Parallel Section Near                                       |   |                     |      | 060              |                            |
| 177                   | Corning N. Dome<br>Corning N. Dome Station to Gerber  | 6" & 8"                                 | 819                 | 819  | 960              | 960                        |
| 177                   | Compressor Station (MP 37.84)<br>Gerber Compressor Station to   | 12"                                     | 819                 | 819  | 960              | 960                        |
| 177                   | Cummings Creek PLS (MP 163.04)<br>Cummings Creek PLS to Thompkins Hill                                    | 12"                                     | 819                 | 819  | 960              | 960                        |
| 177.                  | Meter & Regulator Sta (MP 178.18)<br>Thompkins Hill Meter & Regulator<br>Station to Ryan Slough Regulator | 12"                                     | 430                 | 430  | 720              | 720                        |
| 177                   | Station (MP 192.26)<br>Crosstie Between Lines 177 (T 37.8)  | 12"                                     | 350                 | 442  | 600              | 600                        |
| 177                   | and Line 400 (V 149.18)<br>Tap (V 43.87) to Red Bluff and   | 12"                                     | 819                 | 819  | 960              | 960                        |
| 477                   | Diamond National (MP 1.24)  | 6"                                      | 819                 | 819  | 960              | 960                        |
| 177                   | Rancho Capay Field Coll. System   | 4"                                      | 819                 | 819  | 960              | 960                        |
| 180                   | Kettleman Hills Field Coll. System  | 8" - 20"                                | 421                 | 421  | 500              | 500                        |
| 181                   | Soap Lake Meter Station (MP 0.00)<br>to V 1.56  | 10"                                     | 300                 | 300  | 400              | 400                        |
| 18 <b>1</b>           | V 6.19 to Watsonville Meter Station<br>(MP 20.15)   | 10" & 12"                               | 300                 | 303  | 400              | 400                        |
| 181                   | Anzar Road Meter and Regulator<br>(MP 0.00) to Watsonville Meter  |   |                     | -    |                  |                            |
|                       | Station (MP 11.19)  | 10" 16" 12"                             | 300                 | 303  | 400              | 400                        |
| *182                  | Serpa "Y" (MP 0.00) to Shell<br>Chemical Meter Station (MP 18.23)   | 4" <b>-</b> 12"                         | 435                 | 435  | 800              | 800                        |
| *182                  | Shell Chemical Meter Sta. to Suisun<br>Junction Meter Station (MP 18.87)                                  | 12"                                     | 435                 | 435  | 600              | 000                        |
| 182                   | Kirby Hills Field Collection System   | 3" - 8"                                 | 435                 | 435  | 800              | 800<br>800                 |
| 182                   | Suisun Field Collection System  | 2" - 6"                                 | 435                 | 435  | 800              | 800                        |
| 182                   | Firebaugh Regulator Sta. (MP 0.00)  | 2 - 0                                   | 435                 | 455  | 800              | 800                        |
| 102                   | to Moffat Field Meter Sta. (MP 6.35)  | 3"                                      | 320                 | 320  | 800              | 800                        |
| 185                   | Hollister Field Collection System   | 4"                                      | 396 °               | 396  | 600              | 500                        |
| 186                   | Dos Palos Meter Station (MP 0.00)   | -*                                      | 590                 | 550  |                  | 500                        |
| #                     | to Red Top Regulator (MP 26.1)  | 3" 4" 6"                                | 625                 | 625  | 720              | 720                        |
|                       |   |   |                     |      |                  |                            |

·

.

١. .

.

. .

.

.

Appendix A S.P. No. 463-8 Effective 5/1/75 Page 10/15

ł

l

| 25                      |  | Nominal               |             |              |                     |             |
|-------------------------|--|-----------------------|-------------|--------------|---------------------|-------------|
| Trans:                  |  | Pipe                  | PG&E        |              |                     | Future      |
| Line                    | and the second | Diameter              | MOP         |              | Design              |             |
| No.                     | Location   | (Inches)              |             | M3.0D        | -                   | Design      |
| NO.                     | hocación   | (THOHES)              | <u>psig</u> | MAOP         | Press.              | Press.      |
| 187                     | San Ardo Field Meter Station   |                       |             |              |                     |             |
| 101                     | (MP 0.00) to Jolon Road Regulator  |                       |             |              |                     |             |
|                         | Station (MP 22.58)   | 6 <sup>11</sup>       | ,<br>212    | 212          | 070                 | 0.5.0       |
| 187                     | Jolon Road Regulator Station to  | 0                     | 313         | 313          | 870                 | 870         |
| TOY                     | Harkins Road Meter & Mixer Station   |                       |             |              |                     |             |
| ۰:                      | (MP 65.70)   | 8"                    | 212         | 272          | <b>7</b> 00         | -           |
| 189                     | · · · · · · · · · · · · · · · · · · ·  | . 8"                  | 313<br>'    | 313          | 720                 | 720         |
| TO 2                    | Elk River Road Regulator Station   |                       |             |              |                     |             |
|                         | (MP 0.00) to Humboldt Bay P.P.   | 10"                   | 250 -       | 440          |                     |             |
| 7.00                    | (MP 1.72)  | 10                    | 350         | 442          | 720                 | 720         |
| 190                     | Kettleman Compressor Station   |                       |             |              |                     |             |
|                         | (MP 0.00) to Coalinga Nose Storage   | 1011 . 161            |             |              |                     |             |
| 100                     | Field (MP 16.08)   | 12" & 16"             | <u>2160</u> | 2160         | 2160                | 2160        |
| 190                     | Coalinga Nose Storage Field to   | 3.6.11                | 0.1.50      |              |                     |             |
| 10'i                    | Union Oil Company (MP 16.22)   | 16"                   | 2160        | 2160         | · 2160 <sup>.</sup> | 2160        |
| 191                     | Antioch Terminal (MP 0.00) to Los  | 0.011 0.44            |             |              |                     |             |
| 101                     | Medanos Junction (MP 5,81)   | 30" & 34"             | 315         | 600          | 600 <sup>°</sup> ·  | 600         |
| 191                     | MP 3.87 to MP 9.93 Via Pittsburg   | -                     | •           |              | •                   |             |
|                         | Power Plant  | 20" & 24"             | 315         | 390          | 600                 | 600         |
| 191                     | MP 9.93 to Reliez Station Road   | 168 000 040           |             |              |                     |             |
| 4101                    | Regulator Station  | 16" 20" 24"           | 315         | 338          | 600 .               | 600         |
| *191                    | Reliez Station Road Regulator  | 01101101              |             |              |                     |             |
| *191                    | Station to MP 29.36  | 8" 10" 12"            | 268         | 283 ·        | 400                 | 400         |
| ×191                    | Junction Line 191 (MP 29.36) to<br>MP 32.76  |                       |             |              |                     | •           |
| 4101                    |  | 10"                   | 268         | 270          | 400                 | 40 <u>0</u> |
| *191                    | MP 32.76 to Martinez Meter and   | 101                   | 0.00        | <b>A</b> 6 6 | · • • •             |             |
|                         | Regulator Station (MP 35.83)   | 10"                   | 268         | 268          | 400                 | 400         |
| *191A                   | Junction Line 191 to Ardilla and<br>Cámino Pablo & Orinda Regulator  |                       |             |              |                     |             |
|                         |  | 3" 6" 8"              |             | 0.00         |                     |             |
| <b>#101</b> D           | Station  | 3" 6" 8"              | 268         | 283          | 400                 | 400         |
| *191B                   | Junction Line 191 to Reliez Valley   | 0.11                  | 0.00        |              |                     |             |
| 102                     | Road Regulator Station   | 8"<br>011 011         | 268         | 283          | 400                 | 400         |
| 193<br>193 <sup>.</sup> | Rice Creek Field Collection System<br>Malton Field Collection System   | 2" - 8"<br>4" 6" 8"   | 819         | 960          | 960                 | 960         |
| 193                     | Kirkwood & Rice Creek Field North  | 4" 6" 8"              | 819         | 960          | 960                 | 960         |
| 193                     | Collection System  | с и                   | 010         | 010 ·        |                     |             |
| 194                     | McMullin Ranch Mixer (MP 0.00) to  | · 6"                  | 819         | 819          | 960                 | 960         |
| 174                     | MP 2.83  | 8" & <sup>.</sup> 10" | 4.2.4       | 20-          |                     |             |
| 194                     | McMullin Field Dehydrator Station  | 8. 8 10.              | 437         | 437          | 800                 | 800         |
| T 24                    | (MP 0.00) to California Ammonia  |                       |             |              |                     |             |
| •                       | Company (MP 4.39)  | <b>C</b> 11           | 405         | ***          | 0.6.0               | 64-         |
| 194                     | McMullin Ranch Field Collection  | 6"                    | 437         | 437          | 960                 | 960         |
| ⊥2•±<br>、               | System   | 2" & 10"              | 40-77       | 400          | 0.00                | ~~~         |
| 195                     | Rio Vista Field Collection System  | Z. % TO.              | 437         | 437          | 800                 | 800         |
| <i>L.J.J</i>            | (HP)   | 2" - 16"              | 000         | 000          | 000                 |             |
|                         | (*** )   | 7. <b>-</b> 10.       | 800         | 800          | 800 .               | 800         |

÷. •

Exh.A(Grinstead) Appendix A S.F. No. 463-8 Effective 5/1/75 Page 11/15

|        |                                      | Nominal              |            |         |             |         |
|--------|--------------------------------------|----------------------|------------|---------|-------------|---------|
| Trans. |                                      | Pipe                 | PG&E       |         |             | Future  |
| Line   |                                      | Diameter             | MOP        |         | Design      | Design  |
| NO.    | Location                             | (Inches)             | psig       | MAOP    | Press.      | Press.  |
| *195   | Rio Vista Field Collection System    |                      |            |         |             |         |
|        | (IP)                                 | 2" - 16"             | 510        | 510     | 800         | 800     |
| 196    | Las Vinas Station (MP 0.00) to       |                      |            |         |             | ~~~     |
|        | Isleton Meter Station (MP 13.45)     | 8" & 12"             | 800        | 800     | 800         | 800     |
| 197A   | Las Vinas Station to MP 21.41        | 10"                  | 385        | 388     | 720         | 720     |
| 197A   | MP 21,41 to MP 31,23                 | <b>10" &amp;</b> 12" | 320        | 500     | 720         | 720     |
| 197A   | MP 31.23 to MP 39.57                 | 12"                  | 320        | 320     | 720         | 720     |
| 197A   | MP 39.57 to Calaveras Cement         | 8 <b>"</b>           | 320        | · 320   | 720         | 720     |
| 197B   | Las Vinas Station to MP 5,50         | 6"                   | 385        | 388     | <b>7</b> 20 | 720     |
| 197B   | V 19.57 to V 31.24                   | 8 <sup>11</sup>      | 320        | 320     | 720         | 720     |
| 197C   | Ione Tap to MP 23.02                 | 10"                  | 385        | 720     | 720         | 720     |
| 199    | Bunker Field Collection System       | 3" - 8"              | 796        | 796     | 800         | 800     |
| 200    | W. Rio Vista Field Collection        |                      |            |         |             |         |
|        | System (HP)                          | 2" - 16"             | 800        | 800     | 800         | 800     |
| *200   | W. Rio Vista Field Collection        |                      |            |         |             |         |
|        | System (LP)                          | 2" <b>-</b> 16"      | 510        | 510     | 800         | 800     |
| 200    | Liberty Islands Field Collection     |                      | •          |         |             |         |
|        | System                               | <b>4</b> "           | 800        | 800     | 800         | 800     |
| 200    | Lindsay Slough Field Collection      |                      |            |         |             |         |
|        | System                               | 3" - 10"             | 800        | 868     | 960         | 960     |
| 201    | Todhunters Lake Field Collection     |                      |            |         |             |         |
|        | System                               | 2" - 12"             | 800        | 960     | 960         | 960     |
| 202    | Grass Valley Tap to Regulator        |                      |            |         |             |         |
| -      | Station near Robin Avenue, Grass     |                      |            |         |             |         |
|        | Valley (MP 23.72)                    | 6" & 8"              | 400        | 720     | 720         | 600     |
| 203    | Greens Lake Field Collection System  | 4".                  | 500        | 800     | 800         | 800     |
| 204    | Bender Gas Well Collection System    | 3" & 4"              | 500        | 890     | 890         | 890     |
| 206    | Pleasant Creek Tap to Pleasant       |                      |            |         |             |         |
|        | Creek Compressor Station             | 12".                 | 975        | 1440    | 1440        | 1440    |
|        | Conway Ranch Field Collection System | 4" 6" 8"             | 800        | 1000    | 1000        | 1000    |
| 209    | Line 400 to Line 128 at Willows      | 4"                   | 450        | 450     | 720         | 720     |
| 210    | Rio Vista "Y" (MP 0.00) to Creed     | 1.611                | 650        |         |             | · · ·   |
| ~ * *  | Station (MP 1.40)                    | 16"                  | 650        | 650     | 800         | 800     |
| 210    | Creed Station to Napa "Y" (MP 25,98) | 16" & 18"            | 650        | 650     | 740         | 740     |
| 210    | Creed Station to Cordelia Regulator  | 204                  | <b>650</b> | 686     | 6 B F       | <i></i> |
|        | Station (MP 19.47)                   | 32"                  | 650        | 675     | 675         | 675     |
| 210    | Cordelia Regulator to Napa "Y"       | 700 - 100            | 650        | 650     |             | ~~~     |
| 010    | (MP 25,62)                           | 10" & 12"            | 650        | 650     | 800         | 800     |
| 210    | Rio Vista "Y" to Creed Station       | 100                  |            |         | ~~~         |         |
| 010    | (MP 1.36)                            | 10"                  | 650        | 650     | 800         | 800     |
| 210    | Cordelia Regulator to Herrmann       | 0.44                 | <b>650</b> | <i></i> |             |         |
| 030    | Station                              | 24"                  | 650        | 675     | 675         | 675     |
| 210    | V 27.67 (MP 0.00) to Humble Oil      | 100                  | 650        | -       | 700         | Car     |
| ,      | Meter Station                        | 18"                  | 650        | 720     | 720         | 675     |
|        |                                      |                      |            |         |             |         |

:

۱...

(\_\_\_\_

.

.

•

.

I .

·

Appendix A S.P. No. 463-8 Effective 5/1/75 Page 12/15

١.

Ļ

|        |                                       | Nominal    |         |             |        |        |
|--------|---------------------------------------|------------|---------|-------------|--------|--------|
| Trans. |                                       | Pipe       | PG&E    |             |        | Future |
| Line   | · .                                   | Diameter   | MOP     |             | Design | Design |
| NO.    | Location                              | (Inches)   | psig    | MAOP        | Press. | Press. |
|        | · · · · · · · · · · · · · · · · · · · |            | <u></u> |             |        |        |
| 215    | MP 0.00 to MP 20.05                   | 12"        | 500     | 890         | 890    | 890    |
| 220    | Rio Vista "Y" (MP 0,00) to Davis      |            |         |             |        | -      |
|        | Meter & Regulator Station             |            |         |             |        |        |
|        | (MP 22.01)                            | 8" 10" 12" | 796     | 796         | 800    | 800    |
| 220    | Davis Meter & Regulator to Dunnigan   |            |         |             |        |        |
|        | Meter & Regulator Station             |            |         |             |        |        |
|        | (MP 34.11)                            | 6" & 8"    | 500     | 500         | 500    | 800    |
| 300A   | Colorado River (MP 0.00) to Topock    |            | •       |             |        |        |
| :      | Compressor Station (MP 0.64)          | 30" & 34"  | 660     | 700         | 700    | 700    |
| 300A   | Tópock Compressor Station to PLS 1A   |            |         |             |        |        |
| :      | (MP 40.87)                            | 34"        | 867     | 867         | 890    | 890    |
| 300A   | PLS 1A to PLS 2A (MP 103.72)          | 34"        | 815     | 815         | 815    | 815    |
| 300A   | PLS 2A to PLS 2AX (MP 130.37)         | 34"        | 688     | 688         | 688    | 688    |
| 300A   | PLS 2AX to Hinkley Compressor         | •          |         |             |        | • •    |
| ·* ·   | Station (MP 159.33)                   | 26" & 34"  | 573     | 573         | 573    | 573    |
| 300A   | Hinkley Compressor Station to PLS     |            |         | •           |        |        |
| • • •  | 3A (MP 203.02)                        | 34"        | 861     | 8 <b>61</b> | 890    | 890    |
| 300A   | PLS 3A to PLS 4A (MP 256.21)          | 34"        | 803     | 817         | . 817  | 817    |
| 300A   | PLS 4A to PLS 5A (MP 299.01)          | 34"        | 736     | 757         | 757    | 757    |
| 300A   | PLS 5A to Kettleman Compressor        | •          |         |             | •      |        |
| ••     | Station (MP 353.85)                   | 34"        | 669     | 688         | · 688  | 688    |
| 300A   | Kettleman Compressor Station to       |            |         |             |        |        |
| •      | PLS 6A (MP 436.74)                    | · 34" ·    | 840     | 840         | 890    | 890    |
| 300A   | PLS 6A to Pacheco Pass PLS            |            |         |             |        |        |
| •      | (MP 461.07)                           | · 34"      | 715     | . 715       | 715    | 715    |
| 300A   | Pacheco Pass PLS to PLS 7A Silver     | • •        |         |             |        |        |
|        | Creek (MP 490.65)                     | 34" ·      | 631     | 631         | 715    | 715    |
| 300A   | PLS'7A to Milpitas Terminal Station   |            |         |             |        |        |
| •      | (MP 502.34)                           | 34"        | 558     | 558         | 676    | 676    |
| 300B   | Colorado River (MP 0.00) to Topock    | •          |         |             |        |        |
|        | Compressor Station (MP 0.45)          | 34"        | 660     | 660         | 735    | 735    |
| 300B   | Topock Compressor Station to PLS 1B   |            | . •     |             |        |        |
|        | (MP 40.49)                            | 34"        | 867     | 867         | 894    | 894    |
| 300B   | PLS 1B to PLS 2B (MP 103.51)          | 34"        | 815     | 821         | 821    | 821    |
| 300B   | PLS 2B to PLS 2BX (MP 130.40)         | 34"        | 688     | 688         | 688    | 688    |
| 300B   | PLS 2BX to Hinkley Compressor         |            |         |             |        |        |
| -      | Station (MP 161.02)                   | 34"        | 573     | 573         | 573    | 573    |
| 300B   | Hinkley Compressor Station to PLS     |            |         |             |        |        |
|        | 3B (MP 203.07)                        | 34"        | 861     | 861 .       | 897    | 897    |
| 300B   | PLS 3B to PLS 4B (MP 256.64)          | 34"        | 803     | 816         | 816    | 816    |
| 300B   | PLS 4B to PLS 5B (MP 299.00)          | 34"        | 736     | 757         | 757    | 757    |
| 300B   | PLS 5B to Kettleman Compressor        |            |         | •           | _      |        |
|        | Station (MP 354.02)                   | 34"        | 669     | 688         | 688    | 688    |

.

Appendix A S.P. No. 463-8 Effective 5/1/75 Page 13/15

-

| Trans.<br>Line<br>No. | Location  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP | Design<br>Press. | Future<br>Design<br>Press. |
|-----------------------|---|---|---------------------|------|------------------|----------------------------|
| 300B                  | Kettleman Compressor Station to PLS<br>6B (MP 436.85)   | 34"                                     | 840                 | 840  | 890              | 890                        |
| 300B                  | PLS 6B to Pacheco Pass PLS (MP<br>461.08)   | 34"                                     | 715                 | 715  | 715              | 715                        |
| 300B                  | Pacheco Pass PLS to PLS 7B Silver<br>Creek (MP 490.92)  | 34"                                     | 631                 | 631  | 715              | 715                        |
| 300B                  | PLS 7B to Milpitas Terminal Station<br>(MP 502.64)  | 3'4"                                    | 600                 | 669  | 669              | 669                        |
| 301G                  | Hollister Meter Station (MP 0.00)<br>to Moss Landing Power Plant                                |   |                     |      | ,                |                            |
| 301A                  | (MP 24.68)<br>Hollister Meter Station (MP 0.00)   | 24" & 30"                               | 500                 | 500  | 500              | 500                        |
|                       | to Moss Landing Power Plant<br>(MP 24,84)   | 20" .                                   | 3,96                | 396  | 500              | 500                        |
| 301B                  | Dolan Road Meter Station (MP 0.00)<br>to Hilltown Regulator Station                             |   | 400                 | 40'0 |                  |                            |
| *301C                 | (MP 14.02)<br>Hilltown Regulator Station to<br>Harkins Road Meter and Mixer                     | 12"                                     | 408                 | 408  | <u>600</u>       | 500                        |
| *301F                 | Station (MP 17.20)<br>Espinosa Road (MP 0.00) to Marina   | 8" & 12"                                | 313                 | 313  | 500              | 500                        |
| *301E                 | Regulator Station (MP 7.94)<br>Crosstie - Monterey #2 (MP 0.00) to                              | 16"                                     | 408                 | 412  | 4 <b>0</b> 0     | 412                        |
| 301D                  | Main 301 (MP 1.02)<br>Anzar Tap Station to Anzar Road   | 12"                                     | 408                 | 408  | 500              | 500                        |
| 301H                  | Meter & Regulator Station (MP 1,72)<br>Anzar Tap Station to Anzar Road                          | 10"                                     | 500 '               | 500  | .500             | 500                        |
| 302                   | Meter & Regulator Station<br>Sutter Buttes, W. Butte, Butte<br>Slough, Grimes, Sycamore, Kirk & | 16"                                     | . 500               | 500  | 500 <sub>.</sub> | 500                        |
| 302                   | Buckeye Field Collection System<br>Buckeye Creek PLS (MP 0.00) to                               | 2" 20"                                  | 1000                | 1000 | 1000             | 1000                       |
| 303                   | Hershey Junction (MP 5.76)<br>Antioch Terminal to Brentwood                                     | 20"                                     | 975                 | 975  | 1000             | 975                        |
| 303                   | Terminal (MP 7.86)<br>Brentwood Terminal to Irvington   | 36"                                     | 720                 | 720  | 720              | 720                        |
| 304                   | Station (MP 42.83)<br>Tracy Station (MP 0.00) to Lathrop  | 36"                                     | 590                 | 590  | 600              | 600                        |
|                       | Dehydrator & Odorizer Station<br>(MP 11.29)   | 12"                                     | 825                 | 825  | .*<br>825        | 825                        |
| 304<br>306            | Lathrop Field Collection System<br>Kettleman Compressor Station                                 | 3" - 12"                                | 825                 | 825  | 825              | 825                        |
|                       | (MP 0.00) to Dry Creek PLS<br>(MP 43.3)   | 20"                                     | 840                 | 840  | 840              | 840                        |

.

!

.

-

·. .

. .

•

.

(See Over)

.

Exh. A (Grinstead) Appendix A S.P. No. 463-8 Effective 5/1/75 Page 14/15

| Trans,<br>Line<br>No, | Location   | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP        | Design -<br>Press, | Future<br>Design<br>Press. | ( |
|-----------------------|--|---|---------------------|-------------|--------------------|----------------------------|---|
| 306                   | Dry Creek PLS to Morro Bay Power<br>Plant (MP 70.02)   | 20"                                     | 650                 | 650         | 840                | 840                        |   |
| 307                   | Spreckels Sugar Meter Station<br>(MP 0.00) to Spreckels Sugar  |   |                     |             |                    | •                          |   |
| 307                   | Regulator (MP 16,36)<br>Derrick Road Tap (MP 0.00) to  | 8"                                      | 500                 | 500         | 915                | 890                        |   |
| 311                   | Arbios Regulator Station (MP 4.95)<br>Main 300 (MP 0.00) (V 180.64A) to<br>Westend Primary Regulator Station | .8"                                     | 500                 | 890         | 915                | 890                        |   |
| 311                   | (MP 54,44)<br>Parallel Section (MP 31,97) to   | 10" & 12"<br>· · ·                      | 700                 | 700         | 960                | 890                        |   |
| 312                   | MP 38.49<br>Line 300A (MP 0.00) (T 273.27) to<br>Paloma Field Meter Station                                  | 12"                                     | 700                 | 810         | 960                | 890                        |   |
| 313                   | (MP 8.00)<br>Lucerne Valley Tap Meter Station to   | 8"                                      | 736                 | 740         | 820                | 820                        |   |
| 314                   | Permanente Company Meter (MP 34.4)<br>Hinkley Compressor Station (MP 0.00)                                   | 8" & 10"                                | 5 <b>7</b> 3        | 573         | 720                | 720                        |   |
|                       | to MP 24,19  | 12"                                     | 861                 | 861         | 890                | 890                        |   |
| 314                   | MP 24,19 to MP 29,00   | 10"                                     | 260                 | 260         | 7201               | 720                        |   |
| 314                   | MP 29,00 to Black Mountain Meter &<br>Regulator Station (MP 43.18)   | 8" & 10"                                | 260                 | 260         | 720                | 720                        | ( |
| 314                   | Tap to Riverside Cement  | · 81                                    | 260                 | 260         | 720                | 720                        | ~ |
| 314<br>*316           | Tap to Airbase Road Meter Station<br>Dutch Slough & River Break Field  | 8"                                      | 260                 | 260         | 720                | 720                        |   |
| 317                   | Collection System<br>Chickahominy Field Collection   | 2" - 12"                                | 800                 | 80 <b>0</b> | 800                | 80Ó                        |   |
| 317                   | System   | 3"                                      | 975                 | 975         | 975                | 975                        |   |
| 318                   | Black Butte Field Collection System  | 3"                                      | 911                 | 911         | 960                | 960                        |   |
| 372                   | Ridgecrest Tap to Ridgecrest Primary   | <b>6</b> "                              |                     | •           |                    |                            |   |
| 400 .                 | Regulator<br>California-Oregon Border (MP 0.00)<br>to Tionesta Compressor Station                            |   | 700                 | 700         | 960                | 960                        |   |
| 400                   | (MP 24.60)<br>Tionesta Compressor Station to   | 36"                                     | 911                 | 911         | 911                | 911                        |   |
| 400                   | Indian Springs PLS (MP 48.64)<br>Indian Springs PLS to Burney  | 36"                                     | 911                 | 911         | 911                | 911                        |   |
| 400                   | Compressor Station (MP 82,33)<br>Burney Compressor Station to  | 36"                                     | 911                 | 911         | 911                | 911                        | · |
| 400                   | MP 104.20<br>MP 104.20 to Shingletown PLS  | <b>36"</b>                              | 911                 | 911         | 911                | 911                        |   |
| 400                   | (MP 115.26)<br>Shingletown PLS to Gerber Compressor  | 36"                                     | 911                 | 915         | 942                | 942                        |   |
| 400                   | Station (MP 149.18)  | 36"                                     | 911                 | 911         | 911                | 911                        |   |

Exh. A (Grinstead) Appendix A S.P. No. 463-8 Effective 5/1/75 Page 15/15

| Trans.<br>Line<br>No. | Location   | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP  | Design<br>Press. | Future<br>Design<br>Press. |
|-----------------------|--|---|---------------------|-------|------------------|----------------------------|
| 400                   | Gerber Compressor Station to<br>Delevan Compressor Station |   |                     |       |                  |                            |
|                       | (MP 197.83)  | 26" & 36"                               | 911                 | 911   | 911              | 911                        |
| 400                   | Delevan Compressor Station to                              |   |                     |       |                  |                            |
|                       | Buckeye Creek PLS (MP 233.87)                              | 36"                                     | 1040                | 1.040 | 1040             | 1040                       |
| 400                   | Buckeye Creek PLS to Antioch                               |   |                     |       |                  |                            |
|                       | Terminal (MP 298,87)                                       | 26" & 36"                               | 975                 | 975   | 975              | 975                        |
| 402                   | Redding-Calaveras Tap (MP 0.00) to                         |   |                     |       |                  |                            |
|                       | PLS (MP 9.96)  | 12"                                     | 300                 | 300   | 865              | 865                        |
| 402                   | MP 9,96 to Calaveras Cement Tap                            |   |                     |       |                  |                            |
|                       | (MP 38,10)   | 8" 10" 12"                              | 300                 | 300   | 720              | 720                        |
| 403                   | Rio Vista "Y" (MP 0.00) to Creed                           |   |                     |       |                  | .=0                        |
|                       | Station (MP 1.38)  | 16"                                     | 650                 | 650   | 855              | 800                        |
|                       | •  |   |                     |       |                  |                            |

\*Indicates that line or sections of line are under 20% SMYS, but are listed for the purpose of continuity.

l

Exh. A (Grinstead) Appendix B S.P. No. 463-8 Effective 5/1/75 Page 1/3

# DISTRIBUTION MAINS OPERATING AT OR OVER 20% SMYS

:

1

|  | Nominal          |       | •     | · ·               |                  |
|--|------------------|-------|-------|-------------------|------------------|
|  | Pipe             | PG&E  |       |                   | Future           |
|  | Diameter         | MOP   |       | De <b>si</b> gn · | Design           |
| Location                                     | (Inches)         |       | MAOD  | -                 | -                |
| LOCACION                                     | (Inches)         | psig  | MAOP  | Press.            | Press.           |
| COAST VALLEYS DIVISION                       | • • •            |       |       |                   |                  |
| Monterey #1 - Harkins Road Meter & Mixer     |                  |       |       |                   |                  |
| Station to Fig-Frank Streets Regulator       |                  |       | •     | :                 |                  |
| Station                                      | 8" & 12"         | 313   | 313   | 500               | 400              |
| Monterey #2 - Fort Ord to Fig-Frank Streets  |                  |       |       |                   |                  |
| Regulator Station                            | 10" 12" 16"      | 313   | 313   | 400               | 400              |
| Monterey (V-18.65 to Carmel V-2.13) Aquajito | • •              |       |       |                   | •                |
| Road Regulator Station                       | 8" & 10"         | 313   | 313   | 500               | · 400            |
| Harkins Road Meter and Mixer Station to      |                  |       | -     |                   |                  |
| MP 2.45                                      | 8" & 10"         | 313   | 313   | 500               | 500              |
| MP 2.45 to MP 3.50                           | 8"               | 313   | 313   | 500               | 500              |
| MP 3.50 to California Street Regulator       | Ŭ                | 010   | 010   | <b>.</b>          | 5,00             |
| Station                                      | 8"               | 313   | 313   | 500               | 500              |
| Salinas Main - Foster Road to San Miguel     | Ŭ                | 0.4.0 | 515   |                   | 500              |
| Avenue                                       | 8"               | 313   | 313   | 500               | 500              |
| DFM-6 Espinosa Road Main from 301-B, V-3.18  | 6"               | 408   | 500   | 720               | 500              |
| DFM-7 Union Carbide Main from 187, MP 17.42  | 311              | 313   | 313   | 720               |                  |
| DFM-8 Paradise Road to Meridian Road Main    | 4" & 6"          | 500   | 500   | 720               | <sup>1</sup> 870 |
| DIM-0 I GRAALDE KOUG CO MELLUIAN KOUG MAIN   | . 4 a U          |       | 500   | 720               | 500              |
| COLGATE DIVISION                             |                  |       | •     | - ,               |                  |
| Yuba City HPU Holder to Market Street        |                  |       |       |                   |                  |
| Regulator Pit                                | 6" & 8"          | 135   | 135   | 400               | 400              |
| Tap to Schohr Ranch                          | 6"               | 250   | 250   | · 720·            | 720              |
|  | •                | 200   | 250   | 120               | 120              |
| DRUM DIVISION                                |                  |       | •     | • ••              |                  |
| Diamond Oaks Feeder                          | 6"               | 500   | 500   | 500               | 600              |
|  | -                |       |       |                   |                  |
| EAST BAY DIVISION                            |                  |       |       | -                 |                  |
| Avon Power Station Feeder                    | 8" & 12"         | 315   | 338   | 600               | 600              |
| Phillips Petroleum Company Feeder            | 12"              | 315   | 338   | 600 .             | 600              |
| General Chemical Tap                         | 4"               | 315   | 338   | 600               | 600              |
| Pacific States Steel Feeder                  | 12"              | 420   | 420   | 600 <sup>°</sup>  | 500              |
| Warm Springs Feeder                          | 2" & 4"          | 465   | 465   | 500               | 600              |
| Port Costa Feeder                            | 6" `             | 315   | 338   | 600               | 600              |
| 50th Avenue Holder Feeder Off Line 105       | 16" & 20"        | 150   | 198   | 275               | 275              |
| Pittsburg Town Feeder                        | 12"              | 315   | 338   | 600               | 600              |
| Concord Feeder to Alpha Beta Regulator       | 8"               | 315   | 600   | 600               | 600              |
| Oleum Steam Plant Tap                        | 8" 10" 12"       | 250   | 250   | 275               | 275              |
| San Ramon Feeder                             | 16"              | 500   | 500   | 500               | 600              |
| Standard Oil Feeder                          | 22 <sup>11</sup> | 400   | 400 · | 400               | 400              |
| · · · · · · · · · · · · · · · · · · ·        |                  |       | 200   |                   | -100             |

Exh. A (Grinstead) Appendix B S.P. No. 463-8 Effective 5/1/75 Page 2/3

í

۱

| Location  | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP     | Design<br>Press. | Future<br>Design<br>Press. |
|---|---|---------------------|----------|------------------|----------------------------|
|   | •                                       |                     |          |                  |                            |
| NORTH BAY DIVISION<br>Cotati Feeder             | 8 <sup>n</sup>                          | 450                 | 500      | 675              | 675                        |
| 12" Line 21 (V-16.15) to Pine Street Meter      | 0                                       | 400                 | 500<br>7 | 075              | 675                        |
| Station   | / 8n                                    | 450                 | 500      | 675              | 675                        |
| 12" Line 21 (V-16.15) to Kilburn Regulator      | U                                       | 450                 | 500      | 075              | 075                        |
| Station   | 10"                                     | 450                 | . 500    | 675              | 675                        |
| Kilburn Regulator Station to Yountville         | 8" & 10"                                | 450                 | 500      | 675              | 675                        |
| 6" Sonoma Tap Line                              | 6"                                      | 450                 | 500      | 675              | 675                        |
|   | • <b>t</b>                              | ,                   |          |                  |                            |
| SACRAMENTO DIVISION                             |   |                     |          |                  |                            |
| Sacramento Gas Plant to North Sacramento HPU    | •                                       |                     |          |                  |                            |
| Holder  | 8" & 12"                                | 260                 | 260      | 400              | 400                        |
| Tremont Tap to Dixon Meter Station              | 6".                                     | 550                 | 750      | 800              | 800                        |
| Tap to Union Carbide (MP 0.00 - MP 4.05)        | 8" & 10"                                | 412                 | 412      | 720              | 720                        |
| SAN FRANCISCO DIVISION                          |   |                     |          | •                |                            |
| Peninsula Main                                  | 16" & 20"                               | 109                 | 109      | 275              | 275                        |
| Hunters Point Power Plant Feeder                | 20"                                     | 145                 | 145      | 275              | 275                        |
| · .   |   |                     | ÷.       |                  |                            |
| SAN · JOAQUIN · DIVISION                        |   |                     |          | •                |                            |
| Tranquility Feeder                              | 3 "                                     | 800                 | 800      | 900              | 900                        |
| Yosemite Avenue Feeder                          | . 6"                                    | 400                 | 720      | 720              | 720                        |
| Line 300A to California-Portland Cement Company | 311                                     | 803                 | 817      | 865              | 865                        |
| Snelling Highway Feeder                         | 6"                                      | 400                 | 400      | 400              | 720                        |
| Dixon Dryer Feeder                              | 4"                                      | 500                 | · 500    | · 720            | 720                        |
| Peach and Central Feeder                        | 6"                                      | 650 <sup>°</sup>    | 720      | 720 .            | 720                        |
| Clovis Feeder Main                              | 6" & 12"                                | 650                 | 650      | 720              | 720                        |
| Vinewood Avenue Feeder                          | 4"                                      | 400                 | 720      | 720              | 720                        |
| Winton Avenue Feeder                            | 6" .                                    | 400                 | 720      | 720              | 720                        |
| Cressey Way Feeder                              | 4"& 6"                                  | 400                 | 400      | 720 ·            | 720                        |
| Valley Nitrogen Feeder                          | 6"                                      | 650                 | 650      | 800              | 720                        |
| SAN JOSE DIVISION                               |   |                     |          |                  |                            |
| Half Moon Bay Feeder Line                       | 8" 10" 12"                              | 400                 | 577      | 577**            | 577**                      |
| Santa Cruz to Davenport                         | 10" & 12"                               | 300                 | 303      | 557**            | 400 ·                      |
| Ailpitas Terminal to PLS #7, Kings Road,        |   | <b>.</b>            |          |                  |                            |
| 20" Feeder                                      | 16" 20" 30"                             | 200                 | 200      | 275              | 526                        |
| Vatsonville to River Street Regulator           |   |                     |          |                  |                            |
| Station   | 8" & 10"                                | 300                 | 303      | 577**            | 400                        |
| Atsonville to Rob Roy Junction                  | 10"                                     | 300                 | 303      | 557**            | 400                        |
|   |   |                     |          |                  |                            |

\*\*See Paragraph 6

Exh. A (Grinstead) Appendix B S.P. No. 463-8 Effective 5/1/75 Page 3/3

.

|                                      | Nominal                           |      |       | •            |              |
|--------------------------------------|-----------------------------------|------|-------|--------------|--------------|
|                                      | Pipe                              | PG&E |       | - •          | Future       |
|                                      | Diameter                          | MOP  |       | Design       | Design       |
| Location                             | (Inches)                          | psig | MAOP  | Press.       | Press.       |
| SHASTA DIVISION                      |                                   |      |       |              |              |
| Simpson Lee Paper Mill Feeder        | 6"                                | 300  | . 300 | 720 .        | 720          |
| U.S. Plywood Plant Feeder            | 4 <sup>11</sup>                   | 300  | 720   | 720          | 720          |
| Enterprise Town Feeder               | 4" & 6"                           | 300  | 300   | 720          | 720          |
| Calaveras Cement Company Feeder      | 8"                                | 300  | 300   | 720          | 720          |
| Red Bluff District Tap               | 2"                                | 911  | 911   | 911          | 9 <b>1</b> 1 |
| `                                    |                                   |      |       |              |              |
| STOCKTON DIVISION                    |                                   |      |       |              |              |
| Roth Road Feeder - Manteca           | 4"                                | 408  | 720   | 720          | 720          |
| Valley Tomato Trunk Line             | 8"                                | 412  | 500   | 720          | 720          |
| Eight Mile Road Trunk Line           | 4 <sup>11</sup> & 8 <sup>11</sup> | 412  | 426   | 720          | 720          |
| Ripon-Modesto Feeder (Parallel)      | 8" & 12"                          | 408  | 408   | 720          | 720          |
| Dale Road to North Avenue Feeder     | 12"                               | 408  | 408   | 720          | 720          |
| Riverbank Feeder                     | 8" & 10"                          | 408  | 720   | 720          | 720          |
| Carpenter Road Feeder                | 12"                               | 412  | 500   | 720          | 720          |
| Modesto Feeder Via Pauline Boulevard | 4" & 6"                           | 408  | 408   | 720          | 720          |
| Turner Road Feeder (Parallel)        | 4" & 8"                           | 300  | 300   | 720          | 720          |
| McArthur Road Feeder                 | 4"                                | 295  | 295   | 400          | 720          |
| Louise Avenue Feeder                 | 8"                                | 408  | 408   | 720          | 720          |
| C.Y.A. Feeder - Stockton             | 6"                                | 412  | 426   | 720          | 720          |
| Morgan Road Feeder - Modesto         | 12"                               | 260  | 720   | 720          | 720          |
| Swain Road Feeder                    | 6" & 8"                           | 125  | 400   | <b>`</b> 400 | 400          |
| *Turlock to Ceres Regulator Station  | 10"                               | 250  | 260   | 720          | 720          |

....

. .

(See Over)

I

Exh. A (Grinstead)

Appendix C S.P. No. 463-8 Page 1/1 Effective 5/1/75

# PIPE TYPE HIGH PRESSURE UNDERGROUND HOLDERS OPERATING AT OR OVER 20% SMYS

,

••

.

| Location               | Length<br>(Feet) | Nominal<br>Pipe<br>Diameter<br>(Inches) | PG&E<br>MOP<br>psig | MAOP | Design<br>Press. | Future<br>Design<br>Press. |
|------------------------|------------------|---|---------------------|------|------------------|----------------------------|
| COLGATE DIVISION -     |                  |   |                     |      |                  |                            |
| ' Yuba City            | 24,784           | 34"                                     | 525                 | 525  | . 550            | 550                        |
| NORTH BAY -            | •                |   |                     |      |                  |                            |
| San Rafael             | 37,392           | 30"                                     | 650                 | 650  | 690              | 690                        |
| SACRAMENTO DIVISION -  |                  |   |                     |      |                  |                            |
| Sacramento             | 78 <b>,</b> 452  | 34"                                     | 445                 | 445  | 550              | 550                        |
| SAN JOAQUIN DIVISION - |                  |   |                     |      |                  |                            |
| Fresno                 | 43,722           | 30"                                     | 690                 | 690  | 690              | 690                        |
| SAN JOSE DIVISION -    |                  |   |                     |      |                  |                            |
| Santa Cruz             | 7,221            | 30"                                     | 660                 | 660  | 660              | 660                        |
|                        | 4,838            | 34"                                     | 660                 | 660  | 660              | 660                        |

# CERTIFICATE OF SERVICE BY ELECTRONIC MAIL OR U.S. MAIL

I, the undersigned, state that I am a citizen of the United States and am employed in the City and County of San Francisco; that I am over the age of eighteen (18) years and not a party to the within cause; and that my business address is Pacific Gas and Electric Company, Regulatory Relations Department B10C, 77 Beale Street, San Francisco, California 94105.

I am readily familiar with the business practice of Pacific Gas and Electric Company for collection and processing of correspondence for mailing with the United States Postal Service. In the ordinary course of business, correspondence is deposited with the United States Postal Service the same day it is submitted for mailing.

On March 15, 2011, I caused to be served a true copy of:

# **"REPORT OF PACIFIC GAS AND ELECTRIC COMPANY ON RECORDS AND MAXIMUM ALLOWABLE OPERATING PRESSURE VALIDATION"**

[XX] By Electronic Mail – serving the enclosed via e-mail transmission to each of the parties listed on the official service list **R.11-02-019**.

[XX] By U.S. Mail – by placing it for collection and mailing, in the course of ordinary business practice, with other correspondence of Pacific Gas and Electric Company, enclosed in a sealed envelope, with postage fully prepaid, addressed to all parties of record on the service list for **R.11-02-019** who do not have an email address.

I certify and declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on March 15, 2011 at San Francisco, California.

/s/

/s/ Rene Anita Thomas

Last Updated: March 14, 2011

### CPUC DOCKET NO. R1102019

ajahns@jahnsatlaw.com;alf@cpuc.ca.gov;austin.yang@sfgov.org;bcragg@goodinmacbride.com; bfinkelstein@turn.org;bkc7@pge.com;bob.gorham@fire.ca.gov;case.admin@sce.com;cem@new sdata.com;CentralFiles@SempraUtilities.com;centralfiles@semprautilities.com;cleo.zagrean@ma cquarie.com;d1ct@pge.com;dgenasci@DayCarterMurphy.com;dmarcus2@sbcglobal.net;Don.so derberg@swgas.com;douglas.porter@sce.com;douglass@energyattorney.com;filings@aklaw.com;gclark@lodistorage.com;GHealy@semprautilities.com;gloria.ing@sce.com;J4LR@pge. com;jason.dubchak@niskags.com;jheckler@levincap.com;jleslie@luce.com;JLSalazar@Sempra Utilities.com;jzr@cpuc.ca.gov;kck5@pge.com;kelder@aspeneg.com;klatt@energyattorney.com;k mmj@pge.com;laura@messimer.com;mab@cpuc.ca.gov;marcel@turn.org;marcie.milner@shell.c om;mdjoseph@adamsbroadwell.com;Mike@alpinenaturalgas.com;mrw@mrwassoc.com;pucservice@ dralegal.org;RCavalleri@SempraUtilities.com;regrelcpuccases@pge.com;rkoss@adamsbroadwe II.com;Robert.F.Lemoine@sce.com;robert.pettinato@ladwp.com;RPrince@SempraUtilities.com;rr ussell@lodistorage.com;scittad@nicor.com;Service@spurr.org;sls@a-

klaw.com;SNewsom@SempraUtilities.com;tcollier@buckeye.com;tomb@crossborderenergy.com ;ttutt@smud.org;westgas@aol.com;wschmidt@buckeye.com;wvm3@pge.com;wwester@smud.o rg;

Last Updated: March 14, 2011

### CPUC DOCKET NO. R1102019

Total number of addressees: 65

MELISSA A. KASNITZ ATTORNEY DISABILITY RIGHTS ADVOCATES 2001 CENTER ST, FOURTH FLR BERKELEY CA 94704-1204 (DisabRA) Disability Rights Advocates Email: pucservice@dralegal.org Status: PARTY

KRISTINA M. CASTRENCE **PACIFIC GAS AND ELECTRIC COMPANY** 77 BEALE ST., MC B10A SAN FRANCISOC CA 84105 Email: kmmj@pge.com Status: INFORMATION

KERRY C. KLEIN ATTORNEY **PACIFIC GAS AND ELECTRIC COMPANY** 77 BEALE ST., MC B30A SAN FRANCISCO CA 94105 Email: kck5@pge.com Status: INFORMATION

BRIAN K. CHERRY VP - REGULATORY RELATIONS **PACIFIC GAS & ELECTRIC COMPANY** 77 BEALE ST., MC B10C, PO BOX 770000 SAN FRANCISCO CA 94177 FOR: Pacific Gas and Electric Company Email: bkc7@pge.com Status: PARTY

Maribeth A. Bushey **CALIF PUBLIC UTILITIES COMMISSION** DIVISION OF ADMINISTRATIVE LAW JUDGES 505 VAN NESS AVE RM 5018 SAN FRANCISCO CA 94102-3214 Email: mab@cpuc.ca.gov Status: STATE-SERVICE

Jonathan J. Reiger **CALIF PUBLIC UTILITIES COMMISSION** LEGAL DIVISION 505 VAN NESS AVE RM 5035 SAN FRANCISCO CA 94102-3214 Email: jzr@cpuc.ca.gov Status: STATE-SERVICE

JASON A. DUBCHAK **WILD GOOSE STORAGE LLC** 607 8TH AVE S.W., STE 400 CALGARY AB T2P OA7 CANADA FOR: Wild Goose Storage, LLC Email: jason.dubchak@niskags.com Status: PARTY

### PACIFIC GAS AND ELECTRIC COMPANY

EMAIL ONLY EMAIL ONLY CA 0 Email: regrelcpuccases@pge.com Status: INFORMATION

DAREN CHAN PACIFIC GAS AND ELECTRIC COMPANY 77 BEALE ST., MC B10C SAN FRANCISCO CA 94105 Email: d1ct@pge.com Status: INFORMATION

JANET LIU

PACIFIC GAS AND ELECTRIC COMPANY PO BOX 770000; MC B9A SAN FRANCISCO CA 94177 Email: J4LR@pge.com Status: INFORMATION

WILLIAM V. MANHEIM ATTORNEY PACIFIC GAS AND ELECTRIC COMPANY 77 BEALE ST., MC B30A

SAN FRANCISCO CA 94105 FOR: Pacific Gas and Electric Company Email: wvm3@pge.com Status: PARTY

## Paul A. Penney

CALIF PUBLIC UTILITIES COMMISSION SAFETY & RELIABILITY BRANCH 505 VAN NESS AVE AREA 2-D SAN FRANCISCO CA 94102-3214 Email: pap@cpuc.ca.gov Status: STATE-SERVICE

Matthew Tisdale **CALIF PUBLIC UTILITIES COMMISSION** EXECUTIVE DIVISION 505 VAN NESS AVE RM 5303 SAN FRANCISCO CA 94102-3214 Email: mwt@cpuc.ca.gov Status: STATE-SERVICE

MARC D. JOSEPH **ADAMS BROADWELL JOSEPH & CARDOZO** 601 GATEWAY BLVD., STE. 1000 SOUTH SAN FRANCISCO CA 94080-7037 Email: mdjoseph@adamsbroadwell.com Status: INFORMATION

Last Updated: March 14, 2011

### CPUC DOCKET NO. R1102019

Total number of addressees: 65

#### DAVID MARCUS ADAMS BROADWELL & JOSEPH

PO BOX 1287 BERKELEY CA 94701-1287 Email: dmarcus2@sbcglobal.net Status: INFORMATION

### KAREN TERRANOVA

ALCANTAR & KAHL 33 NEW MONTGOMERY ST., STE. 1850 SAN FRANCISCO CA 94105 Email: filings@a-klaw.com Status: INFORMATION

## CATHERINE M. ELDER

ASPEN ENVIRONMENT GROUP

8801 FOLSOM BLVD., STE 290 SACRAMENTO CA 95826 Email: kelder@aspeneg.com Status: INFORMATION

# TRANSMISSION EVALUATION UNIT

CALIFORNIA ENERGY COMMISSION 1516 NINTH ST, MS-46 SACRAMENTO CA 95814-5512 FOR: California Energy Commission Status: PARTY

# JOYCE ALFTON

CALIOFRNIA PUBLIC UTILITIES COMMISSION EMAIL ONLY EMAIL ONLY CA 0 Email: alf@cpuc.ca.gov Status: STATE-SERVICE

### AUSTIN M. YANG

CITY AND COUNTY OF SAN FRANCISCO OFFICE OF THE CITY ATTORNEY, RM. 234 1 DR. CARLTON B. GODDLETT PLACE SAN FRANCISCO CA 94102-4682 FOR: City and County of San Francisco Email: austin.yang@sfgov.org Status: PARTY

# THOMAS BEACH

CROSSBORDER ENERGY 2560 9TH ST., STE 213A BERKELEY CA 94710-2557 Email: tomb@crossborderenergy.com Status: INFORMATION

### SEEMA SRINIVASAN

ALCANTAR & KAHL 33 NEW MONTGOMERY ST., STE 1850 SAN FRANCISCO CA 94105 Email: sls@a-klaw.com Status: INFORMATION

# MIKE LAMOND CHIEF FINANCIAL OFFICER

ALPINE NATURAL GAS OPERATING CO. #1 LLC PO BOX 550, 15 ST. ANDREWS ROAD VALLEY SPRINGS CA 95252 FOR: Alpine Natural Gas Email: Mike@alpinenaturalgas.com Status: PARTY

### **CALIFORNIA ENERGY MARKETS**

425 DIVISADERO ST. STE 303 SAN FRANCISCO CA 94117-2242 Email: cem@newsdata.com Status: INFORMATION

# BOB GORHAM DIVISION CHIEF -PIPELINE SAFETY DIVISION

#### **CALIFORNIA STATE FIRE MARSHALL**

3950 PARAMOUNT BLVD., NO. 210 LAKEWOOD CA 90712 FOR: California State Fire Marshall - Safety Division Email: bob.gorham@fire.ca.gov Status: PARTY

# STEPHEN CITTADINE

CENTRAL VALLEY GAS STORAGE, LLC 3333 WARRENVILLE ROAD, STE. 630 LISLE IL 60532 FOR: Central Valley Gas Storage, LLC Email: scittad@nicor.com Status: PARTY

#### RACHAEL E. KOSS **ADAMS BROADWELL JOSEPH & CARDOZO** 601 GATEWAY BLVD, STE 1000 SOUTH SAN FRANCISCO CA 94080 FOR: Coalition of California Utility Employees Email: rkoss@adamsbroadwell.com Status: PARTY

DIANA S. GENASCI ATTORNEY DAY CARTER & MURPHY LLP 3620 AMERICAN RIVER DRIVE, STE. 205 SACRAMENTO CA 95864 Email: dgenasci@DayCarterMurphy.com Status: INFORMATION

Last Updated: March 14, 2011

### CPUC DOCKET NO. R1102019

Total number of addressees: 65

GREGORY KLATT **DOUGLASS & LIDDELL** 411 E. HUNTINGTON DR., NO. 107-356 ARCADIA CA 91006 Email: klatt@energyattorney.com Status: INFORMATION

RICHARD DANIEL GILL RANCH STORAGE, LLC 220 NW SECOND AVE PORTLAND OR 97209 FOR: Gill Ranch Storage, LLC Status: PARTY

JAMES J. HECKLER **LEVIN CAPITAL STRATEGIES** EMAIL ONLY EMAIL ONLY NY 0 Email: jheckler@levincap.com Status: INFORMATION

WILLIAM H. SCHMIDT, JR LODI GAS STORAGE, LLC FIVE TEK PARK 9999 HAMILTON BLVD BREINIGSVILLE PA 18031 FOR: Lodi Gas Storage, LLC Email: wschmidt@buckeye.com Status: PARTY

ROBERT RUSSELL LODI GAS STORAGE, LLC EMAIL ONLY EMAIL ONLY CA 0 Email: rrussell@lodistorage.com Status: INFORMATION

ROBERT L. PETTINATO LOS ANGELES DEPT. OF WATER & POWER 111 NORTH HOPE ST., RM. 1150 LOS ANGELES CA 90012 Email: robert.pettinato@ladwp.com Status: INFORMATION

CLEO ZAGREAN MACQUARIE CAPITAL (USA) EMAIL ONLY EMAIL ONLY NY 0 Email: cleo.zagrean@macquarie.com Status: INFORMATION LAURA SEMIK PO BOX 1107 BELMONT CA 94002 Email: laura@messimer.com Status: INFORMATION

BRIAN T. CRAGG GOODIN, MACBRIDE, SQUERI, DAY & LAMPREY 505 SANSOME ST, STE 900 SAN FRANCISCO CA 94111 Email: bcragg@goodinmacbride.com Status: INFORMATION

SCOTT COLLIER LOCI GAS STORAGE, LLC EMAIL ONLY EMAIL ONLY CA 0 Email: tcollier@buckeye.com Status: INFORMATION

GREG CLARK COMPLIANCE MGR. LODI GAS STORAGE, LLC EMAIL ONLY EMAIL ONLY CA 0 Email: gclark@lodistorage.com Status: INFORMATION

PRISCILLA CASTILLO LOS ANGELES DEPT OF WATER & POWER 111 NORTH HOPE ST., RM. 340 LOS ANGELES CA 90012 Email: priscila.castillo@lawp.com Status: INFORMATION

JOHN W. LESLIE **LUCE FORWARD HAMILTON & SCRIPPS LLP** 600 WEST BROADWAY, STE 2600 SAN DIEGO CA 92101 Email: jleslie@luce.com Status: INFORMATION

MRW & ASSOCIATES, LLC EMAIL ONLY EMAIL ONLY CA 0 Email: mrw@mrwassoc.com Status: INFORMATION

Last Updated: March 14, 2011

### CPUC DOCKET NO. R1102019

Total number of addressees: 65

WILLIAM W. WESTERFIELD III SACRAMENTO MUNICIPAL UTILITY DISTRICT 6201 S ST., MS B406 / PO BOX 15830 SACRAMENTO CA 95852-1830 FOR: Sacramento Municipal Utility District Email: wwester@smud.org Status: PARTY

ALFRED F. JAHNS **LAW OFFICE ALFRED F. JAHNS** 3620 AMERICAN RIVER DRIVE, STE 105 SACRAMENTO CA 95864 FOR: Sacramento Natural Gas Storage, LLC Email: ajahns@jahnsatlaw.com Status: PARTY

#### CENTRAL FILES SDG&E AND SOCALGAS

8330 CENTURY PARK COURT, CP31-E SAN DIEGO CA 92123-1550 Email: CentralFiles@SempraUtilities.com Status: INFORMATION

# CASE ADMINISTRATION

SOUTHERN CALIFORNIA EDISON COMPANY 2244 WALNUT GROVE AVE, PO BOX 800 ROSEMEAD CA 91770 Email: case.admin@sce.com Status: INFORMATION

### CENTRAL FILES

# SOUTHERN CALIFORNIA GAS COMPANY

555 W. FIFTH ST, GT14D6 LOS ANGELES CA 90013-1011 Email: centralfiles@semprautilities.com Status: INFORMATION

GLORIA ING ATTORNEY SOUTHERN CALIFORNIA EDISON COMPANY 2244 WALNUT GROVE AVE ROSEMEAD CA 91770 Empil: alorio ing@aco.com

Email: gloria.ing@sce.com Status: INFORMATION

# RASHA PRINCE

SOUTHERN CALIFORNIA GAS COMPANY 555 WEST 5TH ST, GT14D6 LOS ANGELES CA 90013-1034 Email: RPrince@SempraUtilities.com Status: INFORMATION

#### TIMOTHY TUTT

SACRAMENTO MUNICIPAL UTILITY DISTRICT 6201 S ST, MS B404 / PO BOX 15830 SACRAMENTO CA 95817 Email: ttutt@smud.org Status: INFORMATION

JOSEPH KLOBERDANZ SAN DIEGO GAS & ELECTRIC COMPANY PO BOX 1831 SAN DIEGO CA 92112 FOR: San Diego Gas & Electric Company Status: PARTY

MARCIE A. MILNER **SHELL ENERGY NORTH AMERICA (US), L.P.** 4445 EASTGATE MALL, STE. 100 SAN DIEGO CA 92121 Email: marcie.milner@shell.com Status: INFORMATION

RONALD S. CAVALLERI SOUTHERN CALIFORNIA GAS COMPANY 555 W. FIFTH ST, GT14D6 LOS ANGELES CA 90013-1011 Email: RCavalleri@SempraUtilities.com Status: INFORMATION

#### GREG HEALY

SOUTHERN CALIFORNIA GAS COMPANY 555 W. FIFTH ST., GT14D6 LOS ANGELES CA 90013 Email: GHealy@semprautilities.com Status: INFORMATION

ROBERT F. LEMOINE ATTORNEY SOUTHERN CALIFORNIA EDISON COMPANY 2244 WALNUT GROVE AVE. STE 346L ROSEMEAD CA 91770 Email: Robert.F.Lemoine@sce.com Status: INFORMATION

JEFFREY L. SALAZAR SOUTHERN CALIFORNIA GAS COMPANY 555 WEST FIFTH ST, GT14D6 LOS ANGELES CA 90013 Email: JLSalazar@SempraUtilities.com Status: INFORMATION

Last Updated: March 14, 2011

### CPUC DOCKET NO. R1102019

Total number of addressees: 65

#### SID NEWSOME

### SOUTHERN CALIFORNIA GAS COMPANY

555 WEST FIFTH ST, GT14D6 LOS ANGELES CA 90013-1011 FOR: Southern California Edison Company Email: SNewsom@SempraUtilities.com Status: PARTY

NORMAN A. PEDERSEN ATTORNEY HANNA & MORTON 444 S. FLOWER ST, STE 1500

LOS ANGELES CA 90071 FOR: Southern California Generation Coalition Email: npedersen@hanmor.com Status: PARTY

MICHAEL ROCHMAN MANAGING DIRECTOR SPURR 1850 GATEWAY BLVD., STE 235 CONCORD CA 94520

Email: Service@spurr.org Status: INFORMATION

#### MARCEL HAWIGER THE UTILITY REFORM NETWORK

115 SANSOME ST, STE 900 SAN FRANCISCO CA 94104 FOR: The Utility Reform Network Email: marcel@turn.org Status: PARTY

RAYMOND J. CZAHAR CHIEF FINANCIAL OFFICER WEST COAST GAS CO., INC. 9203 BEATTY DR. SACRAMENTO CA 95826-9702 FOR: West Coast Gas Company, Inc. Email: westgas@aol.com Status: PARTY

### DOUGLAS PORTER ATTORNEY

SOUTHERN CALIFORNIA EDISON COMPANY 2244 WALNUT GROVE AVE ROSEMEAD CA 91770 FOR: Southern California Edison Company (Catalina Island) Email: douglas.porter@sce.com Status: PARTY

DONALD L. SODERBERG SOUTHWEST GAS CORPORATION PO BOX 98510 LAS VEGAS NV 89193 FOR: Southwest Gas Corporation Email: Don.soderberg@swgas.com Status: PARTY

ROBERT FINKELSTEIN LEGAL DIRECTOR THE UTILITY REFORM NETWORK 115 SANSOME ST, STE 900 SAN FRANCISCO CA 94104 Email: bfinkelstein@turn.org Status: INFORMATION

### DANIEL W. DOUGLASS

DOUGLASS & LIDDELL 21700 OXNARD ST., STE. 1030 WOODLAND HILLS CA 91367 FOR: Transwestern Pipeline Company Email: douglass@energyattorney.com Status: INFORMATION