1 0 GENERAL

1 1 A welder qualified under this standard may perform arc welding on all API 5L 5LX, ASTM A53 or A-106 grades of pipe up to and including X60 This would include all natural gas lines designed to operate at stress levels of 20% or more of the specified minimum yield strength to comply with CPUC General Order 112-C

1 2 The standard definitions contained in API Standard 1104 latest edition referenced in Appendix A of General Order 112-C, shall apply to this standard

2 0 QUALIFICATION TEST

2 1 Before any production welding is performed on pipelines or components designed to operate at over 20% of SMYS welders shall be qualified under this section The weld shall meet the visual inspection requirements of Par 4, Standard D-40 and shall also be qualified by either the radiographic testing requirements of Section 2.0 Standard D-31 (for butt welds only), or the destructive testing requirements of Section 3 0 and/or 4 0, Standard D-31

2 1 1 The test shall be made on steel pipe - 12-3/4 O D x 0.250 or greater wall any grade

2 1 1 1 Butt Weld - The welder shall make a butt weld in the fixed position with the axis of the pipe either in the horizontal plane or inclined from the horizontal plane at an angle not exceeding 45°

2 1 1 2 Branch Connection - The welder shall lay out cut, fit and weld a full size branch on pipe connection The weld shall be made with the run pipe axis in the horizontal position and the branch pipe axis extending vertically downward from the run (see Page 4)

2 2 Scope of Qualification

2 2 1 A welder who has successfully completed the qualification tests under Section 2 1 1 shall be qualified to weld on natural gas pipelines designed to operate at any stress level in all positions on all wall thicknesses, joint designs, including fillet welds and fittings on all pipe diameters and all grades of pipe if the essential variables in Section 2 3 remain unchanged Qualification under Section 2 1 1 by destructive testing is required before

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welding compressor station piping or components

2 3 If any of the following essential variables are changed the welder must be requalified

2 3 1 A change from one welding process to any other welding process or combination of welding processes

2 3 2 A change in the direction of welding from vertical up to vertical down or vice versa (Direction of welding shall be only as allowed by Standard D-22 Refer to Pages 9 and 10 Drawings 084022 and 086462)

2 3 3 A change in filler metal from one classification group to another classification group as shown in table below

FILLER METAL CLASSIFICATION GROUPS

| GROUP | AWS SPEC | ELECTRODE |
|---|---|---|
| I | A5 1 | EXX 10 |
| | A5 5 | EXX 11 |
| II | A5 5 | EXX 16 |
| | | EXX 18 |

2 4 Requalification of Arc Welders

2 4 1 Welders shall be requalified at intervals not exceeding six (6) months Requalification may consist of successful passing of a radiographic examination of a production butt weld or by repeating the butt weld test in Section 2 1 If time exceeds 6 months entire qualification must be repeated

2 4 2 A requalification test by destructive methods and in accordance with Section 2 1 1 1 may also be required if there is reason to question the welder s ability

2 4 3 Annually all welders who work on compressor station piping must pass a butt weld test by destructive methods in accordance with 2 1 1 1

2 5 Qualification and requalification tests shall be performed under the supervision of a qualified welding inspector

This inspector shall not leave the immediate area while the testing is being performed For the purposes of this Standard a qualified welding inspector is a designated employee that has the experience and knowledge to judge the quality of welds The supervisor designating the person to inspect the welding for a job has the responsibility to determine that the person is qualified (See Standard D-40)