

November 22, 2011

TO: Missouri Natural Gas Operators

SUBJECT: 1) Welder Qualifications should include all applicable essential variables;
2) Staff Interpretation of "mutually agreed" in the RSMO Chapter 319 Damage Prevention Statute; and
3) Dangers of Abnormal Snow and Ice Build-Up on Gas Related Equipment

Note: Copies are not sent to all operator personnel. Please forward to the appropriate person(s).

1) Welder Qualifications should include all applicable essential variables.

The Gas Safety Staff of the Missouri Public Service Commission have been asked by our PHMSA State Liaison to make an additional check of welding qualifications during our annual inspections of each Missouri Operator. This only applies to the qualification of welders on steel pipe.

Each operator utilizing welding should already have a qualified welding procedure (or have adopted a qualified procedure such as the MANGO procedure). This procedure will address each of the applicable essential variables listed in API 1104 Section 5.4. The essential variables from the API Standard 1104 (either the 19th or 20th edition) are:

- Process (e.g. SMAW, GMAW, MIG, TIG, etc.);
- Base Material (e.g. API 5L Grade B, X42, X52, etc.);
- Joint Design (e.g. V-groove, U-groove, etc.);
- Position (e.g. fixed or rolled);
- Wall Thickness (procedure will likely have groupings of wall thicknesses);
- Filler metal (electrode type – e.g. E6010);
- Electrical Characteristics (procedure should specify current and polarity e.g. DC reverse polarity and give a range of acceptable amps and voltages);
- Time Between passes (procedure may specify a maximum time);
- Direction of welding (procedure should specify e.g. downhill, uphill)

- Shielding gas and flow rate (won't apply to all methods, only if shielding gas is used, e.g. GMAW, if applicable, procedure will likely specify a gas and give a range of acceptable flow rates);
- Shielding flux (won't apply to all methods, only if flux is used, e.g. SAW);
- Speed of travel (procedure will likely specify a range of acceptable speeds);
- Preheat (will possibly be tied to a minimum ambient temperature); and
- Post-weld treatment (procedure may indicate not required).

PHMSA has asked the MoPSC Staff to verify that these essential variables are recorded during the qualification tests for each welder and that the variables recorded match the approved procedure. In future inspections, Staff will be looking to see if the applicable essential variables have been addressed during welder certification tests and will be reviewing the approved welding procedures to verify that the correct variables are used.

2) Staff Interpretation of “mutually agreed” in the RSMO Chapter 319 Damage Prevention Statute and response to Emergency Locate Requests

For “Routine” locate requests, RSMO Chapter 319.030 requires underground facility owners and operators to “inform the excavator as promptly as practical, but not in excess of two working days, unless otherwise mutually agreed of the approximate location of underground facilities...”

In the past, some operators have interpreted the “mutually agreed” language to include instances when the excavator provides a “work to begin” date that is later than the two working days. Staff’s position is that each routine locate request must be completed within the 2 working days allowed by statute, or the operator must contact the excavator to mutually agree upon a later date, regardless of the “work to begin” date given by the excavator to Missouri One-call. Staff’s position is that to be “mutually agreed”, the operator must contact the excavator and must document the date and time the contact took place.

In a related matter, there has been some issues noted with “Emergency” locate requests. For “Emergency” locates, RSMO Chapter 319.050 requires that the facility owner either mark the facilities within 2 hours of the request, or shall inform the excavator within 2 hours of the request that the facilities cannot be located within 2 hours. Staff believes that for every Emergency locate request, the facility must either be located within 2 hours or the excavator contacted within 2 hours to provide any information immediately available and inform the excavator when the facility will be marked and must document the date and time the contact took place, even if the excavator specifies a time that is later.

3) Dangers of Abnormal Snow and Ice Build-Up on Gas Related Equipment

In the past, Missouri has experienced some natural gas incidents, as well as, non-reportable incidents that involved an over-pressure condition of downstream fuel line piping that was caused by the accumulation of ice on residential service regulator equipment. Please be aware of possible situations or scenarios that may be conducive to ice build-up on pressure regulating and relieving equipment during the winter months.

Some of the commonalities of these natural gas incidents involved a roof overhang that was directly above a natural gas meter set and no guttering was attached to the overhang to carry the water away, or the gutter was blocked with leaves and debris. Also, the majority of the gas meters had service regulators in which the breather vent screen assembly was positioned above the top of the meter casing (middle-mount or angle-style regulator. Another commonality was that significant amounts of precipitation and below-freezing temperatures over a period of several days contributed to the icing problem.

The Staff is asking that all operators discuss and review this possible safety issue with Service Department personnel and Meter Readers that typically see natural gas meter set installations. If an operator has experienced any type of pressure regulating and/or pressure relieving problem that was attributed to ice build-up, that has either caused a gas outage, or an over-pressure condition of the downstream fuel line piping, investigation of these types of equipment failures would be required by 4 CSR 240-40.030(12)(L) in order to minimize the possibility of a recurrence. Measures might include moving the natural gas meter set to a more favorable location or providing some type of regulator shield/cover to divert the water in an effort to prevent the formation of ice directly on the service regulator and/or pressure relieving device.

Additionally, please be aware that PHMSA recently released an Advisory Bulletin (Federal Register Vol. 76, No. 27) on February 9, 2011 advising owners and operators of petroleum gas and natural gas facilities of the need to take the appropriate steps to prevent damage to pipeline facilities from accumulated snow or ice. The advisory discusses how past events on natural gas distribution system facilities appear to have been related to either the stress of snow and ice or the malfunction of pressure control equipment due to ice blockage of pressure control equipment vents.

Sincerely,

Robert R. Leonberger
Supervisor - Gas Safety/Engineering Section

RRL:km