Inspections this Year...

During 2018, most distribution operators will receive Operator Qualification (OQ), Drug and Alcohol (D&A), Public Awareness (PA) and Distribution Integrity Management (DIMP) inspections. During the inspections, plans and records will be reviewed. Master meter operators will receive a standard master meter inspection, an OQ, and in some cases a DIMP inspection. Transmission operators will receive an integrity management, OQ, PA and D&A inspection. The most current inspection forms are available for downloading from the TPUC website or can be obtained from your inspector prior to the inspection. We highly recommend that each operator obtain, review and complete the appropriate forms prior to the specific inspections in order to facilitate a more efficient and timely inspection for both parties. Some of these plans may be submitted to your inspector for review prior to conducting the on-site inspection.

Emphasis on Excavation Damage Prevention Programs...

PHMSA has determined that the primary risk to pipelines is excavation damage and is placing great emphasis on establishing and implementing excavation damage prevention programs in all states. To this end, PHMSA is also directing pipeline safety programs to be active in addressing excavation damages. As of 2016, the national average for the number of damages per 1000 tickets is three (3). The Tennessee average had been declining and was five (5) hits per 1000 tickets but has been increasing since 2015. PHMSA is expecting each state to actively work with each operator to understand the root cause of excavation damages and outline programs to minimize excavation damages in their system. Review of trends for Tennessee operators indicates that systems operating in more rural areas generally have significantly larger numbers of damages per 1000 tickets and are driving the higher state average.

Your Distribution Integrity Management Program & Excavation Damages...

During the initial inspection of distribution integrity management programs in our state, excavation damages were by far the highest risk for most of our operators. Therefore, during our inspections this year, we will be reviewing each operator’s history of excavation damage trends for their system. Each operator will be expected to provide documentation for their excavation damages for the past 10 years, consistent with the records retention requirements for DIMP. The information should include third party and first party information. Performance trends will be reviewed to be sure they have been accurately evaluated and addressed in the DIMP. If accelerated actions were defined in previous DIMP plans, we will review records to ensure they were implemented and will expect that where they were not effective, additional actions will be included and implemented to more effectively reduce excavation damages. Each year we will assess each operator’s effectiveness in reducing excavation damages as required in the DIMP for each system.

Preparing for Your Inspections...

For the Operator Qualification inspection, we will expect operators to include at a minimum the following system specific information in their plans: 1) define all covered tasks, 2) provide the basis for determining each covered task, 3) define the abnormal operating conditions specific to each task, 4) determine the time interval for requalification for each covered task, and if greater than 3 years, the basis for the interval, 5) define the methods of evaluation of knowledge, skills and ability selected for each task and the basis for this determination, 6) if simulation is a method of evaluation of knowledge, there must be a written script for each covered task which evaluates recognition and reaction to abnormal operating conditions for each task and response -- and documentation for each person evaluated must be signed by the person being evaluated and the evaluator, 7) performance evaluation must be “hands on” for each person being qualified, 8) procedures outlined for performance of each task must be consistent with procedures outlined in operator’s O & M plan, 9) procedures for evaluation of contractors’ plans must be documented, and 10) the basis for disqualification and basis for requalification must be documented.

For the Public Awareness Plan inspection, we expect these should be significantly easier to complete because we have been reviewing each operator’s program during the standard inspection. The PHMSA inspection form will have to be completed for each inspection.

For the Drug & Alcohol program inspection, we will be completing the PHMSA inspection form, which is lengthy and very detailed. For those in consortiums, we will have reviewed the plan for your consortium to determine if all requirements for the program are included; however you will need to obtain the D & A plan and MIS forms from your consortium to confirm membership. If your contractors are in the same consortium, you must be able to document this in your records. If they are not, you must be able to confirm that you have reviewed their plans and they meet requirements.

Continued on Page 2
Capacity of Regulators and Relief Valves

Why must the relief capacity exceed the regulator capacity???

In order to maintain the Maximum Allowable Operating Pressure (MAOP) of the piping system downstream of the regulator system, the relief valve is used as a safety measure in the event that the regulator malfunctions. The MAOP is the maximum pressure that the piping can safely accommodate. The MAOP must be based on the weakest element of the portion of the system. The relief valve must have a capacity greater than the regulator capacity. It is very important that the inlet pressure $P_1$ used is the inlet MAOP and $P_2$ is outlet MAOP.

$$Q = \sqrt{\frac{520}{GT}} \cdot C_g P_1 \sin \left( \frac{3414}{C_1} \sqrt{\frac{P_1 - P_2}{P_1}} \right)$$

(Calculation for the capacity of a regulator)

Fortunately, most regulator companies have these calculations presented on tables. If you have questions regarding relief capacities, contact your Gas Pipeline Safety inspector or your regulator company.

Please update your records & manuals!

TENNESSEE PUBLIC UTILITY COMMISSION
Gas Pipeline Safety Division
502 Deaderick Street, 4th Floor
Nashville TN 37243

Annette S. Ponds, PE, Director
cell 615.476.4716 office 615.770.6859
Annette.Ponds@tn.gov

Travis Aslinger, Engineer
cell 615.202.9848 office 615.770.6864
Travis.Aslinger@tn.gov

Regina Brown, Engineer
cell 615.587.9150 office 615.253.4086
Regina.A.Brown2@tn.gov

Shinisha Freeman, Engineer
cell 615.308.1489 office 615.770.6860
Shinisha.Freeman@tn.gov

Diana Hawkins, Engineer
cell 615.483.7071 office 615.770.0080
Diana.R.Hawkins@tn.gov

Phill Hendricks, Engineer
cell 615.969.1768 office 615.770.6861
Phill.Hendricks@tn.gov

Pete Hut, PE
cell 615.969.2042 office 615.770.6862
Pete.Hut@tn.gov

Tim Thompson, Engineer
cell 615.306.9165 office 615.770.6865
Tim.Thompson@tn.gov

Vicky Nelson, Administrative Services Assistant
office 615.770.6863 fax 615.741.2844
Vicky.Nelson@tn.gov

Reporting Contacts:
Washington D.C. Response Center 800.424.8802
Damages Information Reporting Tool (DIRT) - www.cga-dirt.com
TN Underground Utility Damage Complaints - tpuu.udc@tn.gov
Odorant Monitoring—Correction Chart for Readings

Odorant monitoring is crucial to natural gas pipeline safety. Properly documenting values and readings from odorant monitoring devices, as defined by manufacturer procedures, may involve reading a chart to correct values. Uncorrected readings and values occurring between points on a correction chart are approximated using a process called “interpolation” for correction. Operators must perform this interpolation for correction rather than just rounding up/down or guessing between the points on the chart. Valid interpolation has been performed by the Gas Pipeline Safety Division (GPSD) for a Heath odorant monitoring device and is readily available as a chart (shown below). Anyone needing an odorant device correction chart with interpolation values should contact GPSD. This correction chart is updated at each odorant monitoring calibration and may change, requiring a new interpolation chart. GPSD can provide assistance if you need it.

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Please Note: Corrected readings above 1.00 are not presented. Corrected values above 1.00 (or lower depending on lower explosive limit value of the natural gas) are out of compliance and should initiate an immediate investigation of problems with odorant monitoring machine or odorant addition to system. It is suggested to document uncorrected value if above 1.00 and proceed with investigation.

PHMSA F7100.1-1 Annual Report Areas of Concern

A review of Annual Reports has revealed that some parts are incorrectly or incompletely filled out. A recurring area of concern is the table of leaks and causes in Part C. Portions of the table are being left blank if there were no leaks in a given category. Ideally, a zero should be entered in these fields. If there are leaks shown in the ‘Total’ columns, the ‘Hazardous’ column should be completed to make it clear whether any of those leaks were hazardous. The term ‘hazardous’ here means the same as it does in leak grading—any Grade 1 leak should be counted as a hazardous leak. Numerous excavation damages listed in the ‘Total’ columns and nothing in the ‘Hazardous’ columns seems unlikely since many excavation-caused leaks are going to involve blowing gas or similar conditions that require immediate repair (i.e., Grade 1).

Also, the total number of excavation damages in Part D should match the total given in the corresponding row of Part C, unless there is some reason for the discrepancy (e.g., a single excavation event damages both a service and main and is counted in both those columns of Part C, or a damage occurs without producing a leak). The numbers attributed in Part D to the various causes listed in (a) through (d) should add up to the total in Line 1. The ‘other’ cause should only be used for unusual cases, such as unintentional excavation or damages found so long after the fact that it’s unknown whether 811 was contacted. Keep in mind that if your own utility causes excavation damage (first party) to your pipelines, it should be counted and recorded just as if it were done by a third party. If you need to add or correct information on an already-submitted report, the PHMSA website allows you to submit amended Annual Reports, called “Supplemental” reports, through the same portal as the original entry.