Abnormal Operating Conditions Requiring *Notification To The Gas Company*

If Conditions Allow, Standby for Utility Response

Con Ed – 1-800-75-ConEd (26633) **National Grid – (718) 643-4050**

- ✓ **ANY LEAK INDICATION Regardless of Odor !! (fitting indication, etc..)**
- ✓ Inadequate or excess gas pressure
- ✓ Inappropriate or illegal piping connections / theft or diversion of service
- ✓ Damaged interior piping
- ✓ Excessive CO readings or CO alarm activation
- ✓ POE wall penetration not sealed
- ✓ Insufficient pipe supports, meter and regulator supports
- ✓ Inappropriate grounding to gas piping
- ✓ Jurisdictional piping not installed to Utility specifications
- ✓ Pressure regulator vent piping not installed properly or maintained
- ✓ Moderate or Severe Atmospheric Corrosion **(Especially at POE !)**
- ✓ Lack of a gassy odor (odor fade / masking)
- ✓ Any plug or cap installed directly on MP or HP piping not part of a closed & locked valve assembly/installation
- ✓ Any condition downstream of the meter which has impact on public safety (improper venting of appliance, improper piping connections, etc)

Examples of Abnormal Operating Conditions Requiring *Notification To The Gas Company*

If Conditions Allow, Please Stand-By to Ensure Utility Company Access If Requested to Do So

- ***ANY LEAK INDICATION* Regardless of Odor!!**

  Carbon Monoxide (CO) detection Regulators

  venting gas

  Rapid dial movement on meter

  Evidence of fire or explosion

- ***Inadequate or Excess Gas Pressure***

  Indications or reports of too much or too little gas pressure

- ***Inappropriate or Illegal Piping Connections / Theft or Diversion of Service***

  Theft of service

  Cross connections

  Diversion of service

  Suspected unauthorized operation of service or meter valve

  Locks removed from meter valves

Conditions Presenting An Immediate Safety Risk – Get Out !!!

- ✓ **Gas Leak that Presents Immediate Danger**
  - **Blowing gas, Uncontrolled leak, Any Odor or Gas Reading in Free Air When Entering a Building or Performing an Inspection**
- ✓ **CO Detection**
- ✓ **Odor of Gas in a Building**
- ✓ **Fire or Explosion**

- ❖ **Immediately Exit The Building, Notify Occupants / Building Owner On Your Way Out**
- ❖ **Once Outside The Building, Notify 911 or the Utility Company**
- ❖ **Document Your Findings, Await Assistance**

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Examples of Abnormal Operating Conditions Requiring *Notification To The Gas Company*

If Conditions Allow, Please Stand-By to Ensure Utility Company Access If Requested to Do So

- ***Damaged Interior Piping***

  Bent gas pipe

  Other damage to gas pipe

  Damaged meter (including meter dials/index) or regulator

  Meter sets in danger of damage from falling items

- ***POE Wall Penetration Not Sealed***

  Gas POE at wall, foundation or sleeve (inside/outside sleeve diameter) not sealed

- ***Insufficient Pipe, Meter or Regulator Supports***

  Inadequate, insufficient, lack of or broken pipe support

  Gas piping being used as a means of supporting loads

- ***Inappropriate Grounding to Gas Piping***

  Electric ground connected on gas pipe

  Electric cable, conduit or pipe in contact with gas pipe, meter, regulator or vent pipe

Examples of Abnormal Operating Conditions Requiring *Notification To The Gas Company*

If Conditions Allow, Please Stand-By to Ensure Utility Company Access If Requested to Do So

- ***Jurisdictional Piping Not Installed to Utility Specifications***

Compression coupling/fittings located upstream of regulator

Cap or plug installed directly on MP or HP piping

Multiple compression couplings

Compression couplings located at a point other than immediately after a service head or regulator

Inappropriate or substandard parts or materials

Meter sets without shut-off valve or access to shut-off valve

Inaccessible meter set, service valve, POE or jurisdictional piping

Inadequate meter/regulator protection from vehicles

Improper meter location

Structure(s) over a gas facility, Incorrect depth of cover over a gas facility

Meters making unusual sound(s)

Broken shut-off valve(s)

Incorrect clearance for meter (meter in contact with floor or wall)

Open-ended piping or valve not capped/plugged

Examples of Abnormal Operating Conditions Requiring *Notification To The Gas Company*

If Conditions Allow, Please Stand-By to Ensure Utility Company Access If Requested to Do So

- ***Inappropriate Use of Flexible Connectors***

  Flex connector through a wall or floor

  Flex connector connecting segment(s) of pipe

  Multiple flex connectors connected in series

  Flex connector installed on stationary appliance (house heating or water heating appliance)

- ***ANY Condition Downstream of Meter Which Has an Impact on Public Safety***

  Appliance not vented properly

  Improper piping connections

  Brass fittings, copper fittings, copper tubing used on house piping

  Inappropriate or substandard parts or materials

  Open-ended piping or valve not capped/plugged

  Unsafe customer-owned gas piping

- ***Other Conditions***

  Any condition not listed that may be unsafe or pose a risk to public safety

Examples of Abnormal Operating Conditions Requiring *Notification To The Gas Company*

If Conditions Allow, Please Stand-By to Ensure Utility Company Access If Requested to Do So

- ***Pressure Regulator or Vent Piping Not Installed Properly or Maintained***

  Regulators not properly vented to outside

  Regulator vent pipe not connected

  No vent terminus

  Incorrect vent terminus position / location

  Mercury-containing regulator

  Buried regulator vent line

  Regulator adjustment cap missing or not sealed (Utility protection seal)

- ***Corrosion (Especially at POE)***

  Level 3 – MODERATE or Level 4 – SEVERE corrosion observed on gas piping, fittings, valves, couplings, meters, regulators and/or vent piping

  Corroded sleeve with visible copper or plastic gas service inside

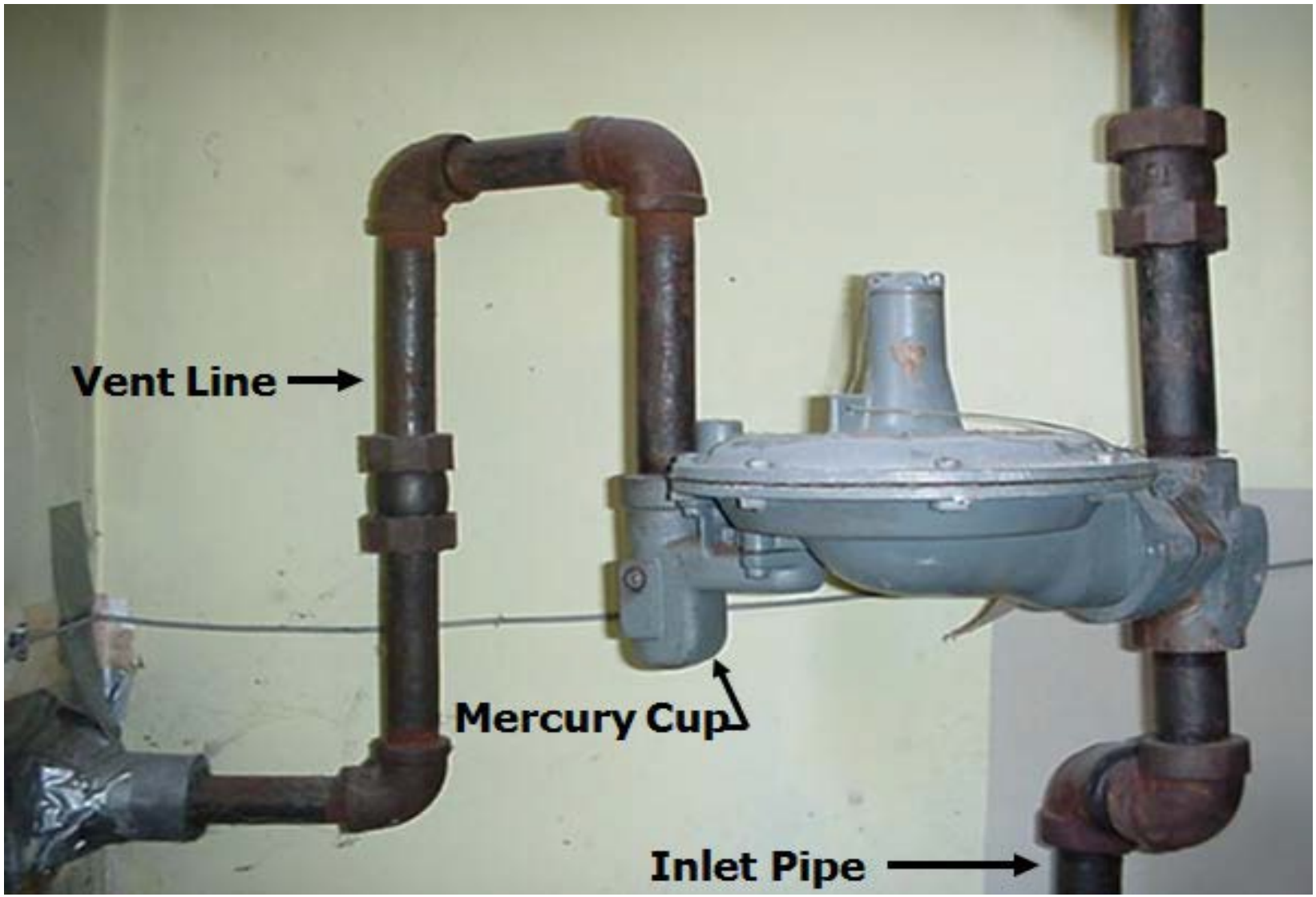
  Meter sets in a chemical or hot / humid environment

- ***Lack of a Gassy Odor***

  Odor fade or Odor masking

Mercury Regulator Identification

Notify Utility Operator !!



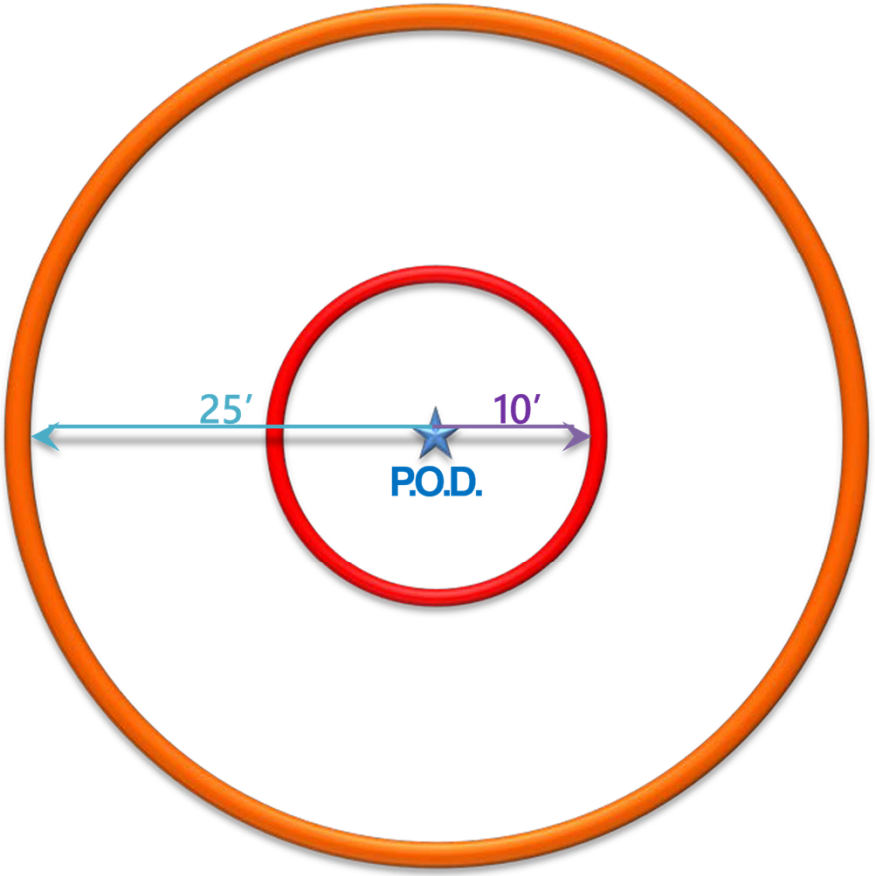
Gas Service Wall Penetration (POE) Must Be Sealed To Prevent Gas Migration From Outside Into the Building

Specifically, 49 CFR 192 requires gas POEs to be sealed to prevent outside migration into the building. Remember, both the outer and inner pipe or sleeve **MUST** be sealed to prevent migration of gasses outside to the interior of the building. If a POE is not sealed, notify the Utility !

PURGING INTERIOR FUEL GAS PIPING

NOTE: IF BOUNDARY CONDITION #1 (DESIGN PRESSURE > 2 p si g *OR* BOUNDARY CONDITION #2 (PIPE DIAMETER & LENGTH COMBINATIONS) EXIST, THE PURGE DISCHARGE ***MUST*** BE DIRECTED OUTDOORS!!

- ***WHEN PURGING OUT OF SERVICE, THE PURGE IS CONSIDERED COMPLETE WHEN GAS-IN-AIR READING OF 0%-3% IS REACHED ON THE C.G.I.***
- ***WHEN PURGING INTO SERVICE, ONCE A MINIMUM OF 95% IS DETECTED ON THE C.G.I. THE PROCESS SHALL BE STOPPED.***



1. P.O.D. SHALL BE CONTROLLED WITH A SHUTOFF VALVE.
2. P.O.D. MUST BE AT LEAST 10' FROM ANY BUILDING OPENING.
3. P.O.D. MUST BE AT LEAST 10' FROM SOURCES OF IGNITION.
4. P.O.D. MUST BE AT LEAST 25' FROM ANY MECHANICAL AIR INTAKE OPENINGS.
5. DURING DISCHARGE, P.O.D. SHALL BE CONTINUOUSLY MONITORED WITH A C.G.I.
6. PERSONS NOT INVOLVED MUST BE AT LEAST 10' AWAY.

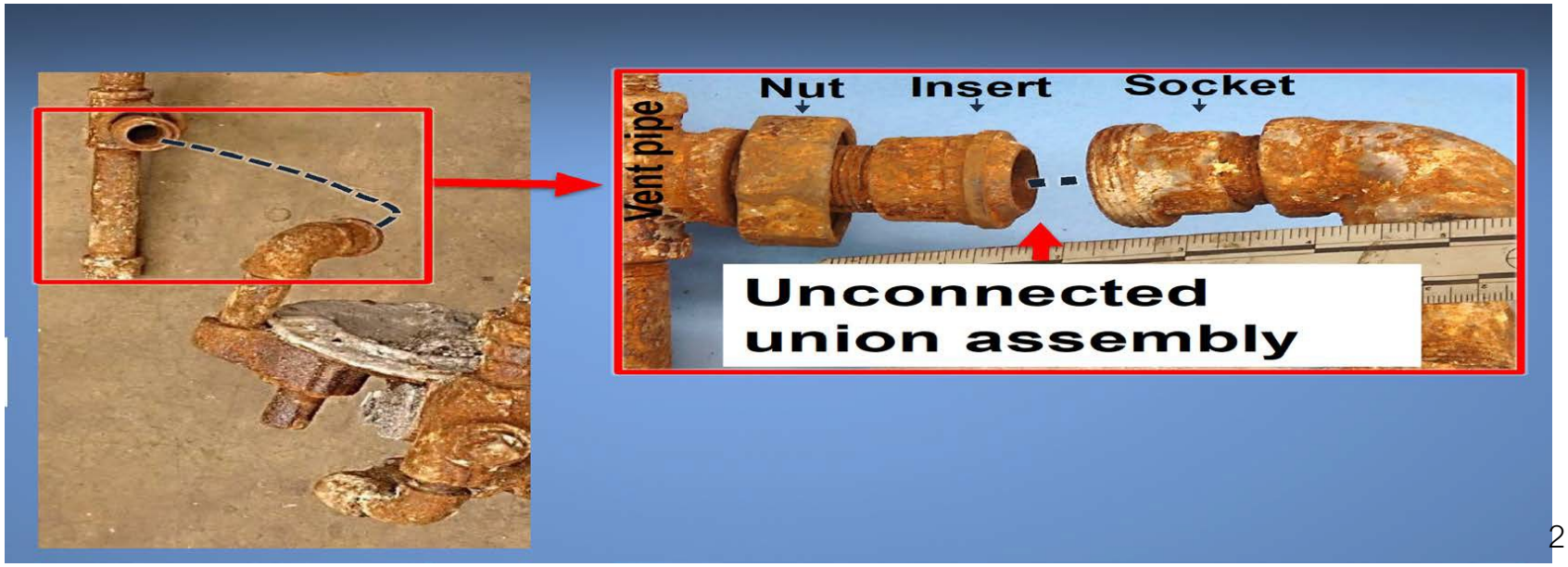
***P.O.D. = Point of Discharge**

BOUNDARY CONDITION #2 REQUIRES RESIDUAL FUEL GAS BE DISPLACED BY AN INERT GAS

Gas Service Regulator Vent Piping MUST Be Properly Connected and Vented Outside the Building

Be aware of:

- Disconnected vent piping inside the building. This represents a dangerous condition where gas discharged during a regulator malfunction can accumulate to explosive levels inside the building.
- A missing or capped vent terminus. This can serve to block the safe flow of gas away from the building resulting in a dangerous condition.
- Medium or severe corrosion at the regulator inlet piping, outlet piping, vent piping or regulator body. **Notify Utility if Vent Piping is Disconnected or Damaged**



PURGING INTERIOR FUEL GAS PIPING BOUNDRY CONDITION #2

	Nominal Pipe Size in Inches		Nominal Pipe Size in Inches		Pipe Length in feet
Equal to or greater than	2 1/2	but less than	3	and greater than	50
Equal to or greater than	3	but less than	4	and greater than	30
Equal to or greater than	4	but less than	6	and greater than	15
Equal to or greater than	6	but less than	8	and greater than	10
Equal to or greater than	8			and	any length

1- None or Minimal Corrosion Severity

Bare/Uncoated Pipe and/or Fittings

Steel surface completely covered with adherent mill scale; little or no rust visible.

Coated Pipe/Fittings

Very minimal surface area rust (well below 1% surface area is depicted in the three photos directly below).

pinpoint (P)

spot (S)

general (G)

Field Examples

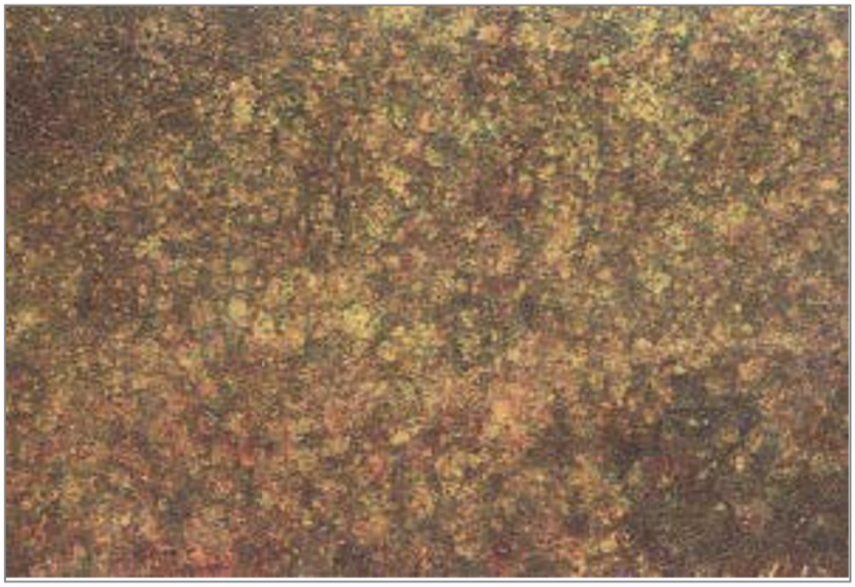
bare

coated

3 - Medium Corrosion Severity (requires field photo of the corrosion area)

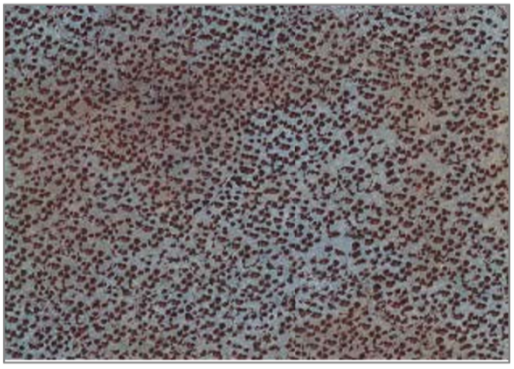
Bare/Uncoated Pipe and/or Fittings

Steel surface completely covered with rust; little to no pitting visible; potential minor wall loss.



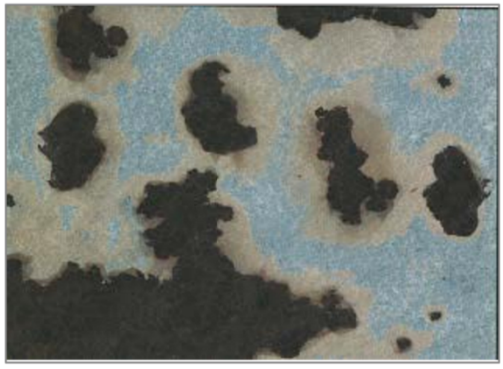
Coated Pipe/Fittings

> 3% to 33% surface area rust (33% surface area is depicted in the three photos directly below).



pinpoint (P)

spot (S)



general (G)

Field Examples

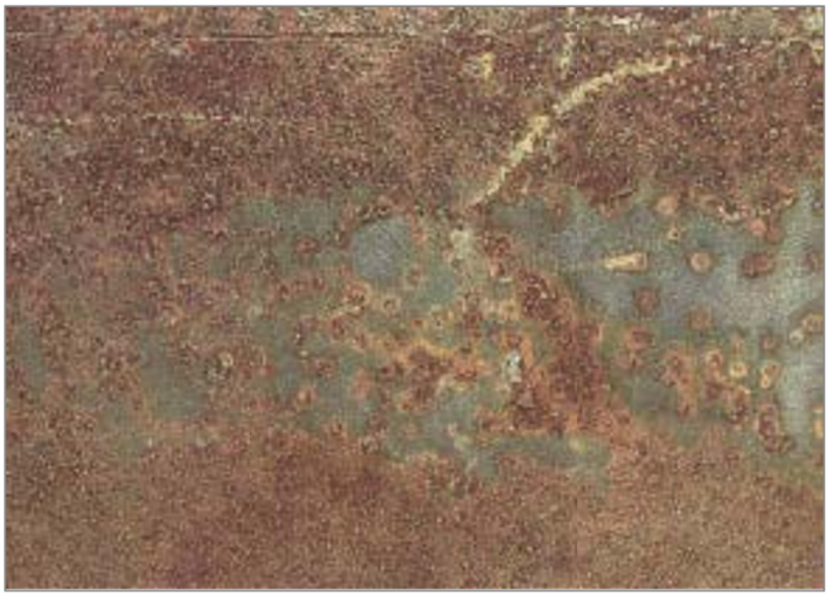
bare

coated

2 - Low Corrosion Severity

Bare/Uncoated Pipe and/or Fittings

Steel surface covered with both mill scale and rust.



Coated Pipe/Fittings

Up to 3% surface area rust (3% surface area is depicted in the three photos directly below).

pinpoint (P)

spot (S)

general (G)

Field Examples

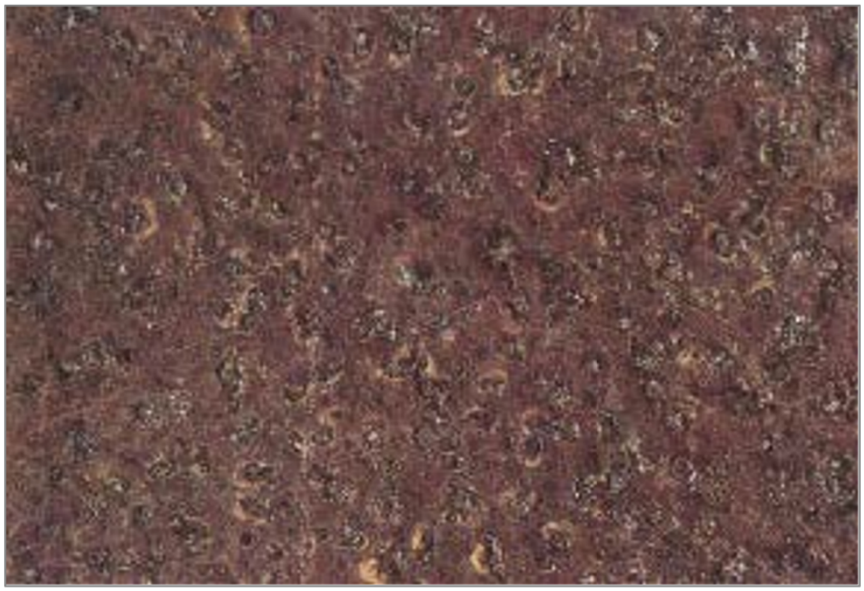
bare

coated

4 - High Corrosion Severity (requires field photo of the corrosion area and wall loss measurement)

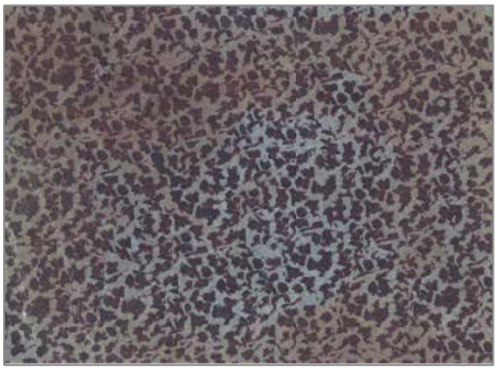
Bare/Uncoated Pipe and/or Fittings

Steel surface completely covered with rust; pitting visible; potentially significant wall loss.



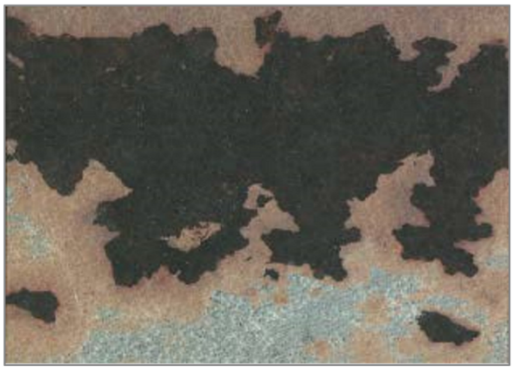
Coated Pipe/Fittings

> 33% surface area rust (50% surface area is depicted in the three photos directly below).



pinpoint (P)

spot (S)



general (G)

Field Examples

bare

coated

Interior DOT Jurisdictional Piping Inspection Components

Insulated Joints

Meter Control Valve

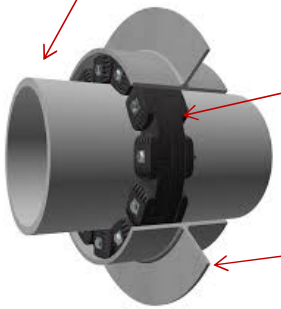
Piping Supports

Meter Bar

Vent Piping

Meter

Gas Service Pipe at POE



POE Seal

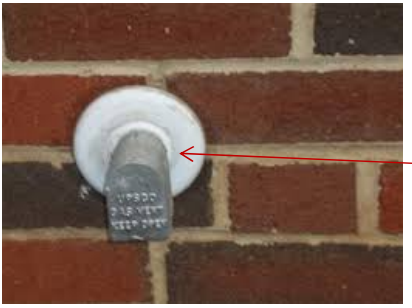
Regulator (*if MP or HP delivery to building)*

Piping

Wall Sleeve *(if present)*

Fittings

Service Head Valve



Regulator Vent Terminus *(Must be Outdoor)*

***** Utility-installed fittings may be located upstream of the service valve. Check with the jurisdictional utility if unsure!***

When is Pressure Testing Required?

USDOT Jurisdictional Piping:

✓Service has been isolated at the service valve by the utility and jurisdictional piping upstream of service regulator has been replaced.

✓Service has been isolated at the service valve by the utility and jurisdictional piping downstream of service regulator supplying >1 psig and < 40 psig has been replaced.

✓Service has been isolated at the service valve by the utility and jurisdictional piping downstream of service regulator supplying >40 psig has been replaced.

✓Low-Pressure service piping (i.e. - <1 psig), or Low-Pressure piping downstream of a service regulator, that has been isolated at the service valve by the utility and jurisdictional piping has been replaced **does NOT need to be pressure tested. Leak check (soap test) all piping isolated and/or replaced under operating pressure.**

✓For unique piping configurations (multi-stage pressure regulation, etc.) consult with the jurisdictional utility for pressure testing requirements.

✓Follow all applicable AHJ requirements for pressure testing downstream of the meter.

NOTE: 16 NYCRR 255.503(e) Exemption Applies for short segments of piping without joints that meet ASME/ANSI strength test requirements

Always Follow Utility-Specific Pressure Test Requirements. Verify the Required Test Pressure with the Jurisdictional Utility as Service Delivery Pressure May Vary by Region, Time of Year, Geographic Operating Requirements or Other Variables!!!!!! Stop When Unsure and Verify with the Utility!!

Pressure Testing Safety Reminders !!

CAUTION –IF AN OVERPRESSURIZATION OF A PIPING SYSTEM HAS OCCURRED, OR IS SUSPECTED TO HAVE OCCURRED, DURING A PRESSURE TEST, DEPRESSURIZE THE PIPING SYSTEM INVOLVED AND IMMEDIATELY NOTIFY THE JURISDICTIONAL UTILITY FOR THEIR RESPONSE. TAKE NO ADDITIONAL PRESSURE TESTING ACTIONS UNTIL THE PIPING SYSTEM AND ASSOCIATED EQUIPMENT HAS BEEN DEEMED SAFE BY THE JURISDICTIONAL UTILITY!!!!!

Remember…….

- ***Personnel MUST stay out of the "line of fire" of all end caps and fittings.***
- ***Piping tested MUST be isolated from all other piping and is secured with a restraining device.***
- ***NEVER test against closed valves (service, regulator and/or meter).***
- ***Meter bar should be disconnected and not included in pressure testing for regulator delivery pressures greater than low pressure (> 1 psi).***
- ***Piping tested MUST be physically isolated from all other piping.***
- ***All ends of the pipe MUST be sealed with either a blind flange, welded or threaded cap or plug, or with a closed valve with a plug installed.***
- ***ALWAYS exercise extreme caution and due diligence when conducting pressure tests.***
- ***STOP !!! when unsure and consult with the jurisdictional utility.***

LMP Jurisdictional Piping Indoor Meter/Regulator Pressure Testing Guideline

Pipe Segment Pressure	Testing to be Performed on Jurisdictional Piping	Length of time for test
Low Pressure **Piping Operated <1psig**	Soap test **visibly accessible pipe joints** at operating pressure when placed in service	N/A
Medium / Intermediate Pressure **Piping Operated ≥1psig and<40 psig**	Disconnected piping from head of service valve outlet to inlet connection of disconnected regulator **And/Or** piping downstream of a disconnected regulator to disconnected meter @ **50 psig** **NOTE: 16 NYCRR 255.503(e) Exemption Applies for short segments of piping without joints that meet ASME/ANSI strength test requirements**	2" and smaller-15 mins Greater than 2"- 30 mins
High Pressure **Piping Operated ≥40psig**	Disconnected piping from head of service valve outlet to inlet connection of disconnected regulator **And/Or** piping downstream of a disconnected regulator to disconnected meter **@ 90 psig** **NOTE: 16 NYCRR 255.503(e) Exemption Applies for short segments of piping without joints that meet ASME/ANSI strength test requirements**	2" and smaller- 15 mins Greater than 2"- 30 mins

Always Follow Utility-Specific Pressure Test Requirements Including Required Test Pressures
Never Test Against a Closed Valve, Pressure Regulator, Meter Bar or Meter !!!

LMP Jurisdictional Service Line Pressure Testing Guideline
Outside Meter and/or Regulator OR Inside Meter with Outside Regulator

Exterior Segment Pressure	Outlet of Regulator Pressure *(if present)*	Testing Points Start to End	Testing to be Performed on Service+	Length of Time for Test
Any	Any	From the outlet of closed / locked / disconnected riser valve or first fitting upstream of the service regulator Piping downstream of the service regulator	Piping to be leak tested at 90 psig or 1 1/2 operating pressure which ever is greater. Confirm pressure with the Utility. Piping downstream of the outside service regulator tested in accordance with Indoor Piping Testing Guideline **NOTE: 16 NYCRR 255.503(e) Exemption Applies for short segments of piping without joints that meet ASME/ANSI strength test requirements**	2" and smaller = 15 mins Greater than 2" = 30 mins

Always Follow Utility-Specific Pressure Test Requirements Including Required Test Pressures
Never Test Against a Closed Valve, Pressure Regulator, Meter Bar or Meter !!!