

MASTER METER DISTRIBUTION INTEGRITY MANAGEMENT PLAN

Facility Name: _____

Address: _____

DEFINITIONS:

Building – Any structure intended for supporting or sheltering any occupancy.

Excavation damage – Any impact that results in the need to repair or replace an underground facility due to a weakening or the partial or complete destruction, of the facility, including, but not limited to, the protective coating, lateral support, cathodic protection, or the housing for the line device or facility.

Hazardous leak – 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.

Non hazardous leak - Any above ground leak, other than one on a pressure regulator or relief device, that poses no existing or probable threat to life, property or health and that can be eliminated by maintenance such as, lubrication, adjustment, tightening or reassembling of any pipe or component and does not require the shut down of any part of the distribution system (main or service line) upstream of a service line valve to complete the repair.

KNOWLEDGE OF THE DISTRIBUTION SYSTEM

This plan was developed based on the design, construction, operation and maintenance records, including but not limited to; incident and leak history, corrosion control records, continuing surveillance records, patrolling records, maintenance history, and excavation damage experience, as well as the judgment and knowledge of our employees. In the event there is a gap in information due to missing, inaccurate, or incomplete records, we will review for accuracy the Annual Reports and prior inspection reports that are maintained by the Arizona Corporation Commission’s Office of Pipeline Safety (“AZOPS”) and gain additional knowledge over time through our normal activities conducted on the pipeline (for example, design, construction, operations, maintenance, and/or repair activities).

This Plan will be reviewed at a minimum of every 5 years for the purpose of continually refining and improving this Plan.

Records for all piping systems installed after the effective date of this plan shall be captured and retained. This will include the date and location where all new and/or repaired piping and appurtenances are installed and the material of which they are constructed.

DISTRIBUTION SYSTEM OVERVIEW:

The distribution system consists of the following:

TYPE MATERIAL	FT ABOVE GROUND	FT BELOW GROUND	TOTAL FEET
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

PLAN IMPLEMENTATION:

Implementation of the required actions listed in this Plan will be the responsibility of:

_____ and/or _____
(Title only) (Title only)

IDENTIFICATION OF THREATS:

We have used all reasonably available information to identify existing and potential threats on our Master Meter System including, but not limited to:

- Corrosion (both underground and atmospheric)
- Natural Forces (flooding, fire, soil subsidence or movement, snow/ice damage)
- Excavation Damage
- Other Outside Force Damage (vehicle damage, trailer pull out)
- Material or Weld Failure (including fusion, solvent, and mechanical joint failures)
- Equipment Failure
- Incorrect Operation
- Other Threats

RISK RANKING:

The risk ranks for each identified threat is based on the piping material and leak history from the previous 5 years at our facility.

CONSEQUENCE RANKING:

The AZOPS has prioritized all Master Meter Systems in the State of Arizona based on the following criteria:

- All priority one (1) facilities (schools, churches, hospitals, day care centers, prisons) will be assigned a consequence number of 1.25, due to these locations being more difficult to safely evacuate in the event of an emergency.
- All priority two (2) facilities (apartments, mobile home parks, businesses/industrial plants, etc.) will be assigned a consequence number of 1, since these facilities are easier to evacuate in the event of an emergency.

Our facility is a Priority _____ which will have a consequence rating of _____.

Numerous variables have been taken into consideration and it has been determined that any risk would have system-wide consequences.

THREAT ASSESSMENT:

Our threat assessment will identify those threats needing possible further consideration of additional actions based on the probability of each threat using the following criteria:

- 0 (low risk)
- 1 (moderately low risk)
- 2 (medium risk)
- 3 (high risk)

THREAT ASSESSEMENT CHART (check each yes box that applies)

THREAT CATEGORY	PIPING TYPE	DISCRIPTION OF THREAT	THREAT PROBABILITY SCORE	YES
Leak Failure	All	Five (5) or more leaks in the previous five (5) years, regardless of any cause or material involved.	3	
Other threats	All	Unknown; pipe material, fittings, joints, equipment, history.	3	
Corrosion	Underground steel	No underground leaks in previous five (5) years AND all annual CP survey readings have been adequate for the previous five (5) years.	1	
Corrosion	Underground steel	At least one (1) but less then five (5) underground leaks in the previous 5 years OR annual CP survey readings have not been adequate and required remedial action was taken.	2	
Corrosion	Aboveground steel	No leaks in the previous five (5) years.	0	
Corrosion	Aboveground steel	At least one (1) but less than five (5) leaks in the previous five (5) years.	1	
Internal corrosion	All	No indications in the previous five (5) years.	0	
Internal corrosion	All	Any indications in the previous five (5) years.	1	
Material failure	PVC plastic	Any underground PVC plastic, regardless of age or leak history.	2	
Material failure	PE plastic	No underground leaks in previous five (5) years.	0	
Material failure	PE plastic	At least one underground leak in the previous five (5) years and/or if any M7000/M8000 HDPE piping is identified in the system.	2	
Material failure	PE plastic	No underground leaks in the previous five (5) years, AND system has mechanical joints.	1	
Material failure	PE plastic	At least one (1) but less than five (5) underground leaks in the previous five (5) years AND system has mechanical joints.	2	
Excavation	All underground	Any excavation damages to piping, regardless of material in the previous five (5) years.	2	
Excavation	All underground	No excavation damages on the piping system in the previous five (5) years.	1	
Natural forces	All aboveground	Areas where natural forces have caused damage or leaks in the previous five (5) years. (ex. Snow accumulation, flooding, lightening strikes, soil subsidence, etc).	1	
Natural forces	All aboveground	All other areas where natural forces have not caused damage or leaks in the previous five (5) years.	0	
Other outside forces	All aboveground	No damages or leaks caused by outside forces in the previous five (5) years.	1	
Other outside forces	All aboveground	At least one (1) but less than five (5) leaks and/or damage caused by outside force in the previous five (5) years.	2	
Equipment failure	All aboveground	No leaks in the previous five (5) years.	1	
Equipment failure	All aboveground	At least one (1) but less than five (5) leaks in the previous five (5) years where defective equipment was replaced or repaired.	2	
Incorrect operation	All	No incidents in previous five (5) years.	0	
Incorrect operation	All	Any incorrect operation that results in a State reportable incident as defined in our Emergency Plan.	2	
Other threats	All	Incident where emergency event resulted in a State reportable incident as defined in our Emergency Plan.	1	

TOTAL THREAT SCORE
(add the total score of all categories checked yes)

Date: _____

BASED ON THE OVERALL RISK RANKING SCORE, THE FOLLOWING ACTIONS WILL BE TAKEN;

Risk score less than or equal to 1.5 – Monitor system; no additional actions required

Risk score greater than 1.5 but less than 2.5 – Identify threat, periodically monitor, plan and schedule remedial action to be taken to mitigate risk(s) and provide a written plan to AZOPS within 30 days for approval.

Risk score 2.5 or greater – Identify threat, continuously monitor, plan and schedule remedial action to be taken to mitigate risk(s) and provide a written plan to AZOPS within 30 days for approval.

MANDATORY AND RISK BASED; ADDITIONAL ACTIONS, GENERAL:

To reduce risk of the threats identified by our threat assessment, the following additional actions above and beyond the minimum requirements of Title 49 CFR Part 192 shall be implemented.

- Leak surveys shall be conducted once each calendar year not to exceed 15 months (Arizona Administrative Code R14-5-207 (O));
- Odorant sniff tests shall be conducted 4 times a year;
- Minimum criteria that will be used for determining adequate cathodic protection is -0.850 volts (Arizona Administrative Code R14-5-207 (L));
- New underground steel pipeline systems shall have adequate cathodic protection before placing into service. Repairs, partially replaced, or relocating an existing system shall have adequate cathodic protection within (45) days (Arizona Administrative Code R14-5-207 (L));
- New construction and repair of pipelines shall be inspected by the AZOPS;
- System maps shall be maintained for the life of the system (Title 49, CFR, Part 192.605);
- All leaks shall be classified in accordance with ASME G-11 (1983 edition) (Arizona Administrative Code R14-5-207 (O));
- All leaks are to be repaired promptly. AZOPS approval is required before any leaks are graded and classified in accordance with section 5 of ASME G-11 (PIPES 2020, Section 114);
- Any mains and/or services that have been identified as having an issue with leakage in accordance with the threat identification and resulting risk assessment shall require a written plan to replace such leak prone piping facilities as soon as possible (PIPES 2020, Section 114);
- If any HDPE M7000 or M8000 material is identified at facilities located within higher temperature areas, this material shall have leak surveys conducted quarterly until the suspect material has either been replaced and/or abandoned (PIPES 2020, Section 114);
- Underground pipelines discovered under a “building” (as defined in this plan) shall be relocated or gas service will be discontinued or the building shall be relocated within 180 days of discovery. New pipelines shall not be installed under any building (Arizona Administrative Code R14-5-207 (E));
- All plastic piping shall be installed with a minimum 14 gauge coated and conductive tracer wire (Arizona Administrative Code R14-5-207 (G));
- All underground pipelines shall be buried with at least 6 inches of sandy type soil, free of any rock, debris, or materials injurious to the pipe coating, surrounding the pipe for bedding and shading (Arizona Administrative Code R14-5-207 (H));

(Continued Mandatory and Risk Based; Additional Actions, General)

- The AZOPS shall be notified at least thirty (30) days prior to any construction on the pipeline system and shall be provided copies of all construction plans for their review (Arizona Administrative Code R14-5-207 (N));
- All failures shall be investigated to determine their cause and to prevent a recurrence. If the cause of any failure cannot be determined, laboratory testing shall be conducted in accordance with (Arizona Administrative Code R14-5-207 (P));
- We shall track the number of leaks and submit an Annual Report by April 15th of each year to the AZOPS with the number of leaks on the pipeline system and their cause from the previous calendar year (Arizona Administrative Code R14-5-207 (Q)).

MANDATORY PERFORMANCE MEASURES

We will monitor and record, as a performance measure, the number of leaks eliminated and/or repaired on our pipeline system and the causes of each leak (PIPES 2020, Section 114).

PERIODIC EVALUATION AND IMPROVEMENT

Re-evaluation of this Plan shall occur anytime there are events or changes to the pipeline system that may change the identified risks of failure.

A complete re-evaluation of this Plan will be conducted no less than every 5 years. Trends in each of the performance measures listed in the previous section will be reviewed during the re-evaluation. If any performance measure indicates that any of the additional action taken is not effective in reducing the risk it is intended to address, we will consider implementing additional actions to address that risk.

Any changes to this plan will be made available to appropriate operator personnel immediately and a copy submitted to the AZOPS within 30 days of the effective date.

RECORD KEEPING

The following records must be maintained for a minimum of 10 years.

- This Plan including any superseding plans;
- Copies of previous written DIMP Plans;
- Records of data required to be collected to calculate performance measures;
- Records necessary to show implementation and compliance of this Plan;
- Records for all piping systems installed after the effective date of this plan, including the date and location where all new and/or repaired piping and appurtenances are installed and the material of which they were constructed.