



Indiana Utility Regulatory Commission
Pipeline Safety Division

2010 Master Meter Operator Compliance Seminar
November 4, 2010

LEAK SURVEYS, REPORTS

MUST MEET THE REQUIREMENTS OF:

**CODE OF FEDERAL REGULATIONS (CFR) §
Part 192 - Transportation of Natural Gas**

**INDIANA ADMINISTRATIVE CODE (IAC)
170 IAC ARTICLE 5. GAS UTILITIES
5-3-2 Federal regulations, revision**

ARE PROCEDURES SATISFACTORY?

§192.605 Procedural manual for operations, maintenance, and emergencies

Each operator shall include the following in its operating and maintenance plan:

- (a) General. Each operator shall prepare and follow for each pipeline, a manual of **written procedures for conducting operations and maintenance activities and for emergency response.**
- (b) Maintenance and normal operations. The manual required by paragraph (a)...**must include procedures for** the following, if applicable, to provide safety during maintenance and operations.
 - (1) **Operating, maintaining, and repairing the pipeline in accordance with each of the requirements of this subpart and Subpart M of this part.**

What are we finding during inspections?

- Operator has **no procedures** in O&M addressing **Leak Surveys, Leak Reports, Leak Classification or Leak Repairs.**

What do we expect?

- That the operator **have procedures** in their O&M addressing these **operations and maintenance activities and for emergency response.**

FEDERAL REQUIREMENTS FOR LEAK SURVEYS

Subpart M – Maintenance

§192.723 Distribution systems: Leakage surveys.

- (a) Each operator of a distribution system **shall conduct periodic leakage surveys** in accordance with this section.
- (b) The type and scope of the leakage control program must be determined by the nature of the operations and the local conditions, but it must meet the following minimum requirements:
 - (1) A leakage survey with **leak detector equipment** must be conducted in business districts, including tests of the atmosphere in gas, electric, telephone, sewer, and water system manholes, at cracks in pavement and sidewalks, and at other locations providing an opportunity for finding gas leaks, **at intervals not exceeding 15 months, but at least once each calendar year.**

STATE REQUIREMENTS FOR LEAK SURVEYS

170 IAC 5-3-2 Section (12)(b-1)

Distribution Systems: Leakage Surveys and Procedures (Ref: Title 49 CFR, Part 192, Section 192.723).

Paragraph (b-1) shall read:

- **(b-1) A leak survey using gas detection equipment shall be conducted in:**
 - (1) business districts;
 - (2) areas of high occupancy buildings as identified in the operator's operations and maintenance procedures, such as schools, churches, hospitals, **apartment buildings**, commercial buildings;
 - (3) built-up residential areas where continuous pavement exists; and
 - (4) such other areas as the commission may direct;

once each calendar year at intervals not exceeding fifteen (15) months. The surveys in...areas of high occupancy buildings, (1)..., shall be made at least to the meter outlet. **Tests shall include tests of the atmosphere in utility manholes, at cracks in the pavement and sidewalks and other locations providing an opportunity for finding gas leakage.**

What are we finding during inspections?

- Operators **not performing leak surveys.**
- Leak surveys are not performed **each calendar year or they exceed the fifteen (15) month window.**
- Leak surveys are performed with leak detector **equipment not calibrated or designed for leak surveys.**

What do we expect?

- Leak surveys to be performed **each calendar year at intervals not exceeding fifteen (15) months.**
- Use of proper leak detection equipment **that is calibrated and designed for leak surveys.**

RECEIVING LEAK CALLS

Subpart L – Operations

§192.615 Emergency plans.

- (a) Each **operator shall establish written procedures to minimize the hazard resulting from a gas pipeline emergency.** At a minimum, the **procedures must provide** for the following:
 - **(1) Receiving, identifying, and classifying notices of events which require immediate response by the operator.**

RECEIVING LEAK CALLS

- Provide **training and information for personnel receiving leak calls – normal hours and after hours.**
- Actions that **protect life first**, then property.
- Information and training **should instruct caller to safety.**
- **Wait outside, do not hang up the phone, or turn any switches, ...etc.**
- **For each odor complaint a Leak Report form shall be completed.**

LEAK REPORTS

170 IAC 5-3-2 Section (12)(c)

Paragraph (c) shall read:

- (c) **All leaks reported**, regardless of the origin of the reports, **shall be recorded on suitable report forms**. These report forms **should provide space for all pertinent information**. Each leak reported **shall be accounted for**, and **actions taken in response to leaks shall be documented** and filed in a systematic manner.

What are we finding during inspections?

- **Personnel receiving leak calls are not trained.**
- **The only documentation of leaks are the leaks discovered during the annual Leak Survey. Reports for the leaks discovered outside this Leak Survey have not been available.**
- **Lack of information on leak reports discovered during Leak Survey and other reported leaks.**

What do we expect?

- **Personnel receiving leak calls are trained.**
- **Adequate documentation of all reported leaks. Refer to the examples of Gas Leak and Repair Reports in your handout.**

GAS LEAK AND REPAIR REPORT

FORM 2

COMPANY: _____

Receipt of Report:

Date: _____ Time: _____

Location of Leak: _____
(address, intersection, etc.)

Reported by: _____
(Name) (Address)

Description of Leak: _____
(inside/outside)

Leak Detected by: _____

Leak Reported by: _____

Report Received by: _____

Dispatched

Date: _____ Time: _____

Investigation Assigned to: _____
(Name)

Assigned as Immediate Action Required? Yes _____ No _____

Investigation

Date: _____ Time: _____

Investigation by: _____ Leak Found? Yes _____ No _____

CGI Used? Yes _____ No _____ Leak Grad: 1 _____ 2 _____ 3 _____

Location of Leak: _____

Cause of Leak: _____

Condition Made Safe: Date: _____ Time: _____

Repair Report

Length of Pipe Exposed: _____ feet

Leak at: Threads _____ Coupling _____ Weld (give type) _____ Valve _____ Other _____

Pipe: Size: _____ inches/Steel () Plastic () Cast Iron () Other () Depth ()

Coating: Enamel () Wrapped () Galvanized () Other ()

Condition: Excellent () Good () Fair () Poor ()

Soil Conditions: Sand () Clay () Loam () Other (describe) _____

Moisture: Dry _____ Damp _____ Wet _____

Repairs Made: _____

Repair Coating Type: Mastic () Hot Applied Tape () Other (describe) _____

Anodes Installed: How many? _____ Anode Weight _____ lbs Depth Installed _____

Repairs Made by: _____ Date _____

(Name)

Foreman: _____ Supervisor: _____

(Signature) (Signature)

Posted by: _____ Date: _____

TELEPHONIC REPORT OF CUSTOMER LEAK

FORM 12

COMPANY: _____

Customer Leak Information

Time Call Received: _____ a.m./p.m. Date: _____

Name of Caller: _____ Caller's Phone Number: _____

Name of Customer if not Caller: _____

Address of Leak: _____

Nature of Complaint: Odor (☐) Blowing Gas (☐) Dead Vegetation (☐)

Other (describe): _____

Is the gas odor or sound inside the residence? Yes _____ No _____

If so, where is it located? (at the water heater, at the heating system, at the stove, in the hall, in the kitchen, etc.): _____

Is the gas odor or sound outside the residence? Yes _____ No _____

If so, where is it located? (at the meter, near the street, at the house, in the ditch, at the pool, at the gas grill, etc.): _____

How long have you been smelling or hearing the gas? _____

Will someone be home for us to check the leak? Yes _____ No _____

Leak Response Information

Time Dispatched Investigator: _____ a.m./p.m. Date: _____

Name of Investigator: _____

Time of Investigator Arrival at Scene of Leak: _____ a.m./p.m.

Action Taken: _____

Time of Investigator Completion at Scene of Leak: _____ a.m./p.m.

Additional Follow-up (if needed): Yes _____ No _____

If so, what type of follow-up: _____

Additional Remarks: _____

Signature of Investigator: _____

Signature of Supervisor: _____

LEAK CLASSIFICATION

170 IAC 5-3-2 Section (12)(c-1)(c-2)

Paragraph (c-1) shall read:

(c-1) All leaks reported shall be investigated promptly and classified in accordance with procedures...The procedures shall include acceptable response times and shall **ensure that gas leakage that is hazardous to life or property shall receive immediate attention for repairs.**

Paragraph (c-2) shall read:

(c-2) Leak indications where repairs are not completed shall be rechecked on subsequent surveys, depending on the operator's classification and in accordance with the operator's procedures.

GPTC Guide for Leak Classification

Based on an evaluation of the **location or magnitude of a leak or both**, one of the following leak grades should be assigned, thereby **establishing the leak repair priority**.

- (a) **Grade 1**, a leak **that represents an existing or probable hazard to persons or property**, and requires immediate repair or continuous action until the conditions are no longer hazardous.
- (b) **Grade 2**, a leak that is recognized as being **non-hazardous at the time of detection**, but, **requires** scheduled repair based on probable future hazard.
- (c) **Grade 3**, a leak that is **non-hazardous at the time of detection** and can be reasonably **expected to remain non-hazardous**.

GPTC Guide for Leak Classification

- Typical instrument requirements are **to measure percent gas or LEL** to classify the **severity of a leak**.
- Guidelines for leak classification and leakage control are provided in **Tables 3a, 3b, and 3c in your handouts**. The **examples** of leak conditions provided in the tables **are presented as guidelines**...The **judgment of the operator personnel** at the scene is of **primary importance** in determining the **grade assigned to a leak**.

LEAK CLASSIFICATION MADE SIMPLE

Some operators have chosen to treat all leaks as **Grade 1**, a leak **that represents...probable hazard to persons or property, and requires immediate repair.**

Pros –

- Takes the determination factor out of leak classification.
- May reduce repeat calls on non-hazardous leaks.

Cons –

- **Requires immediate repair. It can't wait until Monday.**

What are we finding during inspections?

- **No procedures for classifying leaks – leaks not classified.**
- **Operator has procedures, but individuals are not familiar with classifying leaks due to lack of training and experience.**
- **Operators do not have leak detector equipment to measure percent gas or LEL to classify the severity of a leak.**

What do we expect?

- **All leaks reported shall be investigated promptly and classified in accordance with procedures.**
- **Individuals responding to leaks are trained and qualified with the proper leak detection equipment to classify leaks.**
- **Classification of each reported leak shall be documented.**

LEAK REPAIRS

170 IAC 5-3-2 Section (12)(d)

Paragraph (d) shall read:

- **(d) Records shall be made covering these surveys, inspections, and repairs made. These records, along with any other routine or unusual inspections and repairs, shall be kept in the file of the operating company.**

What are we finding during inspections?

- **No documentation of repairs made on reported leaks.**
- **Repair documentation does not include enough information to determine how a leak was repaired.**
- **Repairs are not made in accordance with the operator's classification and procedures.**

What do we expect?

- **Repair documentation on all reported leaks, clearly stating what material was used and how the repair was made.**
- **Repairs are made in accordance with the operator's classification and procedures.**

“EXCEPTION” ON LEAK AND REPAIR REPORTS

- Historically, leaks discovered and repairs made, as of the result of the annual Leak Surveys, have been documented on **Leak Survey Reports only**. **Details on these leaks and repairs have been vague.**

“EXCEPTION” ON LEAK AND REPAIR REPORTS

- **IURC/PSD will accept this practice under these conditions:**

It is a non-hazardous release that can be eliminated by lubrication, adjustment, or tightening; and documentation on Leak Survey Report provides all pertinent information.

“EXCEPTION” ON LEAK AND REPAIR REPORTS

- **ALL OTHER LEAKS SHALL
DOCUMENTED ON SUITABLE LEAK
AND REPAIR FORMS PER THE
REGULATIONS.**