



Description	This procedure gives the steps for monitoring for internal corrosion using coupons and probes.
Regulatory Applicability	<input checked="" type="checkbox"/> Regulated Transmission Pipelines <input checked="" type="checkbox"/> Regulated Gathering Pipelines (Type A) <input checked="" type="checkbox"/> Regulated Gathering Pipelines (Type B) <input checked="" type="checkbox"/> Regulated Distribution Pipelines
Frequency	Two times each calendar year at intervals not exceeding 7 ½ months.
Reference	49 CFR 192.475 <i>Internal Corrosion Control: General</i> 49 CFR 192.477 <i>Internal Corrosion Control: Monitoring</i> LA Title 43 Part XIII 2127 <i>Internal Corrosion Control: General</i> LA Title 43 Part XIII 2129 <i>Internal Corrosion Control: Monitoring</i>
Forms / Record Retention	F-192.477 <i>Internal Corrosion Monitoring / Life of Pipeline System</i>
Related Specifications	None
OQ Covered Task	0131 <i>Insert and Remove Coupons/Probes for Internal Corrosion Monitoring</i> (In order to perform the tasks listed above; personnel must be qualified in accordance with West Texas Gas's Operator Qualification program or directly supervised by a qualified individual.)



Procedure Steps

Any time a segment of pipe is removed from the pipeline, the internal surface will be visually inspected for signs of pitting or damages that may be signs of internal corrosion. Also valves, meters, fitting, etc., can be examined when they are removed from the system.

NOTE: If internal corrosion has or may have reduced the wall thickness of a segment of pipe to less than 10%, pipe repair or replacement should be planned or the working pressure reduced.

Coupon Monitoring

1. Inform pipeline control center of planned activity.
2. Check wind direction and escape routes. Position yourself upwind of the liquid or gas released during the process. Identify means of egress in case of abnormal release of liquid or gas. Use personal protective equipment and clothing.
3. Remove fitting cap. Cap should be hand tight but pressure could be trapped. Remove with caution.
4. Install the valve and extractor tool on the access fitting with the service valve in the closed position and all bleeder valves closed.
5. Engage the tool in the plug assembly by revolving the hand wheel clockwise to the limit of travel while rotating the handles clockwise until resistance increases. Once the coupon is located, the hand wheel will no longer travel. Note: Tools may vary with manufacture.
6. To remove the coupon:
 - a) Remove the plug assembly from the nipple by applying slight pressure to the handle in the proper direction to extract the coupon.
 - b) Perform this function slowly, monitoring for any pressure / leaks.
 - c) Once you have achieved the required length of travel indicating that the tool has been removed clear of the service valve, close the service valve.
7. To bleed off pressure:
 - a) Install drain system to the extraction tool. Direct the end of the drain system into a containment device downwind of the assembly.
 - b) Crack the drain / bleeder valve slowly, allowing time for the pressure to be removed in a controlled fashion.
8. To Remove extractor tool:

WARNING: Do not touch the coupon with your bare hands.

- a) Break connection from the coupon holder.
- b) Check for any hazardous liquids.
- c) Remove tool with coupon.



- d) Document coupon's visual characteristics onto pull sheet.
 - e) Confirm coupon is placed in its original shipping container.
9. To prepare new coupon:
- WARNING: Do not touch the coupon with your bare hands.
- a) Properly record the new coupons serial number or identification and its associated shipping container.
 - b) Thoroughly clean and prepare coupon holder and ancillary equipment for coupon installation.
 - c) Attach new coupon-to-coupon holder.
10. To install new coupon:
- a) Install extractor tool onto the service valve.
 - b) Confirm all bleeder valves are in the closed position.
 - c) Equalize pressure between the process piping and the extractor tool. Inspect for leaks.
 - d) Rotate tool to properly install the new coupon into the process stream.
 - e) Release the tool from the coupon holder and retract the plug assembly into the extractor tool until full travel is achieved.
 - f) Close service valve.
11. To bleed off pressure:
- a) Install drain system to the extraction tool. Direct the end of the drain system into a containment device downwind of the assembly.
 - b) Crack the drain / bleeder valve slowly, allowing time for the pressure to be removed in a controlled fashion.
 - c) Bleed off the extractor assembly of residual liquid or gas. Close bleeder valve. Monitor for pressure buildup in the tool to confirm the service valve has maintained a positive seal.
12. To remove extractor tool:
- a) Break connection from coupon holder.
 - b) Check for any hazardous liquids.
 - c) Dress plug threads with anti-seize and place plug back on tool adapter.
13. Inform pipeline control center planned activity is completed.
14. Document findings on Form F-192.477.
15. Refer to procedure P-192.711 for repairs options if repairs are needed and P-192.483 for remedial measures if it is determined additional protection is required.



The District Manager will begin an investigation into the causes of internal corrosion and determine:

- a. If the damage was caused by previous or present exposure to corrosive elements transported in the gas.
- b. If corrosive gas is being transported, take steps to eliminate corrosive elements.
- c. If a monitoring program is necessary.
- d. If introducing inhibitors is necessary.

Monitor Probes

1. Inform pipeline control center of planned activity.
2. Use personal protective equipment and clothing.
3. Locate probe site. Remove port cap at this time.
4. The data recorder has an adaptor that fits into the prongs (or terminals) on the probe. Connect the proper cord to the appropriate terminal of the probe. The cords are clearly marked on the ends. Turn the Data Logger on by pressing the “on” button firmly. An audible sound should be detected indicating the machine is “on”. The data logger will prompt you through the steps required to obtain an accurate reading.
5. Depending on the Data Logger manufacture, you may need to document the reading indicated on LED, or the data may be stored in the Data Logger for later retrieval.
6. Locate probe site. Replace port cap at this time.
7. Readings indicate the probe needs inspection and/or replacement.
8. Does probe need to be removed?
 - a) No –Continue with step 9.
 - b) Yes - Probe replacement (if required): Seek assistance from appropriate personnel for additional investigation and corrective actions before removal. Consult manufacture recommendations or company O&M Manual for proper replacement.
9. Inform pipeline control center that planned activity is completed or further maintenance is required.
10. Document findings on Form F-192.477.
11. Refer to procedure P-192.711 for repairs options if repairs are needed and P-192.483 for remedial measures if it is determined additional protection is required.