

STRENGTH TEST PRESSURE REPORT.

16. A Strength Test Pressure Report (Form 62-4921) is required for each facility operating at over 100 P.S.I.G. (See Appendix A),
- a. Part I of the Strength Test Pressure Report shall be filled out by the Project Engineer or the Gas System Design Department.
 - b. Part II of the Strength Test Pressure Report shall be filled out by the person supervising the test in the field, at the time the Test is performed.
 - c. A copy of the completed Strength Test Pressure Report shall be filed with the completed Foreman's Copy of the Estimate, along with a copy of the Test Chart (where required). These shall be retained for the life of the facility. Distribute other copies as indicated on the Form.

TEST CHART

17. A Chart Record shall be made of the Pressure Test for new facilities to operate at over 30% S.M.V.S. and for all lines or systems being updated. The procedure for handling the Chart, and the minimum information required on the Chart is outlined below:
- a. The Chart must be designed for the recorder on which it is to be used, and must have appropriate scale and time lines.
 - b. The calibration of the recorder must have been checked.
 - c. The Chart must be set on the correct time at the start of the test. The actual time, date, and initials of the person starting the test must be shown on face of Chart at the start of the test.
 - d. The Chart must show a minimum of eight hours (except where four hours test is permitted in Appendix A.). Any discrepancies should be explained.
 - e. At the end of the test, the actual time, date, and initials of the person removing the Chart must be shown on the face of the Chart.
 - f. The section of pipe under test must be identified on the face of the Chart, along with the Job Number.
 - g. The following additional information is to be shown on the back of the Chart.
 - i. Job Number
 - ii. Location of test.
 - iii. Test Pressure, date and duration.
 - iv. Size, wall thickness, pipe specification and length of section tested.
 - v. The serial number of the recorder or other means of identification.
 - vi. The date the recorder was last calibrated and s/n of the dead weight tester used.
 - h. The above information is to be recorded on the Chart at the time of the test. After the test is completed, the foreman is to review the Chart and then sign and date it.
 - i. The original of the Test Chart is to be attached to the original of the Test Report Form 62-4291. A copy of the Test Chart is to be attached to each copy of the Test Report. This Record is to be retained for the life of the facility.

TEST RECORDS FOR FACILITIES OPERATING AT UNDER 100 P.S.I.G.

18. For each facility operating at under 100 P.S.I.G., the Leak or Pressure Test Information shall be recorded in a Box provided on the Work Order Form or the Gas Service Record Form. If these documents are not used, the Test Information shall be recorded on the As-built Copy of the Construction drawing. The Test Record shall be retained for the life of the facility.

APPROVED		CHG	DATE	DESCRIPTION	BY	CH.	APPD.
	3	2-20-74	Added Paragraph 18.		AC.	A.N.K.	SM/107
	2	7-25-73	Paragraph 15 Removed, Paragraph 16 and 17 Added, Drawing Redrawn.		A.N.K.	M.C.	SM/107
	1	2-17-72	Revised Title For Computer Listing & Revised Design Criteria			M.C.	SM/107

SUPV. BY DSGN. DR. CH. M. C. O.K. DATE 2-11-69	PIPING — DATA SHEET DESIGN AND TEST REQUIREMENTS GAS STANDARD PACIFIC GAS AND ELECTRIC COMPANY SAN FRANCISCO, CALIFORNIA	SUPERSEDES 084509 SUPERSEDED BY SHEET NO. 3 OF 4 SHEETS DRAWING NUMBER 283621
SCALE NONE		CHANGE 3

TEST REQUIREMENTS FOR PIPELINES, MAINS, SERVICES AND OTHER FACILITIES.

DESIGN PRESSURE (D.P.)	30% S.M.Y.S. OR MORE		UNDER 30% S.M.Y.S. AND OVER 100 P.S.I.	100 P.S.I. TO 1 P.S.I. OR LESS	PLASTIC (SEE NOTE 9)
	PIPELINE (INCLUDING FABRICATED UNITS TESTED IN PLACE)	FABRICATED UNITS, SHORT SECTIONS OF PIPE, PRETESTED PIPE (SEE NOTE 5 FOR LIMITATION)	INCLUDING FABRICATED UNITS AND SHORT SECTIONS OF PIPE, EITHER PRE-TESTED OR TESTED IN PLACE.		
TYPE OF TEST	STRENGTH	STRENGTH	LEAK	LEAK	STRENGTH
TEST MEDIUM	WATER, AIR, INERT GAS OR GAS (SEE NOTES 1 AND 2)	WATER, AIR, INERT GAS OR GAS (SEE NOTES 1 AND 2)	WATER, AIR, INERT GAS OR GAS (SEE NOTES 1 AND 2)	AIR OR GAS	AIR OR GAS
MAXIMUM TEST PRESSURE (SEE NOTES 1 AND 2)	100% S.M.Y.S. OR FACTORY TEST PRESSURE OF FITTING (SEE NOTES 3 AND 4)	100% S.M.Y.S. OR FACTORY TEST PRESSURE OF FITTING (SEE NOTES 3 AND 4)	(SEE NOTES 3 & 11)	110 P.S.I.	3 X DESIGN PRESSURE
MINIMUM TEST PRESSURE	1.5 X DESIGN PRESSURE (SEE NOTE 4)	1.5 X DESIGN PRESSURE (SEE NOTE 4)	1.5 X DESIGN PRESSURE	100 P.S.I.	100 P.S.I. (SEE NOTE 13) OR 1.5 X M.A.O.P. WHICHEVER IS GREATER
DURATION OF TEST	8 HOURS MINIMUM	4 HOURS MINIMUM	1 HOUR MINIMUM	5 MINUTES	5 MINUTES (SEE NOTE 6)
TEST RECORDS REQUIRED (SEE NOTE 12)	FORMS REQUIRED	COMPLETED STRENGTH TEST PRESSURE REPORT	COMPLETED STRENGTH TEST PRESSURE REPORT	COMPLETE BOX ON W.O. FORM OR GAS SERVICE RECORD FORM	COMPLETE BOX ON W.O. FORM OR GAS SERVICE RECORD FORM
	TEST CHART	YES (SEE NOTE 8)	YES (SEE NOTE 8)	NO (SEE NOTE 10)	NO (SEE NOTE 10)

- NOTES:**
- MAXIMUM TEST PRESSURE PERMITTED, EXPRESSED AS A PERCENT OF S.M.Y.S. -

LOCATION CLASS	1	2	3	4
AIR OR INERT GAS	80	75	50	40 (SEE NOTE 7)
GAS	80	30	30	30
WATER	— SEE ABOVE —			
 - SAFETY - WHEN TESTING WITH AIR, INERT GAS OR GAS, THE PRESSURE SHALL BE HELD AT ABOUT 100 P.S.I. AND OBSERVED FOR LEAKAGE BEFORE RAISING TO THE REQUIRED TEST VALUE.
 - MAXIMUM TEST CAPABILITIES OF FITTINGS SUCH AS VALVES AND ELBOWS MUST BE EXAMINED WHEN TESTING.
 - IT IS THE INTENT TO TEST ALL FACILITIES DESIGNED TO OPERATE AT OVER 50% S.M.Y.S. AT A PRESSURE OVER 90% OF S.M.Y.S. AND AS CLOSE TO S.M.Y.S. AS PRACTICAL. THERE MAY BE INSTANCES, AS IN ITEM 3, WHERE PRESSURE SHALL BE LIMITED, BUT IN NO CASE SHALL IT BE LESS THAN 1.5 D.P. (EXCEPT CLASS 1 CONSTRUCTION, WHICH IS 1.25 D.P.). FACILITIES TO OPERATE AT UNDER 50% S.M.Y.S. SHALL BE TESTED TO A MINIMUM OF 1.5 X D.P. FOR FACILITIES OPERATING AT 40% TO 50% OF S.M.Y.S., CONSIDERATION SHOULD BE GIVEN TO TESTING TO OVER 90% OF S.M.Y.S., IF THERE IS A POTENTIAL FOR HIGH RISE CONSTRUCTION. HOWEVER, SUCH TESTING IS NOT AN ALTERNATIVE FOR CONSTRUCTION OF NEW OR REPLACEMENT FACILITIES TO MEET EXPECTED FUTURE LOCATION CLASS REQUIREMENTS (SEE PAGE 2, PAR. 7 OF THIS STANDARD).
 - WHERE PRACTICAL, ALL FACILITIES DESIGNED TO OPERATE AT GREATER THAN 30% S.M.Y.S. MUST BE TESTED AS A UNIT FOR 8 HOURS AFTER FABRICATION AND INSTALLATION. FABRICATED UNITS, SHORT SECTIONS OF PIPE AND PRETESTED PIPE FOR WHICH A POST INSTALLATION TEST IS IMPRACTICAL, MUST BE PRETESTED AFTER COMPLETION FOR A MINIMUM OF FOUR HOURS. A TEST IS REQUIRED AFTER COMPLETION EVEN THOUGH PRETESTED PIPE WAS USED.
 - A SHORT SECTION OF PIPE IS DEFINED AS ONE PIPE LENGTH OR LESS.
 - A FABRICATED UNIT SHALL CONSIST OF TWO OR MORE FITTINGS AND/OR PIECES OF PIPE JOINED TOGETHER. WHERE MORE THAN 40' OF PIPE IS INVOLVED, THESE SHALL BE GIVEN A FULL 8 HOUR TEST.
 - HOLD AT TEST PRESSURE FOR AS LONG AS PRACTICAL. IF NOT GASSED UP IMMEDIATELY FOLLOWING TEST, RETEST BEFORE GASSING UP.
 - AIR OR INERT GAS SHOULD NOT BE USED TO TEST AT OVER 50% S.M.Y.S. UNLESS A TEST WITH WATER IS COMPLETELY IMPRACTICABLE. WHEN IT IS NECESSARY TO USE AIR OR INERT GAS AT OVER 50% S.M.Y.S., BUILDINGS WITHIN 300' OF PIPELINE MUST BE EVACUATED.
 - TEST CHARTS MUST BE COMPLETED AND RETAINED AS OUTLINED IN A-34, PAGE 3.
 - TEMPERATURE OF THERMOPLASTIC MATERIAL MUST NOT BE MORE THAN 100°F DURING THE TEST.
 - TABLE INDICATES TEST CHART REQUIREMENTS FOR NEW FACILITIES. TEST CHARTS ARE REQUIRED FOR ALL UPGRADING JOBS, NO MATTER WHAT THE OPERATING PRESSURE OF THE LINE.
 - FOR FACILITIES OPERATING AT UNDER 30% S.M.Y.S. AND OVER 100 P.S.I., THE MAXIMUM TEST PRESSURE IS TO BE DETERMINED BY THE PROJECT ENGINEER. A REASONABLE DIFFERENTIAL BETWEEN MAXIMUM AND MINIMUM TEST PRESSURES SHOULD BE ALLOWED, CONSIDERING ELEVATION DIFFERENTIALS AND NOTE 3.
 - ALL TEST RECORDS MUST BE RETAINED FOR THE LIFE OF THE FACILITY.
 - SDR 21 PIPE TO BE TESTED TO 50 P.S.I.G. MINIMUM.

8	8-1-75	Made Additions to Note 5, other references to fabricated units	C.A.	H.F.	<i>[Signature]</i>
7	5-14-74	Added Note 13.	HF	A.N.K.	<i>[Signature]</i>
APPROVED	4	2-17-72	Revised Title For Computer Listing, Change To 30 SMYS & Note 4	M.C.	<i>[Signature]</i>
	6	2-26-74	Revised Chart to Show Required Test Forms, Added Notes 11 & 12 and Footnote; Max. Test for 100 P.S.I. to 30% S.M.Y.S. & 1 to 100 P.S.I. Changed from 1.5 D.P. & 100 P.S.I.	A.C.	A.N.K. <i>[Signature]</i>
	5	1-24-73	Drawing Revised and Redrawn	A.N.K.	<i>[Signature]</i>
CHG	DATE	DESCRIPTION	BY	CH.	APPD.
SUPV. BY	PIPING — DATA SHEET DESIGN AND TEST REQUIREMENTS GAS STANDARD PACIFIC GAS AND ELECTRIC COMPANY SAN FRANCISCO, CALIFORNIA				SUPERSEDES 084509
DSGN.					SUPERSEDED BY
DR.					SHEET NO. 4 OF 4 SHEETS
CH.					DRAWING NUMBER
O.K.					CHANGE
DATE	SCALE	283621	8		
2-11-69	NONE				