



**New Mexico Oil Conservation Division
19.15.28 NMAC**

Operations Maintenance Plan

**APPLIES TO GATHERING PIPELINES IN
GAS SERVICES**



OGRID # 5380



Introduction to Operations Maintenance Plan

1. Purpose/Objective

To regulate the venting and flaring of natural gas from natural gas gathering systems to prevent waste and protect public health and the environment. This Operations Maintenance Plan consists of up several sections and these sections are to be used as a whole. This Operations Maintenance Plan is the controlling document described in the NMOCD rule, 19.15.28.8(C). All sections are located at the operations office(s) and kept online via a shared site or local LAN file. Copies of the parts of the plan containing information pertinent to particular functions or facilities in the system are also kept where these functions are performed. It should be noted that when various titles, Pipeline Supervisor, DOT Compliance,

Designee, or Field Supervisor for example, are used in the manual that they are functions and not individual job titles. The term "Company" or XTO Energy, Inc. ("XTO") are also used interchangeably.

The following is a list of the sections in the Operations Maintenance Plan.

1. ROW Patrol Audio Video Olfactory "AVO"
2. Cathodic Protection and Corrosion Control
3. Integrity
4. Reporting
5. Location

2. Procedure

1. XTO shall prepare and follow for each applicable gas pipeline, a manual of written procedures for conducting operations and maintenance activities to prevent the venting and flaring of natural gas. This manual must be reviewed and updated by the operator at intervals not exceeding 15 months, but at least once each calendar year. Appropriate parts of the manual must be kept at locations where operations and maintenance activities are conducted.
2. This maintenance plan contains the term "Forms" throughout its contents. There are multiple forms that support the record completion of a required section. Other forms may be available that can be utilized to capture data on. These forms will be stored electronically and on the local share drive and made available to operations personnel and the division upon request. Some data may be captured using electronic platforms including but not limited too: EMain, IScout, Dynamics, etc. Form names may not be called out specifically as noted in operational sections. This is intended to allow flexibility so that forms can be slightly modified for formatting purposes during electronic upload. All forms have been reviewed and approved by regulatory compliance team and operations personnel to ensure data is being captured to satisfy 19.15.28 NMAC. Some examples of forms have been included in this section for reference purposes.

3. Responsibilities

The Field Supervisor and the Company's Environmental & Regulatory group is responsible for the annual review of this plan.



Right of Way Patrol

1. Applicability

Gas gathering lines

2. Purpose

To regulate the venting and flaring of natural gas from natural gas gathering systems to prevent waste and protect health and the environment. Establish the requirements for maintaining a pipeline patrolling program under 19.15.28(C)4 NMAC. XTO will perform initial annual AVO inspections no later than May 25, 2022 and continue annually after initial inspections. XTO will take all reasonable actions to prevent and minimize leaks and releases of natural gas from natural gas gathering systems and shall implement this plan to minimize the waste of natural gas for each non-contiguous natural gas gathering system.

XTO shall perform an annual monitoring of the entire length of a gathering pipeline using an AVO technique using the approved methods found in this procedure.

3. Procedure –19.15.27.8.E(5)(b) and 19.15.28.C(4) NMAC

1. Each gas pipeline system shall be patrolled to observe surface conditions on and adjacent to the ROW for indications of items that could result in potential waste of natural gas using an AVO method or other valid approved method by company. Items that may be found or noted include, but are not limited to, those listed below.
 - a. Leaks
 - b. Construction activity
 - c. Encroachment
 - d. Excavations
 - e. Exposed pipe caused by erosion
 - f. General condition of the right-of-way, soil settlement, movement or erosion, ROW overgrowth, stream meandering
 - g. Evidence of leakage and/or corrosion
 - h. Condition of pipe coating, if applicable.
 - i. External loading or stress
 - j. Line markers, signs, decals, etc.
 - k. New construction in the proximity of the facilities
 - l. Building activity that may affect class location
 - m. Building activity that might affect HCA areas
 - n. Piping on bridges and spans, including pipe supports and hangars
 - o. Facility overgrowth
 - p. Any other factor that may affect the integrity of the system or impact Class locations or HCA areas
2. The patrols shall be conducted by May 25, 2022, and shall occur at least annually thereafter. However, should conditions indicate that additional or more frequent patrols are appropriate, the Field Supervisor shall take appropriate action to schedule them. Should additional patrols be necessary to provide an adequate level of safety to the public or to promote an adequate level of pipeline damage prevention in a particular area, the required patrol frequency for those particular areas can be increased.
3. Review pipeline maps, drawings and records of previous inspections to become familiar with railroad and highway crossings as well as areas of population concentration.
4. Traverse the entire length of pipeline ROW and log/mark all unusual items along the pipeline. Items such as: construction, leaks, changes in population density, missing or damaged marker signs, washouts etc. should be noted for future repair or analysis.
5. Methods of patrolling include walking, driving, flying or other appropriate means of traversing the right-of-way.
6. Initiate work orders or other methods to correct any deficiencies.
7. Document the patrol on an appropriate form, identifying any future action to be taken, and submit to the responsible supervisor for review.

3.1 Aerial Patrol

Aerial Patrol is an approved method of using an AVO technique. A list of pipelines to be flown shall be provided to the patrol vendor by Company field supervision or their designee. This list shall be updated anytime there is a change in assets (for example, construction of new pipelines, acquisition of new pipelines, divestiture of pipelines, abandonment of pipelines, etc.). The Company shall provide location information (maps, shape files, etc.) to the aerial patrol vendor.



NOTE: Where conditions do not permit aerial patrol or where conditions warrant closer inspection, patrolling shall be performed by an alternate means, including but not limited to foot patrol, vehicle, or watercraft.

3.1.1 Aerial Patrol Requirements

Step 1 – Before each aerial inspection, the pilot should notify the operations staff in the operating area(s) of the scheduled flights to verify that the pilot has the contact information of the appropriate operations personnel.

NOTE: Company personnel may accompany pilots as needed to ensure the pilots have full knowledge of the location and route of assets to be patrolled.

Step 2 – The pilot and/or observer shall inspect the surface conditions on or adjacent to each pipeline including but not limited to the following notable observations.

- Dead vegetation
- Oil, petroleum product, vapor, or other evidence of spills or discharges from pipeline facilities and related appurtenances.
- Vegetation on or within the pipeline ROW that unreasonably prevents the inspection of surface conditions.
- Washouts on or within the pipeline ROW
- Changes of location of bayous, creeks, riverbeds on or near the pipeline ROW.
- Earth movement or subsidence on or within ¼ mile of the pipeline ROW with particular attention to areas near slopes or rivers.
- Excavations on, adjacent to, or near a Company pipeline ROW, or any other excavation that, if continued, may affect the pipeline.
- Heavy equipment on the Company pipeline ROW or the staging of heavy equipment within 200 feet of the Company pipeline ROW.
- Blasting or surface mining located within ¼ mile of the pipeline.
- Deposits or debris on the ROW.
- Clearing or timberland over, across, or along pipelines, including canopy effect and overhang on the ROW.
- Building of terraces, water ponds, or pits within 200 feet of the pipeline.
- Construction of buildings, well derricks, residential construction of any kind, including fences, or any other structures within 200 feet of the pipeline.
- Presence of buildings, fences, or any other man-made structures within the Company pipeline ROW.
- Grading, resurfacing, or construction of new roads, streets, ditches, or waterways that are within 200 feet of pipeline.
- Construction or repair of levees or dredging within 200 feet of the pipeline.
- Trees and debris collected on pipelines crossing creeks and rivers.
- Unintentional exposure of pipelines within the Company pipeline ROW.
- Barges or large commercial watercraft anchored over river crossings.
- Oil or product on the surface of water adjacent to a pipeline.



- Dead animals within the ROW.
- Evidence of activity around a block valve or any other place within the pipeline ROW that may indicate a line tap, vandalism, or sabotage.
- Any activity within the ROW that may cause hazards or restrictions to the safety, integrity, and operation of the pipelines and easements.
- Damaged aerial or pipeline markers and signage.
- ✓ **Step 3** – In the event of an Emergency or Urgent observation, the pilot and/or observer shall make an immediate telephone call or radio contact to the appropriate field operations personnel (technician, contract locator, supervisor, or local designee) responsible for the pipeline(s) being patrolled.

NOTE: An Emergency or Urgent observation is defined as any condition that poses an immediate danger to life, property, or the environment and includes excavation activity within 50 feet of a Company ROW.

- ✓ **Step 4** – In the event contact cannot be made to field personnel, the pilot and/or observer should contact the appropriate control center or designated field-based administrative support staff.
- ✓ **Step 5** – If the call cannot be made from the air, the pilot and/or observer is to immediately land at the nearest airport or safe location to make contact with operations personnel.
- ✓ **Step 6** – Provide the following information in the verbal report:
 - Pilot and/or observer's name
 - If possible, line section name and mile post numbers of beginning and ending points of flight. Facility names may be used in lieu of mile post number(s).
 - Location of observations as referenced to local geographic features (for example, road intersections, waterways, businesses, etc.).
 - County/parish and state, if known.
 - GPS coordinates, if available.
 - Description of what was observed.
- ✓ **Step 7** – A Company Representative shall immediately respond to all Emergency or Urgent observations.

3.1.2 Aerial Patrol Reporting

- ✓ **Step 8** – The ROW Patrol Form shall document all notable observations, including observations that were previously reported and continue to exist. The report shall include locations with approximate GPS coordinates and a full description of the observations.
- ✓ **Step 9** – Performed by Field Personnel: In the operating area where the aerial patrol occurred, designated Field Personnel shall review each Aerial Patrol Observation report and investigate all notable observations on the ROW Patrol Form and document the corrective actions taken for each notable observation. In the event the notable observation is an activity that Operations was previously made aware of and is certain the observation does not impact the integrity of the pipeline, then Operations may resolve the observation by documenting on the ROW Patrol Form why such determination was made.

3.2 Ground Patrol



Ground patrols are a required means of patrolling the Company's pipelines when aerial patrol is not practical. Acceptable ground patrol methods include, but are not limited to, patrol by walking, vehicle, and watercraft, if applicable.

3.2.1 Ground Patrol Requirements

This section prescribes the responsibilities for all ground patrols that are conducted on the Company's gas pipeline systems.

- ✓ **Step 1** – Before starting ground patrol, the Company Representative shall determine which pipeline(s) require ground patrolling. If contactors are used, they should notify Operations prior to commencing the ground patrol.
- ✓ **Step 2** – Prior to starting the ground patrol, the Company Representative or contractor conducting the patrol shall acquire all necessary resources to properly identify the pipeline(s) to be patrolled.
- ✓ **Step 3** – Ground patrol shall be conducted within the easement boundaries when possible.
- ✓ **Step 4** – Ground patrol shall be conducted as closely as possible to the top of the pipeline to view the ground surface over the entire easement.

Step 5 – The patroller shall use equipment recommended for the ROW Inspection, including:

- Relevant pipeline or ROW maps.
- Cell phone
- Digital camera
- Voice activated recorder or log book to record observations.

- ✓ **Step 6** – The patroller shall inspect the surface conditions on and adjacent to each pipeline ROW and report such observations. These shall include but are not limited to the following notable observations:

- Oil, petroleum product, vapor, or other evidence of spills or discharges from pipeline facilities and related appurtenances.
- Dead vegetation
- Vegetation on or over the pipeline ROW that unreasonably prevents the inspection of surface conditions.
- Washouts over or along the pipeline ROW
- Changes of location of bayous, creeks, riverbeds on or near the pipeline ROW.
- Earth movement or subsidence with particular attention to areas near slopes or rivers.
- Excavations within 200 feet of a Company pipeline or any excavation that if continued may come within 200 feet of a Company pipeline.
- Heavy equipment on the Company pipeline ROW or the staging of heavy equipment within 200 feet of the Company pipeline ROW.
- Blasting or surface mining located within ¼ mile of the pipeline.
- Deposits or debris on the ROW.
- Clearing or timberland over, across, or along pipelines, including canopy effect and overhang on the ROW.
- Building of terraces, water ponds, or pits within 200 feet of the pipeline.
- Construction of buildings, well derricks, residential construction of any kind, including fences, or any other structures within 200 feet of the pipeline.



- Presence of buildings, fences, or any other man-made structures within the Company pipeline ROW.
- Grading, resurfacing, or construction of new roads, streets, ditches, or waterways that are within 200 feet of pipeline.
- Construction or repair of levees or dredging.
- Trees and debris collected on pipelines crossing creeks and rivers.
- Unintentional exposure of pipelines along the Company pipeline ROW.
- Barges or large commercial watercraft anchored over river crossings.
- Oil or product on the surface of water adjacent to a pipeline.
- Dead animals on the ROW.
- Evidence of activity around a block valve or any other place along the pipeline ROW that may indicate a line tap, vandalism, or sabotage.
- Any activity along the ROW that may cause hazards or restrictions to the safety, integrity, and operation of the pipelines and easements.
- Damaged aerial or pipeline markers and signage.

NOTE: An Emergency or Urgent observation is defined as any condition that poses an immediate danger to life, property, or the environment and includes excavation activity within 50 feet of a Company ROW.

- ✓ **Step 7** – If in the event of an Emergency or Urgent observation the patroller is not able to fully address the observation, the observer shall make an immediate telephone call or radio contact to the appropriate Field Operations personnel (technician, supervisor, or local designee).
- ✓ **Step 8** – Provide the following information in the verbal report:
 - Patroller's name
 - If possible, line section name and mile post numbers of beginning and ending points of patrol. Facility names may be used in lieu of mile post number(s).
 - Location of observations as referenced to local geographic features (for example, road intersections, waterways, businesses, etc.).
 - County/parish and state, if known.
 - Description of what was observed.

3.2.3 Ground Patrol Reporting

- ✓ **Step 9** – Within the next business day, the patroller is required to submit the ROW Patrol Form. The ROW Patrol Form shall be used to document all notable observations, including observations that were previously reported and continue to exist. The report shall include locations with GPS coordinates and a full description of the observations. Additionally, pictures should be taken upon initial discovery of notable observations and are to be attached to the report upon submittal.

3.3 Navigable Waterways

There are no known navigable waterways at this time.

3.3.1 Plan the Inspection



1. Determine the scope of the inspection
2. Determine the appropriate methods and technology needed to inspect the crossing.
Some methods include, but are not limited to:
 - ✓ Diver inspection
 - ✓ Probing of the pipeline
 - ✓ Side-scan sonar
 - ✓ Induced zone
3. The Contractors inspection will include depth of cover, length of any exposed sections of pipe.
4. Any observed damage to the pipeline or coating and the condition of the approaches to the water crossing. These observations shall be included in their report.
5. This report shall be forwarded to field supervision for review and determination of any required action.
6. Warning signs posted at the crossing will be inspected for appearance and legibility. Any deficiencies will be reported to field supervision who will document the report and the corrective action taken.

4. Responsibilities

It is the responsibility of the Field Supervisor to ensure the pipelines are patrolled as required in this procedure. Personnel conducting inspections shall be knowledgeable on the methods and technology being used.

5. Records/Forms

Row Patrol/AVO – retain for 5 years

6. References or Related Documents

NMOCD rules 19.15.27.8.E(5)(b) and 19.15.28.C(4) NMAC.



Pipeline Right of Way Patrol

Area Name:

Performed By:

Segment Name:

Pipeline Class(s):

| Date | Starting Location | Ending Location | Current Class Location | Leaks Detected | Killed Vegetation Noted | Exposed Pipe Noted | ROW Condition | Adequate Pipeline Markers | CP Test Station Condition | Casing Vent Condition | New Construction Noted** | Remarks/ Descriptions of Deficiencies |
|------|-------------------|-----------------|------------------------|----------------|-------------------------|--------------------|---------------|---------------------------|---------------------------|-----------------------|--------------------------|---------------------------------------|
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Additional Remarks:

**New Construction Noted- If new construction (dwellings designed for human occupancy) is noted perform and document new class location study on pipeline segment.

Always give exact location of deficiency (i.e. leaks, exposed pipelines, ROW condition, and pipeline markers). If no deficiency exists report none in appropriate column. Use remarks section to describe any abnormal conditions.



Cathodic Protection and Corrosion Control

1. Applicability

Gas gathering pipelines.

2. Purpose

To ensure steel pipelines are protected against internal and external corrosion. This procedure shall be used to ensure the integrity and safety of gas gathering pipelines for cathodic protection and corrosion control are maintained in accordance with 19.15.28.8 (c). The following items shall be carried out under the Cathodic Protection and Corrosion Control requirements set forth in this plan.

1. Pipe to Soil Survey
2. Rectifier Inspection
3. Internal Corrosion

3. Procedure –

3.1 Requirements

To ensure existing buried pipeline segments and buried facilities have an effective level of cathodic protection to protect them from corrosion and that complies with regulatory requirements.

1. A cathodic protection system designed to protect the pipeline in accordance with the corrosion control procedures included in this procedure. The cathodic protection system shall be installed and placed in operation within 1 year after completion of construction.
2. If a steel pipeline is externally coated, it shall be cathodically protected.
3. Aluminum shall not be installed in a buried or submerged pipeline.

3.2 Exceptions

1. Company is exempt from these requirements if:
 - Company can demonstrate by tests, investigation, or experience in the area of application, including, as a minimum, soil resistivity measurements and tests for corrosion accelerating bacteria, that a corrosive environment does not exist. Tests, investigation, or experience must be backed by documented proof to substantiate results and determinations.
 - Within 6 months after an installation made pursuant to the above, Company conducts tests, including pipe-to-soil potential measurements with respect to either a continuous reference electrode or an electrode using close spacing, not to exceed 20 feet, and soil resistivity measurements at potential profile peak locations, to adequately evaluate the potential profile along the entire pipeline.
 - If the tests indicate that a corrosive condition exists, the pipeline must be cathodically protected in accordance with Section 3.1 above.
2. A temporary pipeline is installed with an operating period of service not to exceed 5 years beyond installation and corrosion during the 5-year period of service will not be detrimental to public safety.
3. Company can show that electrically isolated, metal alloy fittings in plastic pipelines:
 - Have adequate corrosion control provided by the alloy composition for the size fitting to be used and that this is substantiated by tests, investigation, or experience in the area of application
 - Are designed to prevent leakage caused by localized corrosion pitting.

3.3 Pipe to Soil

1. A negative (cathodic) voltage of at least 0.85 volt, with reference to a saturated copper-copper sulfate half-cell. Determination of this voltage must be made with the protective current applied, and in accordance with the following:
 - a. Voltage (IR) drops other than those across the structure-electrolyte boundary must be considered for valid interpretation of the voltage measurement. Consideration is understood to mean the application of sound engineering practice in determining the significance of voltage drops by methods such as:
 - 1) Measuring or calculating voltage drops
 - 2) Reviewing the historical performance of the cathodic protection system;
 - 3) Evaluating the physical and electrical characteristics of the pipe and its environment; and
 - 4) Determining whether or not there is physical evidence of corrosion
 - b. This criterion is normally used for coated structures.
2. A minimum negative (cathodic) polarization voltage shift of 100 millivolts between the structure surface and a stable reference contacting the electrolyte.
 - a. This voltage shift is determined by turning the protective current off and measuring the polarization decay.



- b. When the current is initially turned off, an immediate shift occurs. The voltage reading after this shift should be used as the base reading from which to measure polarization decay.
- c. This criterion is normally used for bare structures and can only be used in those applications where the applied current can be turned off.
- 3. A cathodic voltage of at least 300 mv more negative than the natural potential.
 - a. This criterion is normally used for bare structures.
 - b. Determination of the voltage is made with the protective current applied.
 - c. The natural potential is the pipe-to-soil potential without the application of any cathodic protection current. If amphoteric metals are included in a buried or submerged pipeline containing a metal of a different anodic potential:
 - ✓ The amphoteric metal must be electrically isolated from the remainder of the pipeline and be cathodically protected.
 - ✓ The entire buried or submerged pipeline must be cathodically protected at a cathodic potential that meets the requirements of 49 CFR 192 Appendix D for amphoteric metals.
 - ✓ Company is unaware of any amphoteric metals existing within its system.

3.4 Rectifiers

1. Each rectifier unit or other impressed current power source shall be inspected 6 times each calendar year, but with intervals not exceeding 2 ½ months to insure it is operating.
 - a. If the current output of a unit drops below that required for protection, the reason shall be determined and prompt remedial action taken.
 - b. Any substantial current output changes that would be detrimental to the structure protection shall be reported to the Field Operations Manager.
 - c. If replacement or partial replacement of an impressed current system is required, the installation shall be made within 1 year from the date that the system is determined inoperable.
2. Rectifier Inspections – Bi-Monthly
 - a. Check and Record:
 - Voltage
 - Amperage
 - Any Comments
 - Date and Initial

3.5 Internal Corrosion

1. Steps to minimize internal corrosion.
 - ✓ Gas containing more than 0.25 grain of hydrogen sulfide per 100 cubic feet at standard conditions of hydrogen sulfide (H₂S) (4 parts per million) shall not be stored in a pipe-type or bottle-type holder.
 - ✓ Consider adding coupons for monitoring internal corrosion.
 - ✓ Test fluids recovered from the pipeline for corrosive components and bacteria
 - ✓ Monitor the chemical composition of the gas through samplers or chromatographs

4. Responsibilities

It is the responsibility of the Field Supervisor responsible for corrosion control to ensure all gas pipelines are maintained in accordance with applicable corrosion control procedures and that corrosion control tasks are conducted by employees qualified to do so.

5. Records/Forms

Records will be maintained in accordance with the requirements outlined in each corrosion control procedure on pipe-to-soil and rectifier forms as shown below, and retained for 5 years.

6. References or Related Documents

[illegible]



Integrity of Pipelines in Gas Service

Applicability

Gas gathering pipelines.

2. Purpose

Company has established this Integrity Program to prevent damage and minimize leaks and releases to gas pipelines from excavation activities. The following sections shall be carried out as the Company's Integrity Program. To fulfill the requirements of this section the following but not limited too shall be implemented:

1. One Call, Prevention of Third Party Damage
2. Line Locating and Marking
3. Pipeline Markers

3. Procedure –

1. This Integrity Program implements various measures to prevent damage to Company assets and its buried pipelines from excavation activities, including line locating and marking, one call and damage prevention, and pipeline marker requirements. This section provides the framework that will allow Company to effectively carryout its Integrity Program.
2. The Company conducts its business responsibly with a full appreciation and concern for public safety, the environment, as well as Company personnel and assets.

4. Prevention of Third-Party Damage

4.1 Prevention for All Pipelines

A significant contributor to pipeline failures, leaks, and releases is third party damage. This procedure outlines actions to be taken in order to minimize the risk due to these activities. The pipeline shall be identified with line markers. In addition to a well-marked route, Company uses periodic patrols as noted above, and participation in a One-Call system to further reduce these risks. Additionally, during daily operations, pipeline personnel monitor for any activity near the pipeline right-of-way that could potentially involve excavation. The steps under Section 5.6 in this procedure "Locating and Marking" are followed whenever there is potential excavation activity near the pipeline.

Residents along the pipeline rights-of-way are notified every other year through newspaper advertisements, mail outs and/or personal contact as to the presence of the pipeline in their area and the potentially hazardous nature of its contents. Instructions for contacting the One-Call organization prior to conducting any excavation activities as well as reacting to an emergency in the event of an accident are included in the notification.

One-Call System

Company participates in One-Call systems for its pipelines. All One-Call systems require potential excavators and the public at large to give the One-Call system advanced notice of planned excavation activities.

One-Call ticket requests for excavation work performed on behalf of the Company shall be made in accordance with this program.

Identification and Communication with Potential Excavators

Individuals or organizations that normally engage in excavation activities in the area in which Company facilities are located are identified by the following methods, but not limited to:

- ✓ Excavation notices received from state One-Call centers;
- ✓ ROW inspections performed by Company representatives and/or aerial patrol; and
- ✓ The Company's Public Awareness Program

4.2 Damage Prevention Program

This Damage Prevention Program is required for Company's natural gas pipelines (except those whose access is physically controlled by the Company) to prevent damage to that pipeline by excavation activities. Excavation activities include, but are not limited to:

- ✓ Excavation
- ✓ Blasting
- ✓ Boring
- ✓ Tunneling
- ✓ Drilling
- ✓ Backfilling
- ✓ Removal of above ground structures by either explosive or mechanical means



Other earth moving operations

5.6 Locating and Marking

Continuous Survey

When locating a Company pipeline (pipe) in response to a One-Call ticket, the Line Locator shall locate Company pipe(s) by continuous survey using an electronic line locator with an inductive or conductive method.

Conductive

The conductive method is preferred because it applies a signal directly to the pipeline that needs to be located. It may be the only effective method when one or more additional pipes are parallel or nearby. With the conductive method, the target pipeline will become energized through a direct connection with a transmitter.

NOTE: Accuracy of the pipe location may be impacted by electrical connections between structures (e.g. cathodic protection bonds).

Inductive

The inductive method is used when a direct connection to the pipe is not practical. With the inductive method, a transmitter creates an electromagnetic field that induces a signal on the pipe that is being located.

NOTE: The inductive method is prone to locating errors when other conductive structures, such as pipelines and conduits, are located in the vicinity of the structure (pipe) you are trying to locate.

Required Marking Areas and Marking Frequency

For excavations occurring in one or more of the areas listed in this section, the Line Locator (or Company personnel who are OQ certified to locate and mark the Company pipeline) shall locate the pipe and provide temporary marks at intervals described in Table 1 located in this section. The accuracy of the electronic line locator shall be verified as needed and determined by conditions in the field.

Excavations occurring within (a) 50 feet of the centerline of a Company pipeline(s) or (b) the outer edge of a Company ROW, whichever is greater shall be marked.

NOTE: If any condition exists that affects the accuracy of the electronic line locator, verification of the pipeline centerline shall be conducted by a Company-approved method, which includes probing, hydro-excavation, air-excavation, or hand digging. If verification is required, those intervals shall not exceed 100 feet.

Conditions that could affect accurate pipeline locating include but are not limited to the following:

- Multiple pipelines and/or foreign line crossings in the area,
- PIs that cannot be accurately located,
- Inconclusive electronic line locator readings
- Signal interference caused by overhead power lines,
- Signal strays from electronic line locator to another pipeline, or
- Any other condition that produces an inaccurate signal from the electronic line locator.

Point of Inflection (PI)

Any change in the direction of the pipeline, including all PI's, shall be clearly marked throughout the entire curvature of the PI at intervals not exceeding five feet and shall include the start, end, and apex of the curvature.

Courtesy Markings

In situations where the planned excavation is greater than 50 feet from the centerline of a Company pipeline(s) and is not on a Company ROW, the Line Locator may perform a courtesy locate, if he/she believes the circumstances surrounding the planned excavation could pose a risk to Company pipelines. The distance between any two courtesy markings shall not exceed 200 feet.



| Table 1: Marking Requirements and Distances | | | |
|--|--|-----------|---|
| SUMMARY OF MARKING REQUIREMENTS | REQUIRED MARKING AREAS | | OPTIONAL MARKING AREAS (COURTESY) |
| | DISTANCE FROM CENTERLINE OF COMPANY PIPELINE | | |
| | On Company ROW or Within 50 Feet of Centerline of Company Pipeline (Whichever is Greater) | | Greater than 50 Feet from Pipeline Centerline and Outside Company ROW |
| Use of electronic line locator | Required | | |
| Spacing of temporary markings (minimum of three marks is required) | 20 ft | | 200 ft |
| Verify accuracy of electronic line locator | As needed | | Not required |
| Field personnel onsite during excavation | Any excavation within 15 ft of a Company pipeline | As needed | Not required |
| Provide encroachment guidelines to excavator | Required | | Not required |
| Marking of PIs (include start, end, and apex) | 5 ft | | |
| Identify the size of the pipeline on markings (nominal diameter) | Pipelines that are 6 in. and greater at every other mark* *Only applicable to Texas | | |
| Length of time temporary marks are to be visible | 14 working days or however long the one-call ticket is valid, whichever is greater | | |
| Marking of multiple lines in ROW / parallel projects | Mark immediately adjacent Company pipeline in 20-ft intervals. Additional Company pipelines in ROW shall be marked at a distance of 100 ft or less. ** All other requirements established in this table shall be followed. | | |
| ** If activity is limited to road blading/grading parallel to a Company pipeline, only the adjacent pipeline shall be marked in 20-ft intervals. However, if this activity crosses over additional Company pipelines, these pipelines shall be marked every 20 ft. | | | |

Process for Locating and Marking

Step 1

Markings shall follow the following APWA Uniform Color Code.

| | |
|--------|--|
| Red | Electric power lines, cables or conduits, and lighting cables |
| Yellow | Gas, oil, steam, petroleum, or other hazardous liquid or gaseous materials |
| Orange | Communications, cable TV, alarm or signal lines, cables, or conduits |
| Blue | Water, irrigation, and slurry lines |
| Green | Sewers, storm sewer facilities, or other drain lines |
| White | Proposed excavation |
| Pink | Temporary survey markings |
| Purple | Reclaimed water, irrigation, and slurry lines |

Step 2

NMOCD Operations Plan
8/23/2021
Revision 1



Mark straight segments of the pipeline at intervals as defined in Table 1, maintaining line of sight from flag/marking to flag/marking.

Mark the approximate centerline of the pipeline(s), by means of stakes, paint, flags, or a combination thereof. If using stakes or flags to mark the pipeline, the distance between marks shall not exceed the distances defined in Table 1, but a shorter distance may be necessary to define the route. If using paint to mark the pipeline, paint marks should be approximately 8 to 10 inches in length and 1 to 2 inches in width. In all cases a minimum of three (3) marks shall be used.

If marking within an area that has been white-lined by an excavator, all markings should extend at least one additional mark beyond the boundaries that have been white-lined.

Ensure the pipeline markings are visible for 14 working days and refresh as required for the area(s) yet to be excavated.

Step 3

Any change in the direction of the pipeline route, including all PI's, shall be clearly marked throughout the entire curvature of the PI.

Step 4

Where applicable, temporary markers such as buoys, poles, or PVC markers should be used to indicate the location of underwater Company pipeline(s). If necessary, these markers may be supplemented with mapping, GPS coordinates, and/or fixed high-bank marks.

Step 5

Provide positive or cleared notification to contractor via Koreweb or on site if pipeline is being crossed.

Step 6

Request, receive, and document the planned excavation schedule indicating the specifics (where, when, and how) of the excavation activities.

Step 7

One call tickets shall be kept for a minimum of 4 years.

Step 8

Clearly specify and document the instructions that were given to the excavator regarding the requirement for a Company representative to be notified prior to excavation and/or encroachment activities on a Company ROW or within 15 feet of a Company pipeline.

A Company representative shall be on site to monitor excavations, including hydro-excavations, and/or encroachment activities that are within 15 feet of a Company pipeline. Excavations and/or encroachment activities outside of 15 feet may be monitored by a Company representative as needed based upon the judgment of local Operations Management.

Step 9

If a GPS device is used to validate the general work area provided in the one-call ticket, the GPS device shall be able to display coordinates to six decimal places (e.g. 32.005786, -94.867964).

Step 10

When blasting is to occur, follow the applicable Company Engineering standards/procedures.

Step 11

When performing the line locating and marking activities at the excavation site, the Line Locator SHALL also perform the following activities:

- ✓ Inspect the Company's permanent line markers in the area of the excavation to ensure line-of-sight markers are in place.
If there are any issues such as broken, missing, or an insufficient quantity of markers, repair the markers before leaving the site, if possible. If unable to make repairs, document on a work request form and report the issue to local supervision as soon as practical.
- ✓ Inspect the Company's ROW maintenance in the area of the excavation.
If there are any issues (brush, trees, high grass/weeds, trash, etc.), report them to local supervision as soon as practical.

Step 12

If applicable and if the area of excavation is deemed safe to enter in accordance with the Company's Confined Space Entry Procedure, complete one of the following forms:

- ✓ Pipeline Maintenance and Repair Report for any exposure of line segment or a foreign line crossing

Step 13

All tickets with a status of "Marked" shall be closed within 7 working days after the completion of the excavation work. All locating and marking activities shall be documented, including the actual date, time of the locate area.



1. Line markers shall be installed and maintained as close as practical over each buried pipeline as follows:
2. Markers shall be located at each public road crossing, at each railroad crossing, and in sufficient number along the remainder of each buried line so that its location is accurately known to reduce the possibility of damage or interference. If feasible and permitted by landowner, markers may be placed on each fence row.
3. Markers must be located at above ground piping and valves, pig launcher and receiver stations.
4. Line markers are not required for the following buried pipelines:
 - a. Transmission lines located offshore or at crossings of or under waterways and other bodies of water.
 - b. Transmission lines in Class 3 or 4 locations where placement of a line marker is impractical
5. Using pipeline maps or drawings identify locations that markers will be placed.
6. Markers must contain the wording and lettering meet the requirements below.
7. Using a pipeline locator or other means, locate the centerline and depth of the pipeline at the point that a marker will be installed.
8. Remove vegetation that might obscure the marker and install the marker following manufacturer instructions.
9. Ensure that the marker is stable and protected from normal activities along the pipeline.
10. If a record of marker location is kept, identification of missing markers will be easier to accomplish.
11. Line markers shall be inspected annually. This may be done during the pipeline right of way patrol with appropriate comments and corrective action noted if applicable. Additionally, any unusual conditions noted will be reported to the Pipeline Supervisor or designee

Marker warning

The following shall be written legibly on a background of sharply contrasting color on each line marker:

1. The word "Warning," "Caution," or "Danger" followed by the words "Gas Pipeline" all of which, except for markers in heavily developed urban areas, shall be in letters at least 1 inch high with 1/4 inch stroke.
2. The name of the Company and the telephone number (including area code) where Company can be reached at all times.



Reporting

Applicability

Gas gathering pipelines.

2. Purpose

Company has established these reporting requirements established in 19.15.28.8(D) NMAC.

3. Reporting to affected Upstream Operators

- 1) No less than 14 days prior to the date of scheduled maintenance, replacement, or repair of a natural gas gathering system, the operator shall provide written notification to each upstream operator whose natural gas is gathered by the system of the date and expected duration that the system will not gather natural gas.
- 2) As soon as possible but no more than 12 hours after discover of an emergency or malfunction, or the need for unscheduled maintenance of a natural gas gathering system, the operator shall provide verbal notification to each upstream operator whose natural gas is gathered by the system of the date and expected duration that the system will not gather natural gas, and shall provide written confirmation of the verbal notification, included the date, time, person, and telephone number to whom verbal notification was given no later than 24 hours after discovery.
- 3) The operator shall make and keep a record of each notification for no less than 5 years and make such records available for inspection by the division upon request.

Location

Applicability

Gas gathering pipelines.

2. Purpose

Company has established these location requirements established in 19.15.28.9 NMAC.

3. Location Requirements

- A. The operator shall file with the division a GIS digitally formatted as-built map:
 1. For a new gathering pipeline or natural gas gathering system, no later than 90 days after placing the gathering pipeline or system into service;
 2. For an existing gathering pipeline or natural gas gathering system no later than 90 days after May 25, 2021.
 3. For an addition to an existing gathering pipeline or natural gas gathering system, no later than 90 days after placing the addition into service.
- B. To ensure proper field identification of a gathering pipeline in an emergency, the as-built map shall include a layer which identifies the pipeline size and construction material type.
- C. No later than July 1st of each year, the operator shall file with the division an updated GIS digitally formatted as-built map of its gathering pipeline or natural gas gathering system, which shall include a GIS layer that identifies the date, location and volume of vented or flared natural gas of each emergency, malfunction and release reported to the division since 19.15.28 NMAC became applicable to the pipeline or system.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS

Action 53455

QUESTIONS

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|---|---|
| Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707 | OGRID: 5380 |
| | Action Number: 53455 |
| | Action Type: [NGGS] NGGS Operations Plan (NGGS-OP) |

QUESTIONS

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|---|-----|
| Verification | |
| Does the operator own the selected facility | Yes |
| Is the selected facility a natural gas gathering system | Yes |

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ACKNOWLEDGMENTS

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ACKNOWLEDGMENTS

| | |
|--|---|
| <input checked="checked" type="checkbox"/> | I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Gathering System Operations Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act. |
|--|---|