1 INTRODUCTION

1.1 PURPOSE

To establish a damage prevention program to minimize damage to the Company hazardous liquid pipeline facilities by excavation activities.

1.2 SCOPE

This Scope of this Standard is applicable to Department of Transportation (DOT) regulated pipelines, gathering systems and facilities in hazardous liquid service.

1.3 REFERENCES

1.3.1 Industry Documents

1.3.2 Regulatory Documents

- DOT PHMSA Regulation §49 CFR Part 195, Transportation of Hazardous Liquid Pipelines, Second edition, September 2013

1.3.3 Company Documents

- PPPM-OMM Operations and Maintenance Manual
- PPPM-OSPR Oil Spill Response Plan

2 DEFINITIONS

Term	Description
Commercially Navigable Waterway (CNW)	A waterway where a substantial likelihood of commercial navigation exists. PHMSA has elected to use the National Waterways Network Database as the basis for identifying commercially navigable waterways in the National Pipeline Mapping System (NPMS).
Direct Impact	The segment of the pipeline that directly intersects an HCA
High Consequence Area (HCA)	An area that has been identified as a CNW, a High Population Area, an Other Populated Area, or an Unusually Sensitive Area
HCA Segment	A continuous portion of a pipeline system in which the released commodity from a failure occurring anywhere between the two (2) end points of the segment could migrate to and affect an HCA. Paramount Pipeline LLC defines an HCA Segment as one that has a Direct or Potential Impact
High Population Area (HPOP)	An urbanized area, as defined and delineated by the Census Bureau, that contains 50,000 or more people and has a population density of at least 1,000 people per square mile
Indirect Impact	Impact of a segment of pipe that does not directly overlap an HCA but that could have an indirect impact as a result of overland flow or channel trace analysis
Other Populated Area (OPOP)	A place, as defined and delineated by the Census Bureau, that contains a concentrated population, such as an incorporated or unincorporated city, town, village, or other designated residential or commercial area
Potential Impact	Area in which potential failure of a pipeline could have significant impact on people or property

Unusually Sensitive Area (USA)	A drinking water or ecological resource area that is unusually sensitive to environmental damage from a hazardous liquid pipeline release (a) A USA drinking water resource is one of the following: (1) The water intake for a Community Water System (CWS) or a Non-Transient Non-Community Water System (NTNCWS) that obtains its water supply primarily from a surface water source and does not have an adequate alternative drinking water source (2) The Source Water Protection Area (SWPA) for a CWS or a NTNCWS that obtains its water supply from a Class I or Class IIA aquifer and does not have an adequate alternative drinking water source. Where a state has not yet identified the SWPA, the Wellhead Protection Area (WHPA) will be used until the state has identified the SWPA (3) The sole source aquifer recharge area where the sole source aquifer is a karst aquifer in nature (b) A USA ecological resource is one of the following: (1) An area containing a critically imperiled species or ecological community (2) A multi-species assemblage area (3) A migratory waterbird concentration area (4) An area containing an imperiled species, threatened or endangered species, depleted marine mammal species, or an imperiled ecological community where the species or community is aquatic, aquatic dependent, or terrestrial with a limited range (5) An area containing an imperiled species, threatened or endangered species, depleted marine mammal species, or imperiled ecological community where the species or community occurrence is considered to be one of the most viable, highest quality, or in the best condition, as identified by an element occurrence ranking (EORANK) of A (excellent quality) or B (good quality)

3 ABBREVIATIONS & ACRONYMS

See Operations and Maintenance Manual for Abbreviations and Acronyms.

4 GENERAL REQUIREMENTS

4.1 GENERAL INFORMATION

4.1.1 It is Company's intent to include, at a minimum, all regulated onshore and offshore pipelines in its damage prevention program to prevent damage to pipelines owned by the Company.

4.1.2 Federal and state pipeline regulations require that each operator of a buried pipeline have a written program to prevent possible damage to a buried pipeline facility by excavation activities. For the purpose of this procedure "excavation activities" include:

a. Excavation.
b. Blasting.
c. Directional drilling and other trenchless technology, which includes, but is not limited to, a variety of cutting, jetting, boring, reaming, and jacking techniques.
d. Tunneling.
e. Backfilling.
f. Removal of above or below ground structures by either explosive or mechanical means.
g. Plowing (installation of flexible pipe, such as drain tile, or cable without open trenching.
h. Other earth moving or earth disturbing activities.
i. Offshore pipe laying.

4.2 PROCEDURE

4.2.1 One Call participation

a. The Company will support and participate, which is required by law, in a "one call" system.
b. Whenever pipelines are included in the geographic boundaries of an operational "one call" system, some activities required in this procedure may be performed by the "one call" system. Periodic confirmation of the procedure requirements that are performed by a "one call" system and subsequently are not carried out by the Company, shall occur to assure correct performance.

4.2.2 Identification of Excavators

The company will develop, on a current basis, a list of contractors and other persons who are normally engaged in excavation activities in the area in which the pipeline is located. Refer to the Procedure for the "Public Education Program" (Procedure 18.01) in this manual or equivalent program.

4.2.3 Notification of Excavators and the Public

Provide general notification of the public living in the vicinity of the pipeline and actual notification of the individuals identified in 4.2.2 above and make them aware of the damage prevention program and its purpose. Refer to the Procedure for the "Public Education Program" in the public awareness program or equivalent program.

4.2.4 Receiving and Recording Notices of Planned Excavation Activities

a. Provide for the receipt of routine notices of planned excavation activities. This can be accomplished by direct telephone communication and/or indirectly through one-call notification systems.
b. Document all notifications requesting line marking or of excavation activity on a form from the one-call service.
c. Since the Company is a member of "One Call", this requirement is satisfied by responding to "One Call" notifications.

4.2.5 Responding to Notice of Planned Excavation Activities

a. Log each notice received and determine if excavation activity will be conducted in the vicinity of the Company's pipeline. If it is determined that the excavation activity is in the vicinity of the Company's pipeline, then that pipeline must be marked in the field.
b. Advise the requestor that a Company representative will be present during excavation activity in the vicinity of the pipeline.
c. Inform the requester if a Company pipeline is located in the area of the planned excavation activity and tell him when the pipeline will be marked, what type of marking will be provided and how to identify the marking.
d. Since the company is a member of "One Call", this requirement is satisfied by responding to "One Call" notifications.

4.2.6 Pipeline Location and Marking

a. Locate and provide temporary marking of the pipeline in areas of conflict where excavation activities are observed, anticipated, or will occur as indicated by One Call notification. Provide this temporary marking before excavation begins. Follow "Common Ground Alliance" marking guidelines.
b. Pipelines must be marked within 48 hours of receipt of notification, unless the notifying party agrees to extend this time, and before any excavation activities begin.
c. Use temporary flags, stakes, or other more permanent marks, if the type and duration of activity so dictates. The minimum length of pipeline to be marked shall be as required by conditions of the site and job. If practical, locate and mark pipelines when a requester's representative is present.
d. Bends and other changes of direction need to be marked so that the location of the pipe is clearly delineated.

e. Mark on straight pipeline sections at intervals required by conditions of the site and job, but not to exceed 100 feet (30 meters) onshore and 1000 feet (305 meters) offshore.
f. If an outside party is seen approaching or working over the Company's pipeline, immediately notify the excavator that a conflict exists and ask him to delay until the line is located and marked.
g. Remove stakes and/or flags when the work has been completed.
h. Ensure up to date pipeline alignment and as-built drawings are available to the locator. The locator shall not rely solely on maps, drawings, or other written materials to locate pipelines. The locator shall notify the appropriate pipeline operator person when the pipeline alignment and as-built drawings need updates.
i. The locator shall notify the appropriate pipeline operator person when the pipeline alignment and as-built drawings need updates.
j. Ensure individuals marking & locating are be familiar with state and local marking requirements, and Common Ground Alliance Best Practices marking guidelines which includes recommended color codes and marking guidelines.
k. Ensure individuals marking & locating have knowledge, skills, and abilities (as required by OQ Program) to read & understand pipeline alignment and as-built drawings.
l. Locate and mark accurately before excavation begins. This applies regardless if using own company employees or contractors for marking. Honor marking of existing pipelines or utilities.
m. Mark all pipelines including laterals. Consider environmental conditions such as rain or snow when selecting marking methods. In areas where the pipelines are curved or make sharp bends to avoid other utilities or obstructions, consider the visibility and frequency of markers. Individually mark pipelines within the same trench.
n. Facilitate communication during the excavation and make sure excavators have sufficient information about underground pipelines at an excavation site to avoid damage to the pipeline.
o. Calibrate tools and equipment used for line marking and make sure they are in proper working order.
p. When pipelines are hit or almost hit during excavation, evaluate the practices and procedures before continuing excavation activities.
q. When there are reports of third party damage on the pipeline, the company will check the TPD against One-Call tickets and document this review.
r. The company will review "One-Call" reports and generate a list of third parties who actually conducted excavation activities along the pipelines. These companies who conducted excavation activities will be included in the public awareness education program either by mailing of materials or onsite visit. This excavation activities list will be documented once per year including how excavation companies were contacted.

4.2.7 Inspection and Monitoring of Excavation Activities

a. A Company representative is to be present when excavation occurs that will expose or may be reasonably expected to expose the pipeline. The Pipeline Line Rider may make other provisions to prevent damage to the pipeline when the excavation activities, such as parallel encroachments, require the representative to be present for long time durations, and there is to be no crossing of the Company's pipeline.
b. If the pipeline is to be crossed, a Company employee will determine its depth at the point of intended crossing if practical and necessary. The Company employee will use a line locator and prodding bar, as appropriate.
c. Advise the excavator that he may proceed with excavation across the pipeline in a slow and controlled manner, and only if the exact depth and location are known and at least 18" (45.7 cm) of clearance (undisturbed soil) will exist from the bottom of the excavation to the top of the Company pipeline. Monitor the excavation as it occurs to assure that the depth of excavation is maintained as planned.
d. If less than 18" (45.7 cm) clearance will exist from the top of Company pipeline to the bottom of the excavation, or the crossing will be below the Company's pipeline, prohibit the outside party from approaching the unexposed pipeline closer than 18" (45.7 cm) from the top or 36" (91.4 cm) from the side of the pipeline with mechanical equipment. Require the excavator to expose the pipeline by hand excavation.
e. Inspection of pipelines must be done as frequently as necessary during and after activities to verify the integrity of the pipeline. Form 6.04A should be utilized for reporting purposes.

4.2.8 Blasting

If blasting occurs and it is determined that there is possible damage, a leakage survey must be done immediately to verify the integrity of the pipeline.

4.2.9 Horizontal Directional Drilling (HDD) and other Trenchless Technology

a. Because of the high potential risk associated with HDD and other trenchless technology, the following procedures are in addition to the above stated requirements for normal excavation methods. These additional procedures are to mitigate the risks of damage to Company and other(s) pipelines.
b. Maximum separation between substructures, when possible, should be designed into the trenchless operation.
c. The Company must ensure that contractor personnel are following safe practices and are well qualified and experienced in this type of pipeline installation.

d. Prior to the commencement of any work, a precise and thorough site survey must be done to locate potential conflicts with known existing underground facilities.
e. Potholes may be required to determine substructure location(s). A knowledgeable substructure owner or representative must be on site at time of exploration (potholing) and actual trenchless operations.
f. Whenever HDD is proposed within 10 feet (3 meters) of a known substructure, potholes will be dug, when possible, at a maximum of 25 foot (7.6 meter) intervals to determine the exact location of the drill head during pilot and back reaming operations. Characteristics of soil (rock, sand, etc.) can affect the alignment of the pilot hole. Stiffness of the pipe can affect the accuracy.
g. Personnel must monitor location and alignment of the operation constantly with a “walkover” detector. Read the drill head every 10 feet (3 meters) for direction and depth and mark on the surface. If a problem is encountered, the operation must be either altered or shutdown immediately until the problem(s) is resolved. The “drill head” should not be removed in the event of suspected damage or abnormalities. Further damage could be caused.
h. If necessary, and to ensure additional safety of the HDD operation, it may be necessary to reduce pipeline operating pressure or shutdown the pipeline completely.

4.2.10 Exposed Pipe

a. Whenever any buried pipe is exposed for any reason, the company shall examine the pipe for evidence of external corrosion.
b. If external corrosion requiring remedial action is found, additional investigation circumferentially and longitudinally may be necessary beyond the exposed portion (by visual examination, indirect method, or both) to determine whether additional corrosion requiring remedial action exists in the vicinity of the exposed portion.

4.2.11 Passage of Hurricanes

a. Operators of gas and hazardous liquid pipelines are reminded that pipeline safety problems can occur from the passage of hurricanes. Pipeline operators are urged to take the following actions to ensure pipeline safety:
    I. Identify persons who normally engage in shallow-water commercial fishing, shrimping, and other marine vessel operations and caution them that underwater offshore pipelines may be exposed or constitute a hazard to navigation. Marine vessels operating in water depths comparable to a vessel’s draft or when operating bottom dragging equipment can be damaged and their crews endangered by an encounter with an underwater pipeline.

II. Identify and caution marine vessel operators in offshore shipping lanes and other offshore areas that deploying fishing nets or anchors and conducting dredging operations may damage underwater pipelines, their vessels, and endanger their crews.

4.2.12 Backfilling

a. When a ditch for a pipeline is backfilled, it must be backfilled in manner that:
   I. Provides firms support under the pipe, and
   II. Prevents damage to the pipe and pipe coating from equipment or from backfilled material.

4.3 ADDITIONAL PREVENTATIVE MEASURES

4.3.1 The Company will implement the following preventive and mitigative requirements regarding threats due to third party damage. These minimum enhancements to the 195.442 required damage prevention program will include the following with respect to IMP covered segments to prevent and minimize the consequences of a release:

a. Using qualified personnel for work the Company is conducting that could adversely affect the integrity of a covered segment, such as marking, locating, and direct supervision of known excavation work.
b. Collecting, in a central database, location-specific information on excavation damage that occurs in covered and non-covered segments in the transmission system and the root cause analysis to support identification of targeted additional preventative and mitigative measures in the high consequence areas. This information must include recognized damage that is not required to be reported as an incident under Part 191. Participating in One-Call systems in locations where covered segments are present.
c. Monitoring of excavations conducted on covered pipeline segments by pipeline personnel.
d. When there is physical evidence of encroachment involving excavation that the operator did not monitor near a covered segment, verify that the area near the encroachment must be excavated or that an above ground survey using methods defined in NACE RP-0502-2002 must be conducted.
e. If an above ground survey is conducted, verify that any indication of coating holidays or discontinuities warranting direct examination must be excavated and remediated in accordance with ANSI/ASME B31.8S.

5 RECORD KEEPING

All resulting line riding or damage prevention documentation produced from the Line Riders shall be maintained for a minimum of five (5) years. The final report and determination documentation shall be stored in the appropriate document management system.

Record	Owner	Location	Retention	Frequency
Line Riding Form	Manager, Pipeline Compliance	Pipeline Dept	5 Years	For every project

6 ASSURANCE REQUESTS

This program will be reviewed annually not to exceed 15 months with the Operations and Maintenance Manual (OMM).