

*Please Review
by 7/19/79
RJA
DML
J.L. review
7/19/79*

1. SCOPE

- 1.1 This standard establishes the minimum frequencies for the radiographic and visual inspection of welds on all gas piping systems.
- 1.2 More frequent radiographic or visual inspections may be made at the direction of the job supervisor, if in his judgement they are necessary to insure the quality of the welding. When determining the need for more frequent inspection of welds, consideration shall be given to the stress level at which the system is to operate, and the type and location of the facility.

2. REFERENCES

- 2.1 Standards of Acceptability - Destructive Testing, Gas Standard D-31, Section 3.
- 2.2 Standards of Acceptability - Non-Destructive Testing, Gas Standard D-31, Section 2.

with an MAOP, DR or F.D.P. that corresponds to

3. RADIOGRAPHIC INSPECTION (Applies only to facilities ~~to operate at 20% or more of SMYS~~)

A

- 3.1 Weld quality shall be checked by non-destructive examination. The following percentages of each day's field welds selected at random by the operator must be examined radiographically over their entire circumference:
 - 3.1.1 Class 1 and 2 locations, radiograph at least 20 percent of the welds.
 - 3.1.2 Class 3 and 4 locations and at crossings of major or navigable rivers, radiograph 100 percent, if practicable but not less than 90 percent.
 - 3.1.3 Welds which contain repaired areas; radiograph 100 percent.
 - 3.1.4 For all station work, pipeline tie-ins, and welds within railroad or public highway rights-of-way including tunnels, bridges and overhead road crossings; radiograph 100 percent.
 - 3.1.5 A minimum of 20% of the welds which are not radiographed should be visually inspected as outlined in Section 4.

| | | | | | | | | |
|---|--|-------------|--------|---------------------|------|-------------|-------------------------|--------|
| 1 8/78 CHANGED FORM NO. FROM 776-10 | | RAW | | | | | | |
| 0 10/77 ISSUE FOR USE | | 1977 | 3 | Revised Paragraph 3 | | | | |
| CHG. | DATE | DESCRIPTION | APPRO. | CHG. | DATE | DESCRIPTION | APPRO. | |
| APPROVED <i>[Signature]</i> <i>[Signature]</i> <i>[Signature]</i> | | | | | | | | |
| BY | PIPING - DATA SHEET WELD INSPECTION GAS STANDARD PACIFIC GAS AND ELECTRIC COMPANY | | | | | | SUPERSEDES | |
| DSGN. | | | | | | | SUPERSEDED BY | |
| DR. | | | | | | | SHEET No. 1 OF 3 SHEETS | |
| CH. | | | | | | | DRAWING NUMBER | CHANGE |
| O.K. | | | | | | | 086574 | 2 |
| DATE | SCALE | | | | | | | |
| 11-19-78 | | | | | | | | |

- 3.2 Under the following conditions, visual examination of the welds may be substituted for radiographic examination:
 - 3.2.1 The pipe has a nominal diameter of less than 6 inches regardless of stress level, or
 - 3.2.2 The pipeline operates at a pressure of under 40 percent of SMYS and the welds are so limited that radiographic testing is impractical.
- 3.3 Except for a welder whose work is isolated from the principal welding activity, a sample of each welders work for each day must be radiographically inspected.
- 3.4 Radiographic inspection must be performed by a qualified radiographer. Minimum qualifications are as specified for level 2 radiographers in Standard SNT-TC-1A of the Society for Non-Destructive Testing.

4. VISUAL INSPECTION

- 4.1 Visual inspection requirements apply to all welding, both arc and oxy-acetylene, regardless of stress level. It is not necessary that every weld be visually inspected. However, the inspections should be conducted at reasonably frequent intervals to assure high quality workmanship. The frequency should be determined by the job supervisor, based on the type and location of the facility involved, and the experience of the welders. However, as far as practicable, welds should be visually inspected each day, in accordance with the following schedule:
 - a) A minimum of 20% of the welds on pipeline facilities designed to operate at 20% or more of SMYS, which are not to be radiographically inspected as outlined in Section 3.
 - b) A minimum of 20% of the welds on pipeline facilities designed to operate at less than 20% of SMYS.
- 4.2 Additional welds should be visually inspected if there is any reason to question the work of a welder or if for any other reason it is deemed necessary to assure the quality of the welding.
- 4.3 Where practicable, the inspection should include work by each of the welders on the job.
- 4.4 Visual inspection shall verify the following:
 - 4.4.1 That the welding is performed in accordance with the welding procedure.
 - 4.4.2 That the joints are properly aligned prior to welding with minimum high-low.

| | | | |
|--|---------------------|----------------|------|
| | PG & E CO. | DRAWING NUMBER | REV. |
| | SHEET 2 OF 3 SHEETS | 086574 | 0 |
| | | MICROFILM | |