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Sent: Friday, September 18, 2009 6:25 PM
To: Hoidal, Chris (PHMSA)
Cc: Monfared, Hossein (PHMSA); Bonnett, Kristi (PHMSA); Will Simmons
Subject: CPF 5-2009-0007M
Attachments: PSOM MAOP WP Gas.pdf; OM 3 03 Public Awareness.pdf; OM 9 06 Welding v2009-1.pdf

Chris – I have also attached the revisions to our manuals to address the above-referenced matter.

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PUBLIC AWARENESS PROGRAM

1. REFERENCE

49 CFR, Sections 192.614(c)(2), 192.616

- API RP #1162, Public Awareness Programs for Pipeline Operators, First Edition, Dec 2003
- OPS interpretation letter, February 4, 1993
- OPS Public awareness Self Assessment Form, www.ops.dot.gov (RP 1162 Resources)
- December 17, 2002 Pipeline Safety Act
- OPS Advisory Bulletin ADB-03-04, August 2003
- Pipeline Association for Public Awareness, www.pipelineawareness.org

2. PURPOSE and SCOPE

The purpose of this procedure is to outline the Company's public awareness program. The program will provide customers, the public, appropriate government organizations, persons engaged in excavation, public/private utility companies, and related activities with information on how to learn the location of underground pipelines, and how to recognize and report a gas pipeline emergency. This continuing public awareness program follows the guidance provided in American Petroleum Institute's (API) Recommended Practice (RP) 1162 (First Edition, Dec 2003). The company will follow the general program recommendations of API RP 1162 and will assess the unique attributes and characteristics of the company's pipeline facilities.

3. RESPONSIBILITY FOR IMPLEMENTATION

The EH&S Manager is responsible for performance oversight of this educational program.

The EH&S Manager (management) considers API RP 1162 an integral operational component to be supported as well as implemented and maintained. Additionally all roles and responsibilities as assigned in section 11 will be conducted by those listed positions within this operators organization and will have the authority and resources to complete any tasks assigned to them as outlined in the R&R table and this procedure.

4. GENERAL

4.1 The company will follow the general program recommendations, including baseline and supplemental requirements of API RP 1162, unless the company provides justification in its program or procedural manual as to why compliance with all or certain provisions of the recommended practice is not practicable and not necessary for safety.

4.2 District Office is responsible for monitoring the effectiveness of educational programs and advising the company if changes are necessary, or could be made, to improve effectiveness.

4.3 The Company will ***select the most appropriate mix of target audiences, message types, and delivery methods, and frequencies for each pipeline or pipeline segment depending on the needs of the communities***. The practices set forth establish the Company baseline for public awareness programs and describe considerations for program expansion that can further enhance specific public awareness outreach.

The primary audience and minimum frequency for delivery for the Public awareness Program is:

#	**Primary Audience:**	**Minimum Deliver Frequency:**
1.	The affected public - i.e., landowners, residents, and places of congregation (businesses, schools, hospitals, etc.) along the pipeline and the associated right-of-way	Annual
2.	Local and state emergency response and planning agencies, i.e., Local Emergency Planning Committees (LEPC's)	Annual
3.	Excavators, private and public utility companies near the ROW	Annual
4.	Local public officials and governing councils	1x/3 years
5.	One Call Centers	Requirements applicable to the One Call Center

4.4 The company's program will specifically include provisions to educate the public, appropriate government organizations, and persons engaged in excavation related activities on:

(1) Use of a one-call notification system prior to excavation and other public awareness activities;

(2) Possible hazards associated with unintended releases from a gas pipeline facility;

(3) Physical indications that such a release may have occurred;

(4) Steps that should be taken for public safety in the event of a gas pipeline release; and

(5) Procedures for reporting such an event.

4.5 The program and the media used must be as comprehensive as necessary to reach all areas in which the company transports gas.

4.6 The program will be conducted in English and in other languages commonly understood by a significant number and concentration of the non-English speaking population in the company's area.

4.7 Upon request, the company must submit their completed programs to PHMSA or, in the case of an intrastate pipeline facility operator, the appropriate State agency.

4.8 The company's program documentation and evaluation results must be available for periodic review by appropriate regulatory agencies.

4.9 The following elements of the public awareness program are defined in more detail in the following sections.

- Objectives (section 5)
- Target audiences (section 6 and table #3.03A)
- Message content (section 7 and public awareness mailer)
- Delivery method, media, and frequency (section 8 and table #3.03B)
- Expandability of the program (section 9)
- Program evaluation techniques (section 10)
- Roles & responsibilities (section 11)
- Program implementation (section 12, appendices #3.03B and #3.03C)

PIPELINE WELDING

1. REFERENCE

49 CFR, Subpart E (Sections 192.221 through 192.245), API 1104 (Welding of Pipelines and Related Facilities, 19th edition, 1999).

2. PURPOSE

The purpose of this procedure is to establish the requirements for qualifying welding procedure and welders for work on steel pipelines.

3. RESPONSIBILITY FOR IMPLEMENTATION

The Production Foreman is responsible to confirm that all pipeline welding is performed in accordance with this procedure.

The Production Foreman is responsible for reviewing and approving all qualified welding procedures prior to start of production welding.

The Production Foreman is responsible for retaining and maintaining a current record of approved welders, their identification numbers, and the procedures to which each welder is qualified.

4. GENERAL

4.1 All welding to be performed by a qualified welder in accordance with welding procedures qualified to produce welds meeting the requirements specified. The quality of the tests used to qualify the procedure shall be determined by destructive testing. Each welding procedure must be recorded in detail, including the results of the qualifying tests. This record must be retained and followed whenever the procedure is used.

4.2 A Welding Procedure Specification (WPS) is a written procedure prepared to provide direction for making production welds to specific requirements. It specifies the materials, consumables, and procedures to be used in making welds, either for a variety or for specific connection geometry, steel types and steel thickness.

4.3 The Procedure Qualification Record (PQR) documents the welding materials, consumables, and procedures defined by the WPS used to weld a test coupon. It also contains the test results of the tested specimens. The PQR basically establishes that the weldments specified by the WPS are capable of providing the required properties for its intended application.

4.4 The Welder Performance Qualification (WPQ) documents the ability of the welder being tested to produce a weld using a specific set of materials, consumables, and procedures to meet certain quality requirements.

4.5 A weld map and weld location record shall be completed.

4.6 All visual inspection and nondestructive testing shall be per Procedure 15.02.

5. QUALIFICATION OF WELDING PROCEDURES AND WELDERS

5.1 All welding performed on gas pipeline systems shall be completed using welding procedures qualified in accordance with the API Standard 1104 (Welding of Pipelines and Related Facilities, 19th edition, 1999). , or Section IX "Welding and Brazing Qualifications" of the ASME Boiler and Pressure Vessel Code (incorporated by reference, 49 CFR192.7 currently referenced editions).

5.2 Welders welding on pipelines that operate at less than 20% SMYS shall qualify and test according to the requirements for pipelines that operate at 20% SMYS or more.

5.3 Each welder shall be qualified in accordance with section 6 of API Standard 1104 (Welding of Pipelines and Related Facilities, 19th edition, 1999). or Section IX "Welding and Brazing Qualifications" of the ASME Boiler and Pressure Vessel Code (ibr, 49 CFR192.7 currently referenced editions).

5.3.1 No welder may weld with a particular welding process unless, within the preceding 6 calendar months, he has engaged in welding with that process. For welders qualified under 192.227(b), less than 20% SMYS, may not weld unless;

- The welder has re-qualified at least once per calendar year not to exceed 15 months, or
- At least twice each calendar year, not to exceed 7 ½ months the welder has had a production weld cut out, tested, and found acceptable in accordance with the qualifying test.

5.3.2 A welder may not weld on pipe operating at a pressure that produces a hoop stress of 20% or more of SMYS unless within the preceding 6 calendar months the welder has had one weld tested and found acceptable under sections 6 or 9 of API Standard 1104 (Welding of Pipelines and Related Facilities, 19th edition, 1999). Alternatively, welders may maintain an ongoing qualification status by performing welds tested and found acceptable under the above acceptance criteria at least twice each calendar year, but at intervals not exceeding 7 ½ months.

5.3.3 No welder whose qualification is based on nondestructive testing may weld compressor station pipe and components.

5.3.4 When there is specific reason to question the welder's ability to make welds that meet the specification, the WPQ qualification which supports the welding he is doing shall be retested. All other qualifications not questioned remain in effect.

5.4 Each contractor is responsible for the welding performed by their organization. They will conduct the tests required to qualify their welding procedures and each of their welders.

5.5 It is the contractor's responsibility to furnish the Company with complete copies of their welding procedure specification (WPS), procedure qualification record (PQR), and welding performance qualifications record (WPQ) for each welder, and any changes that occur thereto while working for the Company. The contractor is also responsible for retaining and maintaining complete documentation of same, and providing full access to the Company as required.

6. PROCEDURE

6.1 Prior to the start of any welding, an appropriate weld procedure shall be selected and qualified, if not presently qualified.

6.2 Each welder must be qualified to weld by the selected procedure.

6.3 All production welding must conform to the requirements of design drawings or specifications, the selected qualified welding procedure specification (WPS), and within the limits of the welder's performance qualification (WPQ).

6.4 The welding operation must be protected from the weather conditions that would impair the quality of the completed weld.

6.5 Before beginning any welding,

6.5.1 The welding to be performed shall be evaluated for hazards which may affect the safety and health of personnel working in the area or the general public. Welding shall begin only when safe conditions are indicated.

6.5.1.1 A thorough check shall be made in or around a structure or area containing gas facilities to determine the possible presence of a combustible mixture.

6.5.1.2 Where welding is performed in a public area, a means to shield the public from welding arcs shall be provided between welding and public, or assure that public is not present during welding.

6.5.2 Welding surfaces must be free of defects such as laminations, cracks, dents, gouges, grooves, and notches.

6.5.3 Welding surfaces must be clean and free of any material that may be detrimental to the weld. Each joint of pipe may require swabbing to remove all dirt and foreign materials from the inside.

6.5.4 Bevels shall be checked for proper dimensions and angle.

6.5.5 Ensure that the longitudinal seams are offset. The seams should be located on the upper quadrant of the line and preferably within 30 degrees of top center. Alternate joints shall be rotated to right or left at least 15 degrees to avoid aligning the seams in adjacent joints. Exceptions to this requirement shall be made for making bends, as the longitudinal seam must remain on the neutral axis of the bend, and at other locations as may be indicated on the design drawings.

6.5.6 The line-up shall be checked to ensure proper root spacing and alignment. This alignment must be preserved while the root bead is being deposited.

6.5.7 Welding consumables shall be confirmed for correct type, proper use, control and handling prior to and during use. All welding rod stubs and discarded rods shall be gathered and disposed of in a manner and place authorized by the Company. No welding rod shall be left on or around the working area or deposited in the ditch.

6.6 Preheated and interpass temperatures shall be maintained within the specified ranges.

6.6.1 Preheating shall be required when the welding procedure indicated that chemical composition, ambient and/or metal temperature, material thickness, or weld-end geometry require such treatment to produce satisfactory welds.

6.6.2 The temperature shall be checked by the use of temperature-indicating crayons, thermocouple pyrometers, or other suitable methods to assure that the required preheat temperature is obtained prior to and maintained during the welding operation.

6.7 Grinding and cleaning of the stringer (root) bead shall be completed prior to depositing subsequent filler passes.

6.8 Welds in carbon steels having a high carbon content which requires stress relieving by the applicable code (API 1104-Welding of Pipelines and Related Facilities, 19th edition, 1999 or ASME/ANSI B31.8) shall be stress relieved as prescribed in ASME Boiler and Pressure Vessel Code, Section VIII. Stress relieving may also be advisable for welds in steel having lower carbon or carbon equivalent when adverse conditions exist which cool the weld too rapidly.

6.8.1 Welds in carbon steels shall be stress relieved when the wall thickness exceeds 1-1/4 in (3.81 cm).

Note: Above mentioned codes shall be the 49CFR192 currently referenced edition.

6.9 Mark and ensure that all arc burns are removed and repaired. A ground may not be welded to the pipe or fitting that is being welded.

6.10 A miter joint is not permitted (not including defections up to 3 degrees that are caused by misalignment). Any weld which is not at right angles to the axis of the pipe will be considered a mitered weld, unless the angle is specifically called for on the design drawings.

6.11 Weld numbers and welder identification numbers shall be applied using waterproof crayon, paint pens, or similar markers on the pipe coating adjacent to the weld for temporary identification. Marks shall be made on the top of the pipe approximately 1 foot (0.30 meters) from the cutbacks on the pipe coating, and shall be visible after joint coating is complete.

6.12 A permanent record in the form of weld maps shall be made indicating the location of all welds that can be cross referenced to the weld's nondestructive testing and to the welder making the weld.

7. REPAIR OR REMOVAL OF WELD DEFECTS

7.1 Qualified procedures and currently qualified welders are required for all repair work.

7.2 Each weld that is found unacceptable must be removed or repaired. Except for welds on an offshore pipeline being installed from a pipelay vessel, a weld must be completely removed if it has a crack that is more than 8 percent of the weld length.

7.3 Each weld that is repaired must have the defect removed down to sound metal and the segment to be repaired must be preheated if conditions exist which would adversely affect the quality of the weld repair. After repair, the segment of the weld that was repaired must be inspected to ensure its acceptability.

7.4 The repair of a crack in a weld, providing it does not exceed 8% of the weld length, or, of any defect or flaw in a previously repaired weld, must be according to a written weld procedure qualified under Section 5.0 "Qualification of welding procedures and welders". The welder(s) must have qualified to the repair procedure prior to affecting the repair.
The repair procedure must provide that the repaired defect(s) equal or exceed the original mechanical properties of the originally intended weld.

Re-repair of welds will not be permitted unless approved by the District Engineer using a qualified welding procedure.

After any repair or re-repair, the weld must be non-destructively tested by any process to determine and ensure the repair's integrity. Please refer to Procedure 15.02 "Visual Inspection and Nondestructive Testing".

7.5 An arc burn caused by any means, whether by welding or other, can be injurious to the carrier pipe and is totally unacceptable. Arc burn affects the integrity of the pipe and can cause mechanical deficiencies and possible stress concentrations.

An arc burn can be completely removed by grinding. However, the grinding process must not be excessive and to the point where the wall thickness is less than the minimum thickness required by the tolerances in the original specification of the pipe.

If the arc burn cannot be removed by grinding, a cylinder of the pipe containing the defect must be removed.

If grinding provides a thinner pipe wall than originally manufactured, and the pipe is to be retained, derating of the pipe must be considered.

8. RELATED PROCEDURES

9.01 Pipeline Repair Procedures
15.02 Visual Inspection and Nondestructive Testing

9. RECORDS

9.1 Insert copies of the welding procedures used, the location of the welds, the welders used, and the results of all nondestructive testing in the pipeline historical file.

9.2 Insert copies of pipe and fitting material qualifications, as-built drawings, and hydrostatic test records in the pipeline historical file.

9.3 Maintain records for the life of the facility.

Maximum Operating Pressure: (Part 192.619) The maximum operating pressure (MOP) of the pipeline must not exceed the test pressure divided by 1.5 or the lowest design pressure of the weakest element in the segment. The MAOP of the pipe has been determined by calculations given in Part 195.619. There are components in the line such as valves and fittings which have pressure capability limited to 720 psig, the ANSI rating for Class 300. The 4" segment of pipeline has a hydrostatic test pressure of 495 psig, **The test pressure of 495 psi divided by 1.5 psig = 330 psig. However, Breitburn has established a lower MAOP of 250 psig on this segment of pipeline.**

Since the MAOP pressure is the lowest of the three measures, the limiting pressure is thus 1.1 X 250 psig = 275 psig. Protective shut down and relief devices at the production facility are to be tested and calibrated annually and maintained in good working order such that they are able to control the normal operating pressure within this limit. The protective operator warning light alerts the operator for pressures measured between 150 – 250 psig. The shut down switch on the compressor shall be set at **or below 250 psig**. As a back-up safety device, the pressure relief valves shall be set at **or below 275 psig**. The safety devices described above provide three levels of protection for the pipeline system in order to maintain the operating pressure at or below the allowable MOP.

For reference, the calculations for the pipeline are given below:

4" West Pico to BHC

P = (2 St/D) x E x F, where	
P = Internal design pressure (psi)	1475
S = Yield strength (psi)	35,000
T = Nominal W.T. (inches)	0.280
D = Nominal O.D. (inches)	6.625
E = Seam joint factor	1.00
F = Design factor	0.40

With a SMYS = 1475 and an MAOP of 250 psig, the line operates at 17% SMYS.