1.1 PURPOSE / SCOPE OF PLAN

The purpose of this Emergency Response Plan (Plan) is to provide guidelines to quickly, safely, and effectively respond to a spill from the Martinsville Response Zone. This Plan contains prioritized procedures for Company personnel to mitigate or prevent any discharge resulting from in-facility operations, including hazardous waste. Guidelines for waste management can be found in **SECTION 7.3**.

For more information on this Plan, contact your supervisor or the Emergency Preparedness Coordinator.

This Plan is intended to satisfy the requirements of the Oil Pollution Act of 1990 (OPA 90), and has been prepared in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and applicable Area Contingency Plans (ACP), U.S. EPA Region V Regional Contingency Plan, as well as USCG Captain of the Port Zones Lake Michigan, Ohio Valley and Upper Mississippi River; state spill contingency plans for Illinois, Indiana, Kentucky, Michigan, and Missouri; and Local Emergency Planning Committee (LEPC) plans. Specifically, this Plan is intended to satisfy:

- Pipeline and Hazardous Materials Safety Administration (PHMSA) U.S. Department of Transportation requirements for an OPA 90 Plan (49 CFR 194).
- Pipeline and Hazardous Materials Safety Administration (PHMSA) U.S. Department of Transportation requirements for Transportation of Natural Gas and other Gas By Pipeline (49 CFR 192.615).
- Pipeline and Hazardous Materials Safety Administration (PHMSA) U.S. Department of Transportation requirements for Transportation of Hazardous Liquids By Pipeline (49 CFR 195.402 (e)).
    - This manual addresses the requirement for responding to emergencies. Separate manuals have been prepared to cover normal operations, maintenance activities and abnormal operations.
- Occupational Safety and Health Administration (OSHA) requirements for Emergency Response Plan (ERP) (29 CFR 1910.120 (l)(2)) and Emergency Action Plan (ERP) (29 CFR 1910.38 (c)).

1.2 PLAN REVIEW AND UPDATE PROCEDURE

In accordance with 49 CFR Part 194.121, this Plan will be reviewed annually and modified to address new or different operating conditions or information included in the Plan. Upon review of the response plan for each five-year period, the plan will be submitted to PHMSA prior to 5 years from the last approval date. In the event the Company experiences a Worst Case Discharge, the effectiveness of the plan will be evaluated and updated as necessary. If a new or different operating condition or information would substantially affect the implementation of the Plan, the Company will modify the Plan to address such a change and, within 30 days of making such a change, submit the change to PHMSA. Examples of changes in operating conditions that would cause a significant change to the Plan include:

CONDITIONS REQUIRING REVISIONS AND SUBMISSIONS
An extension of the existing pipeline or construction of a new pipeline in a response zone not covered by the previously approved plan.
Relocation or replacement of the pipeline in a way that substantially affects the information included in the response plan, such as a change to the worst case discharge volume.
The type of oil transported, if the type affects the required response resources, such as a change from crude oil to gasoline.
The name of the oil spill removal organization.
Emergency response procedures.
The qualified individual.
A change in the NCP or an ACP that has significant impact on the equipment appropriate for response activities.
Any other information relating to circumstances that may affect full implementation of the plan.

All requests for changes must be made through authorized Corporate and field staff.

The most current version of the plan is always the electronic copy. Revisions to the site-specific information are made through the coordination with the Emergency Preparedness Coordinator. The date at the beginning of each Section indicates the last date that Section was revised.

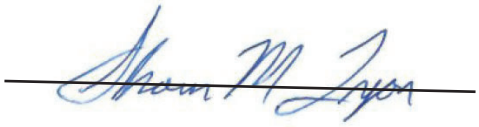
1.3 CERTIFICATION OF ADEQUATE RESOURCES

CERTIFICATION
Pursuant to the Clean Water Act Section 311(j)(5)(F)
Marathon Pipe Line LLC, Martinsville Response Zone

The undersigned, the owner or operator of the above referenced pipeline who is authorized to sign this certification on behalf of the Company, hereby certifies that the above referenced pipeline has prepared a response plan which will be implemented in the event of a worst case discharge of oil. I also certify that the Plan is in effect for this pipeline and that Operator personnel are trained in the implementation of this Plan.

I further certify that the availability of private personnel and equipment necessary to respond, to the maximum extent practicable, to a worst case discharge or a substantial threat of a discharge is ensured by contract or other approved means.

Also, I certify that this Plan meets the applicable requirements of Pipeline and Hazardous Materials Safety Administration (PHMSA), U.S. Department of Transportation (49 CFR 194).



Shawn M. Lyon
President, Marathon Pipe Line LLC
7/30/2021

1.4 AGENCY SUBMITTAL / APPROVAL LETTERS

Click to view/print PHMSA Approval Letter 3/4/21

July 30, 2021
PHMSA
1 - Introduction

U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety Administration**

1200 New Jersey Avenue, S.E.
Washington, D.C. 20590

March 4, 2021

Jon Wisebaker
Security Coordinator
Marathon Pipe Line LLC
539 South Main Street
Findlay, OH 45840-3295

Subj: Approval of the Marathon Pipe Line LLC, Martinsville Response Zone Emergency Response Plan

Dear Mr. Wisebaker:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) has received and reviewed the Marathon Pipe Line LLC, Martinsville Response Zone Emergency Response Plan (Sequence Number: 3050) dated March 2021. We conclude that the plan complies with PHMSA's regulations concerning onshore oil pipelines found at 49 Code of Federal Regulations (CFR) Part 194. Your response plan is approved.

This approval is valid for five years from the date of this letter. If discrepancies are found during PHMSA inspections, or if new or different operating conditions or information would substantially affect the implementation of this plan, you will be required to resubmit a revised plan. See 49 CFR § 194.121(b).

Should you have any questions or concerns, please contact me at (202) 366-4595 or by email at PHMSA.OPA90@dot.gov. Please include the sequence number and your PHMSA Operator Identification Number on any future correspondence.

Sincerely,

Rick Raksnis

Rick Raksnis, Supervisor
Oil Spill Preparedness Branch
Preparedness, Emergency Support and Security Division
Office of Pipeline Safety

cc: PHMSA Central Region

SECTION 2
INITIAL RESPONSE ACTIONS

Last Revised: July 29, 2021

SECTION 2
INITIAL RESPONSE ACTIONS, CONTINUED

FIGURE 2-1 - INITIAL RESPONSE ACTION GUIDELINES

Initial response actions are those actions taken by personnel immediately upon becoming aware of a discharge or emergency incident, before the appropriate Emergency Response Team (ERT) (described in **SECTION 4**) is formed and functioning. Timely implementation of these initial steps is of the utmost importance because they can greatly affect the overall response operation.

It is important to note that the actions described in this section are intended only as guidelines. The appropriate response to a particular incident may vary depending on the nature and severity of the incident and on other factors that are not readily addressed. Note that, without exception, personnel and public safety is first priority.

The first Company person on scene will function as the Incident Commander (IC) until relieved by an authorized supervisor who will assume the IC position. Transfer of command will take place as more senior management respond to the incident. For response operations within the control of the Emergency Response Team, the role of IC will typically be assumed and retained by area management.

The person functioning as Incident Commander during the initial response period has the authority to take the steps necessary to control the situation and must not be constrained by these general guidelines.

Initial Response Actions - Summary

PERSONNEL AND PUBLIC SAFETY IS FIRST PRIORITY

CONTROL

- Eliminate sources of ignition.
- Isolate the source of the discharge, minimize further flow.

NOTIFY

- Make internal and external notifications.
- Activate local Company personnel as necessary.
- Activate response contractors and other external resources as necessary.

CONTAIN

- Begin spill mitigation and response activities.
- Monitor and control the containment and clean-up effort.
- Protect the public and environmental sensitive areas.

In addition to the potential emergency events outlined in this section, the Company has identified several "abnormal operations" that could occur at the pipeline facilities. The Company has defined the events and established procedures to identify, eliminate or mitigate the threat of a worst case discharge due to these events. Refer to **SECTION 4** for a description of emergency response tiers.

Reported discovery of a potentially injurious pipeline anomaly will most likely originate from an integrity-based program in-line inspection assessment survey. The Responding to Anomalies Standard (MPL-MNT-00504-PRS) describes the required reporting procedures and operational responses to discovery of an injurious pipeline anomaly. This Standard identifies procedures for anomaly discovery, response, operational risk analysis, remediation, and pressure reinstatement. It also describes roles and responsibilities, as well as documentation requirements.

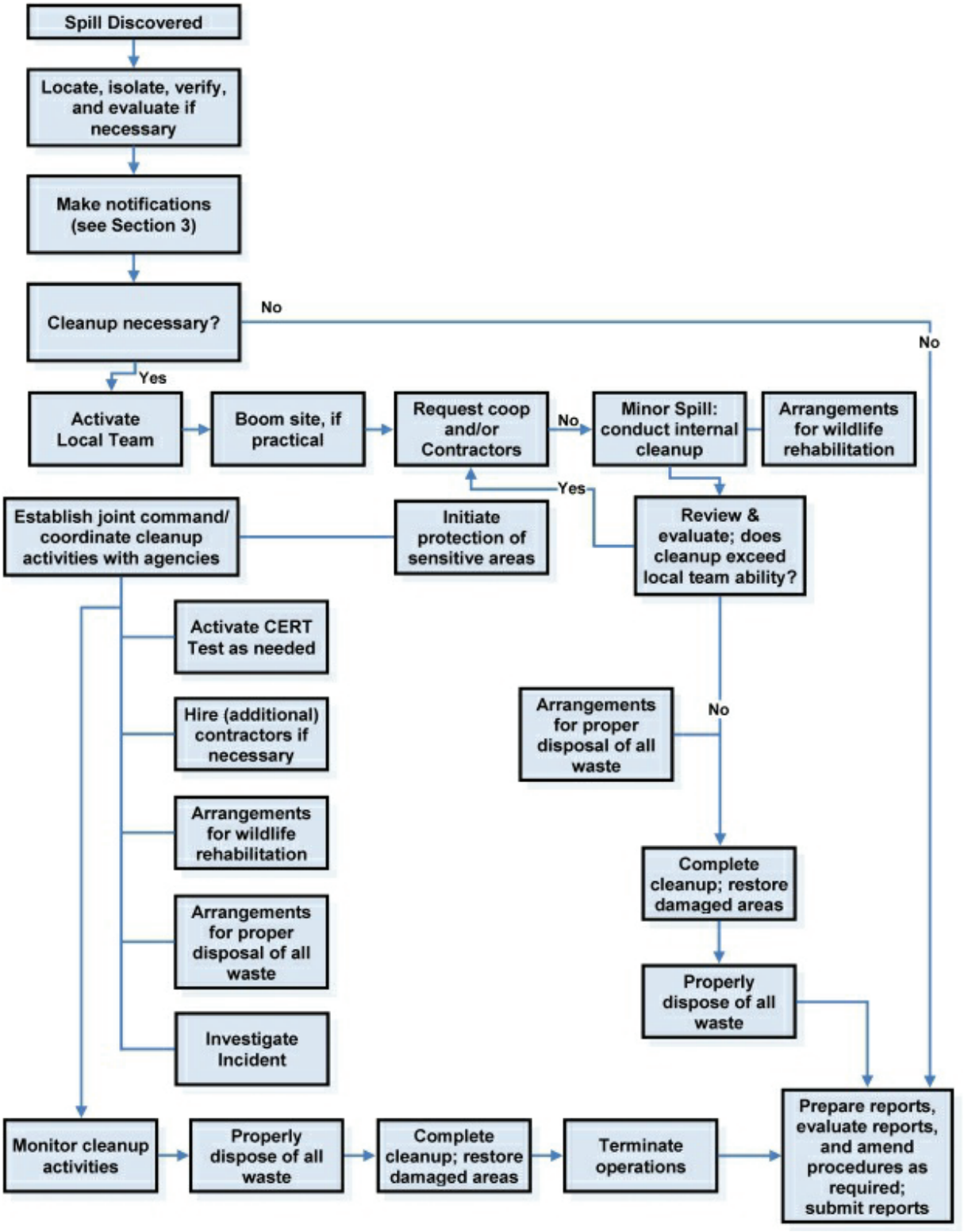
FIGURE 2-1 - INITIAL RESPONSE ACTION GUIDELINES, CONTINUED

Figure 2-1 - Initial Response Action Guidelines	PERSON TAKING ACTION (INITIALS)
First Company Person Notified/On-Scene	
Follow the appropriate spill mitigation procedure in **FIGURE 2.1-2** and the Product Specific Response Considerations in **SECTION 2.1.8**.	
Take appropriate personal protective measures.	
Notify the Pipeline Operations Center and Area Management of the incident.	
Call for medical assistance if an injury has occurred.	
Eliminate possible sources of ignition in the near vicinity of the spill.	
Utilize local emergency services as necessary (police, fire, medical).	
Take necessary fire response actions (if applicable).	
Advise the public in the area of any potential threat, to minimize the public exposure to injury and accidental ignition of product, and/or initiate evacuation procedures.	
Maintain communication with fire, police and other appropriate public officials.	
Identify/isolate the source (if safe to do so) and minimize the loss of product.	
Restrict access to the spill site and adjacent area as the situation demands. Take additional steps necessary to minimize any threat to health and safety.	
Use testing and sampling equipment to determine potential safety hazards, as the situation demands.	
Verify the type of product and quantity released. (Product characteristics and hazards are discussed in **APPENDIX C.6**.)	
All personnel are reminded that outsiders other than emergency services will not be allowed in the area during the time of an emergency, and that statements issued to the media or other interested parties should be given by designated Company Management. Be courteous with media representatives and direct them to the designated spokesperson.	
Area Management	
Evaluate the Severity, Potential Impact, Safety Concerns, and Response Requirements based on the initial data provided by the first person on scene. Refer to the Spill Response Actions Flowchart in **FIGURE 2-2**.	

FIGURE 2-1 - INITIAL RESPONSE ACTION GUIDELINES, CONTINUED

Figure 2-1 - Initial Response Action Guidelines, Continued	PERSON TAKING ACTION (INITIALS)
Area Management, Continued	
Utilize local emergency services as necessary (police, fire, medical).	
Assume the role of Incident Commander.	
Confirm safety aspects at site, including need for personal protective equipment, sources of ignition, and potential need for evacuation.	
Activate the local Emergency Response Team and primary response contractors, as the situation demands. Refer to the Emergency Response Team Activation Procedure in **FIGURE 4.5-1**.	
Coordinate/request activation of additional spill response resources (MPL Personnel, contractors, etc.), as the situation demands (telephone reference is provided in **FIGURE 3.1-4**).	
Conduct Site Characterization.	
Perform notifications as per **FIGURE 3.1-1**, as appropriate.	
Proceed to spill site and coordinate response and clean-up operations.	
Direct containment, dispersion, and/or clean-up operations in accordance with the Product Specific Response Considerations provided in **SECTION 2.1.8**.	
Complete the ICS General Incident Report Form.	
Emergency Response Team	
Assigned personnel will immediately respond to a discharge from the Pipeline, as the situation demands.	
Perform response/clean-up operations as directed or coordinated by the Incident Commander.	
Assist as directed at the spill site.	
Site Specific Actions	
Most of the pipelines operated by Marathon Pipe Line LLC are controlled by the company's Pipeline Operations Centers via a SCADA system. The SCADA system monitors and automatically checks for potential pipeline leaks, based on two parameters; metered volumes and line pack calculations. Refer to **APPENDIX C.1** for more information regarding spill detection and prevention.	

FIGURE 2-2 - SPILL RESPONSE ACTIONS FLOW CHART



2.1 SPILL RESPONSE

2.1.1 Spill Detection and Mitigation Procedures

Refer to **APPENDIX C** for spill detection protocols.

Each spill mitigation situation is unique and must be treated according to the circumstance present. In every situation, however, personnel safety must be assessed as the first priority. The potential for ignition and/or toxic exposure must be promptly evaluated. Spill mitigation procedures are listed in **FIGURE 2.1-1**. Worst case discharge volume calculations and discussion are provided in **APPENDIX C**.

FIGURE 2.1-1 - SPILL MITIGATION PROCEDURES

TYPE	MITIGATION PROCEDURE
Failure of Transfer Equipment	1. Personnel safety is the first priority. Evacuate nonessential personnel or personnel at high risk. 2. Terminate transfer operations and close all affected valves. 3. Drain product into containment areas if possible. 4. Eliminate sources of vapor cloud ignition by shutting down all engines and motors.
Tank Overfill/Failure	1. Personnel safety is the first priority. Evacuate nonessential personnel or personnel at high risk. 2. Shut down or divert source of incoming flow to tank. 3. Transfer fluid to another tank with adequate storage capacity (if possible). 4. Shut down source of vapor cloud ignition by shutting down all engines and motors. 5. Ensure that dike discharge valves are closed. 6. Monitor diked containment area for leaks and potential capacity limitations. 7. Begin transferring spilled product to another tank as soon as possible.
Piping Rupture/Leak (under pressure or not)	1. Personnel safety is the first priority. Evacuate nonessential personnel or personnel at high risk. 2. Shut down pumps, close remote operated block valves in accordance to the Pipeline Operations Center procedures, and close manual block valves per guidance provided by local operations. 3. Drain the line back into contained areas (if possible). Alert nearby personnel of potential safety hazards. 4. Shut down source of vapor cloud ignition by shutting down all engines and motors. 5. If piping is leaking and under pressure, then relieve pressure by draining into a containment area or back to a tank (if possible). Then repair line according to established procedures.
Fire/Explosion	1. Personnel safety is the first priority. Evacuate nonessential personnel or personnel at risk of injury. 2. Notify local fire and police departments. 3. Attempt to extinguish fire if it is in incipient (early) stage. 4. Shut down transfer or pumping operation. Attempt to divert or stop flow of product to the hazardous area (if it can be done safely). 5. Eliminate sources of vapor cloud ignition by shutting down all engines and motors. 6. Control fire before taking steps to contain spill. NOTE: If fire involves an HVL product, do not extinguish until source of leak has been isolated. Extinguishing the fire prior to the leak being secured could result in the development of a vapor cloud.
Manifold Failure	1. Personnel safety is the first priority. Evacuate nonessential personnel or personnel at high risk. 2. Terminate transfer operations immediately. 3. Isolate the damaged area by closing remote operated block valves in accordance to the Pipeline Operations Center procedures, and close manual block valves per guidance provided by local operations. 4. Shut down source of vapor cloud ignition by shutting down all engines and motors. 5. Drain fluids back into containment areas (if possible).

2.1.2 Spill Surveillance Guidelines

- Surveillance of an oil spill should begin as soon as possible following discovery to enable response personnel to assess spill size, movement, and potential impact locations.
- Dispatch observers to crossings downstream or down gradient to determine the spills maximum reach.
- Clouds, shadows, sediment, floating organic matter, submerged sand banks, or wind-induced patterns on the water may resemble an oil slick if viewed from a distance.
- Sorbent pads may be used to detect oil on water.
- Use surface vessels to confirm the presence of any suspected oil slicks (if safe to do so); consider directing the vessels and photographing the vessels from the air, the latter to show their position and size relative to the slick.
    - It is difficult to adequately observe oil on the water surface from a boat, dock, or shoreline.
- Spill surveillance is best accomplished through the use of helicopters or small planes; helicopters are preferred due to their superior visibility and maneuverability.
- If fixed-wing planes are to be used, high-wing types provide better visibility than low-wing types.
- All observations should be documented in writing and with photographs and/or videotapes.
    - Describe the approximate dimensions of the oil slick based on available reference points (i.e., vessel, shoreline features, or facilities); use the aircraft or vessel to traverse the length and width of the slick while timing each pass; calculate the approximate size and area of the slick by multiplying speed and time.
    - Record aerial observations on detailed maps, such as topographic maps.
- In the event of reduced visibility, such as dense fog or cloud cover, boats may have to be used to patrol the area and document the location and movements of the spill; however, this method may not be safe if the spill involves a highly flammable product.
- Surveillance is also required during spill response operations to gauge the effectiveness of response operations; to assist in locating skimmers; and assess the spill's size, movement, and impact.
- An Oil Spill Surveillance Checklist is provided in **FIGURE 2.1-2**.

FIGURE 2.1-2 - OIL SPILL SURVEILLANCE CHECKLIST

Record your observations of spilled oil either in a notebook or directly on a chart of the area under observation. This checklist is an aid for organizing your observations. Forms must be turned in at the Command Post and retained with other response documentation.

General Information	
Date:	Tidal or river stage (flood, ebb, slack, low water):
Time:	On-scene weather (wind, sea state, visibility):
Incident name:	Platform (helicopter, fixed-wing aircraft, boat):
Observer's name:	Flight path/trackline:
Observer's affiliation:	Altitude where observation taken:
Location of source (if known):	Areas not observed (i.e., foggy locations, restricted air spaces, shallow water areas):
Oil Observations	
Slick location(s):	Color and appearance (i.e., rainbow, dull or silver sheen, black or brown in color or mousse):
Slick dimensions:	Percent coverage:
Orientation of slick(s):	Is oil recoverable (Y/N)?:
Distribution of oil (i.e., windrows, streamers, pancakes or patches):	
Considerations	
• During surveillance flights, travel beyond known impacted areas to check for additional oil spill sites • Include the name and phone number of the person making the observations • Clearly describe the locations where oil is observed and the areas where no oil has been seen	
Other Observations	
Response Operations	
Equipment deployment (general locations where equipment is working and whether they are working in the heaviest concentration of oil):	
Boom deployment (general locations of boom, whether the boom contains oil, and whether the oil entrains under the boom):	
Environmental Observations	
Locations of convergence lines, terrain, and sediment plumes:	
Locations of debris and other features that could be mistaken for oil:	
Wildlife present in area (locations and approximate numbers):	

2.1.3 Spill Volume Estimating

Early in a spill response, estimation of spill volume is required in order to:

- Report to agencies,
- Determine liquid recovery requirements,
- Determine personnel and equipment requirements, and
- Estimate disposal and interim storage requirements.

Some rapid methods to estimate spill size are:

- Transfer operations: Multiply the pumping rate by the elapsed time that the leak was in progress, plus the drainage volume of the line between the two closest valves or isolation points (volume loss = pump rate [bbls/min] x elapsed time [min] + line contents [bbl]).
- Tank overfills: Elapsed time multiplied by the pumping rate.
- Visual assessment of the surface area and thickness (**FIGURE 2.1-3**); the method may yield unreliable results because:
    - Interpretation of sheen color varies with different observers,
    - Appearance of a slick varies depending upon amount of available sunlight, sea-state, and viewing angle, and
    - Different products may behave differently, depending upon their properties.

FIGURE 2.1-3 - SPILL ESTIMATION FACTORS

OIL THICKNESS ESTIMATIONS				
Standard Form	Approx. Film Thickness		Approx. Quantity of Oil in Film	
	inches	mm		
Barely Visible	0.0000015	0.00004	25 gals/mile^2	44 liters/km^2
Silvery	0.000003	0.00008	50 gals/mile^2	88 liters/km^2
Slightly colored	0.000006	0.00015	100 gals/mile^2	179 liters/km^2
Brightly colored	0.000012	0.0003	200 gals/mile^2	351 liters/km^2
Dull	0.00004	0.001	666 gals/mile^2	1,167 liters/km^2
Dark	0.00008	0.002	1,332 gals/mile^2	2,237 liters/km^2
Thickness of light oils: 0.0010 inches to 0.00010 inches				
Thickness of heavy oils: 0.10 inches to 0.010 inches				

2.1.4 Estimating Spill Trajectories

In some cases, oil spill trajectories should be estimated in order to predict direction and speed of the slick movement. Trajectory calculations provide an estimate of where oil slicks may impact shorelines and other sensitive areas, and also provide an estimate of the most effective location in which to mobilize spill response resources for protection, containment, and recovery.

Oil spill trajectories can be estimated using vector addition or with computer programs. Hand calculations typically utilize the following assumptions:

- Oil moves at approximately the same direction and speed as the water currents, unless the winds are strong.
- Wind speed can be multiplied by 0.034 to determine the effect of winds on speed and direction of spill movement.
- The combined effects of winds and currents can be added to estimate spill movement speed and direction.

More sophisticated predictions can be obtained from computer programs. Oil spill trajectory services can be obtained from:

- National Oceanic and Atmospheric Administration (NOAA) through the Federal On-Scene Commander (FOSC), and
- Private consulting firms.

2.1.5 Air Monitoring

During an incident in which oil or hazardous material has been spilled or potentially could affect the response, prior to engaging in any spill response activity, air monitoring should be conducted in the affected area.

It is imperative that all air monitoring equipment is operated and their data interpreted by trained personnel thoroughly familiar with the equipment.

- The air monitoring equipment should be calibrated before and after every use using the equipment manufacturer's recommended procedures and standards.
- Air monitoring measurements which are to be made prior to entry into the spill area include:
    - Lower Explosive Limit (LEL)
    - Benzene (dependent on product type)
    - Hydrogen Sulfide (H2S)
    - Oxygen content
- LEL readings above 10% require immediate evacuation of the area and elimination of ignition sources.
- Oxygen readings below 19.5% require the use of air supplied respiratory protection.
- Where unknown and multiple contaminants may be present, instrument readings should be interpreted conservatively.
- Personnel H2S monitors are required for response to a crude oil release.

The Incident Commander is responsible for industrial hygiene monitoring in the post discovery period and may refer to the Safety Officer.

Marathon Pipe Line monitoring equipment consists of AreaRAEs that can used to monitor oxygen, hydrogen sulfide, lower explosive limit, carbon monoxide, and volatile organic compounds. Other equipment available is the MultiRAE (4 gas monitor) and UltraRAEs (VOC & Benzene). For direction and guidance on using the equipment, refer to the operating instructions for specific combustible gas detector being used.

2.1.6 Initial Containment Actions

Initial containment actions will focus on utilizing containment on-site in the most effective manner to:

- Prevent the oil from impacting water, thereby reducing the surface area and the shoreline to be cleaned,
- Concentrate the oil (when safe to do so), making physical recovery more efficient, and
- Limit the environmental impact to the immediate spill area.

Selection of the appropriate location and method will depend upon:

- Length of time spill occurs before being noticed,
- Amount of spill,
- Area of coverage,
- Environmental factors, such as wind speed and direction, and
- Oil's characteristics.

2.1.7 Safety Considerations

- In the event of inclement weather, unified command and safety will complete a risk assessment and determine whether containment actions can continue.
- Eliminate all ignition sources.
- Avoid contact with the spilled product.
- Perform atmospheric monitoring to establish initial hot, warm, and cold zones.
- Use respiratory protection (if applicable).
- Ensure that the area remains secure to ground traffic.

2.1.8 Product Specific Response Considerations

2.1.8 Product Specific Response Considerations
In the event of a release of a gas with toxic properties (H2S, Sulfur dioxide, ethyl mercaptan), it is important to eliminate all ignition sources and immediately get upwind of the release. Prompt notification to local responders is critical for public safety. Hydrogen Sulfide, Sulfur Dioxide, and Ethyl Mercaptan are extremely hazardous when inhaled or absorbed through the skin. If exposure occurs to either of the gases at a high enough concentration, it can be fatal. In the event of a Hydrogen Sulfide, Sulfur Dioxide, or Ethyl Mercaptan release, please refer to the stations Emergency Action Plan for evacuation procedures. For public safety information, please refer to the Emergency Response Guidebook guide 117 (Hydrogen Sulfide), guide 125 (Sulfur Dioxide) or guide 129 (Ethyl Mercaptan).

APPENDIX C
HAZARD EVALUATION AND RISK ANALYSIS

Last Revised: July 29, 2021

C.1 SPILL DETECTION/PREVENTION

C.1.1 Spill Detection

C.1.1 Spill Detection
Spill Detection
MPL has developed and implemented various leak prevention and detection methodologies and standards utilized on MPL's PHMSA-regulated pipeline systems. MPL pipelines are also constructed and maintained in accordance with federal, state, and local requirements and MPL corporate standards to ensure integrity of the pipeline and prevent leaks or spills from occurring. Adherence to these standards and methodologies minimizes the potential for a pipeline leak to occur due to a pipeline failure or malfunction and minimizes the threat of a worst case discharge to occur.
The corporate standards that are implemented for all MPL PHMSA-regulated pipelines (as applicable) include, but are not limited to, the following: • MPLMNT001 – Pipeline Repairs • MPLMNT003 – Inspecting and Evaluating Line Pipe Metal Loss • MPL-MNT-00482-KNO – Aerial Right-of-Way Inspection • MPL-MNT-00574-PRS – Valve Maintenance and Field Repair • MPL-MNT-00504-PRS – Responding to Anomalies • MPLDOT003 – Integrity Management Program • MPLDOT004 – HCA Identification Process • MPLDOT005 – Baseline Assessment Schedule Process • MPLDOT007 – Reassessment Schedule Process • MPLDOT008 – Integrity Management Process Performance Evaluation Program • MPL-DOT-00477-PRS – Leak Detection Adequacy Risk Assessment Process
Pipeline Construction and Operation
All MPL PHMSA-regulated pipelines are constructed to meet or exceed federal liquid pipeline requirements (49 CFR 195), as well as applicable state and local statutes, codes, and regulations. In addition, all MPL PHMSA-regulated pipelines are constructed, installed, and operated in accordance with corporate MPL standards, applicable API standards, and American Society of Mechanical Engineers (ASME) standards as specified in MPL Pipeline Repairs Standard (MPLMNT001). Adherence to these regulations, codes, and standards minimizes the potential for a pipeline leak to occur due to a pipeline failure or malfunction and minimizes the threat of a worst case discharge to occur.
The preventive maintenance and repair strategy, practices and procedures and maintenance record keeping requirements for all mainline, non-mainline, and specified auxiliary valves on pipeline systems operated by MPL are described in the Valve Maintenance and Field Repair Standard (MPL-MNT-00574-PRS). MPL-MNT-00574-PRS requires the implementation of an annual preventive maintenance program and includes the valve maintenance requirements and schedule by type of maintenance activity.

C.1.1 Spill Detection, Continued

C.1.1 Spill Detection, Continued
Pipeline Construction and Operation, Continued
The MPL Valve Maintenance Strategy is a multi-tier approach to a comprehensive valve maintenance and repair program focusing on routine maintenance and observations of early symptoms of valve problems. Identification and timely response to these symptoms will be used to drive valve repairs and replacements prior to major valve issues resulting in releases and unscheduled down time of MPL's pipeline systems. It is aimed at the 2" and larger population of pipeline valves and will be implemented in several phases as described in MPL-MNT-00574-PRS
The foundation for the strategy is an annual valve Preventive Maintenance program which will properly maintain the existing valve population in good operating condition and identify and repair problems as they are uncovered or occur. Typical tasks include periodic (annual) external inspections, lubrication, draining water, checking integral thermal relief valves, block and bleed, and operating the valves. Task lists, guidance, and technical information will be developed to support Specialists and Technicians in the execution of valve maintenance. While water removal will occur at the performance of the annual valve preventive maintenance it is the Area's responsibility to ensure that during freezing weather water is drained from the valve as required for the service in which the valve is operating.
Supervisory Control and Data Acquisition (SCADA) System
Most of the pipelines operated by Marathon Pipe Line LLC are controlled by the company's Pipeline Operations Centers via a SCADA system.
The SCADA system monitors and automatically checks for potential pipeline leaks, based on metered volumes and line pack calculations. The SCADA system monitors the volume pumped through a particular system at each end of individual line segments. The measured volumes are compared at specific time intervals and an alarm condition, an audible alarm that rings on the console and flashes on the SCADA alarm summary, will alert the Pipeline Operations Center Controller to potential problems. The alarm must be acknowledged by the Pipeline Operations Center Controller. When an alarm is activated, there are several alarm responses depending on the specific alarm activated. These alarm responses direct controllers and field personnel on measures to be taken for each type of alarm that could be received.
The SCADA system also monitors strategically-placed pressure sensors along the pipeline systems and checks for abnormal rate of operating pressure changes. An alarm condition will alert the Pipeline Operations Center Controller to potential problems. In addition, the Pipeline Operations Center monitors for a variety of abnormal and emergency situations.
Aerial Right-of-Way Inspections
Each pipeline right-of-way (ROW) is typically inspected aerially in accordance with DOT regulation 49 CFR 195.412. Further information about the Aerial ROW Inspection Patrol Process, applicable procedures and support documents, roles and responsibilities of parties involved in the aerial ROW inspection process is found in the Aerial Right-of-Way Inspection Standard (MPL-MNT-00482-KNO). From an aerial view, the ROW inspector is able to observe emergency conditions and advise of potential natural force threats such as erosion problems, leak detection, operational concerns, and third party activities near the pipeline system that may pose a threat to the security of the pipeline system. Other inspection methods may include walking, driving, or other appropriate means of traversing the ROW.

C.1.1 Spill Detection, Continued

C.1.1 Spill Detection, Continued
Aerial Right-of-Way Inspections, Continued
In accordance with DOT regulations, Pipeline ROWs are inspected at least 26 times each calendar year, at intervals not exceeding three weeks by viewing the surface conditions on or adjacent to each pipeline ROW, as described in Standard MPL-MNT-00482-KNO. During the performance of a ROW inspection, if there is an observation of a condition or activity on or near the ROW which may pose danger to the pipeline, potentially jeopardizing integrity or safety of the pipeline (designated as a "conflict"), the conflict responses described in Standard MPL-MNT-00482-KNO are to be implemented, including the completing of a Land & Pipe Management Report, creation of an Aerial Patrol Conflict Once Call Mobile ticket, and implementation of specified response actions.
Key personnel involved in Aerial ROW Inspections include (but may not be limited to) Aerial Patrol Contractors (i.e., Supervisor, Pilot in Command (PIC), Observer), MPL Aerial Patrol Process Leader, Area Operations Management, One Call Specialists, and Pipeline Operations Center Controllers. The MPL Aerial Patrol Process Leader handles process monitoring and assessment to ascertain if possible process improvements are in order. Recommendations are presented to the Damage Prevention Supervisor for department change plan consideration.
Daily Observations by Company Personnel
During the course of normal daily activities company personnel observe the pipeline system facilities within their work areas. Through company mobile radio systems and cell phones, observed emergencies can be immediately reported.
Observations by Others
Pipeline systems are marked with line markers in accordance with DOT PHMSA regulations. The line markers clearly identify Marathon Pipe Line LLC as the pipeline system operator and provide a telephone number that can be called at all times to report an emergency.
High Consequence Areas (HCAs)
MPL implements integrity management procedures for all PHMSA-regulated pipelines that could potentially affect an HCA and are described in the Integrity Management Program Process (IMPP) Standard (MPLDOT003). MPLDOT003 meets federal requirements (49 CFR 195.452) pertaining to assessment and repair of PHMSA-regulated pipelines as well as more stringent applicable state requirements related to pipeline integrity management. The IMPP consists of nine phases that address elements required in 49 CFR 195.452(f). These phases are integrated, but independently performed. Each phase has an independent standard that prescribes the applicable policies and procedures for that phase. Standards to support these phases include MPLDOT004, MPLDOT007, and MPLDOT008.
IMPP consists of phases that are integrated but independently performed. Each IMPP phase has a developed independent standard that describes the applicable policies and procedures for addressing each regulatory element referenced in 49 CFR §195.452 (f) (1-8).
A Senior Manager shall be designated a Stakeholder of each IMPP phase with responsibility for ownership and oversight. A Subject Matter Expert (SME) shall be designated a Process Leader by the Stakeholder with responsibility for day-to-day execution of each IMPP phase. Regulated assets, subject to 49 CFR §195.452, shall be maintained in the Pipe Line Asset Center.

C.1.1 Spill Detection, Continued

C.1.1 Spill Detection, Continued
High Consequence Areas (HCAs), Continued
Standard MPLDOT004 identifies and explains the processes used by MPL to meet the HCA segment identification requirements of §195.452 (f)(1). MPL utilizes two methodologies for HCA identification: Overland flow modeling for non-Highly Volatile Liquids (HVLs) line pipe and tanks, and Explosion buffer modeling for Highly Volatile Liquids (HVLs). Pipeline segment locations and facilities having the potential to release a volume of product that could affect HCAs (CHCA) are identified through the HCA Identification Process. Segments and facilities identified include those where MPL manages assets passing directly through, or in close proximity of an HCA, such that the HCA could be affected in the event of a release.
In addition, the MPL Baseline Assessment Schedule Process Standard (MPLDOT005) for pipeline integrity management contains procedures for conducting Baseline Assessments of PHMSA-regulated pipeline systems that could potentially affect HCAs. This standard includes procedures for pipe data collection, integrity threat analyses, assessment methodology selection, risk factor identification and analysis, and the baseline assessment schedule and documentation for compliance with 49 CFR 195.452.
Standard MPLDOT006 and associated attachments were developed to combine four related regulatory program elements (data integration, risk assessment, preventive and mitigative measures evaluation, and continuous improvement) into a single documented process. This Standard explains the procedures MPL uses to meet four regulatory program element requirements as outlined in §195.452.
The Reassessment Schedule Profess Standard (MPLDOT007) establishes policies and procedures relative to integrity threat identification, prioritization, assessment method selection, and remediation when required, within the reassessment schedule (reference standard MPLDOT003 Integrity Management Program Process), in order to ensure compliance with requirements of § 49 CFR Part 195.452, "Pipeline Integrity Management in High Consequence Areas" (Hazardous Liquids Pipelines) and appropriate state requirements.
The Reassessment Schedule Profess Standard (MPLDOT007) establishes policies and procedures relative to integrity threat identification, prioritization, assessment method selection, and remediation when required, within the reassessment schedule (reference standard MPLDOT003 Integrity Management Program Process), in order to ensure compliance with requirements of § 49 CFR Part 195.452, "Pipeline Integrity Management in High Consequence Areas" (Hazardous Liquids Pipelines) and appropriate state requirements.
Standard MPLDOT008 establishes uniform measurements and evaluation methods for the MPL IMPP, in order to ensure compliance with requirements of § 49 CFR Part 195.452, "Pipeline Integrity Management in High Consequence Areas" (Hazardous Liquids Pipelines), and appropriate state requirements. The IMPP Performance Evaluation shall be an ongoing program, and shall measure the effectiveness of the primary phases of the Integrity Management Program Process, including but not limited to: HCA Identification, Baseline Assessments, Data Integration & Information Analysis, Preventative & Mitigative Measures, and Reassessments. IMPP Performance Evaluation components shall be tracked by the IMPP Leader. IMPP Performance Evaluation deliverables shall be maintained in a file, either physically or electronically in Title & Contract (T&C).

C.1.1 Spill Detection, Continued

C.1.1 Spill Detection, Continued
Repairs of Pipelines
MPL procedures for assessments, repairs, and remedial actions related to PHMSA-regulated pipeline systems are contained in several corporate standards as listed in this section.
The standard for Inspection and Evaluating Line Pipe Metal Loss (MPLMNT003) provides a standardized process for investigation and evaluation of potential anomalies discovered following an In-Line Inspection in accordance with the DOT Integrity Management Program (IMP) (49 CFR 195.452(h)). Anomalies fall into four categories: corrosion, construction/third-party damage, cracks, and mill-related anomalies.
The ILI project team consists of one or more project leaders responsible for conducting an ILI project including running an ILI assessment tool, analysis of the ILI assessment data, and subsequent anomaly investigation and rehabilitation. The ILI rehabilitation project team consists of a Rehabilitation Project Leader (RPL) responsible for the ILI rehabilitation project and a Rehabilitation Inspector (RI) responsible for the field investigation, evaluation, and rehabilitation of discovered anomalies.
The Pipeline Repairs Standard (MPLMNT001) describes approved pipeline repair methods and assists in the identification of effective repair strategies. This standard also provides a detailed description of the types and causes of anomalies as well as mechanical integrity concerns associated with these anomalies. In order to comply with federal, state, and local regulations, guidance regarding the replacement of a pipeline segment is provided. The intention of this guidance is to minimize the risk to persons, property, and the environment. This Standard is implemented for all MPL PHMSA-regulated pipelines to ensure consistent design, installation, and inspection of the parts used in repairs. The roles and responsibilities of each individual identified in this standard are described below.
The Systems Integrity Leader (SIL) provides guidance to the M&TE Project Leader related to the proper repair for the anomaly, maintains the location of temporary repairs, ensures the pipeline is repaired with the proper repair technique, and ensures temporary repairs are identified and plans to remove within one (1) year are developed.
The Marketing and Transportation Engineering (M&TE) Project Leader evaluates the anomaly to determine its fitness for service, determines the proper repair technique, executes the repair of the anomaly, properly performs the fitness for service calculation, and selects the proper repair technique.
The Mechanical Integrity Process Leader (MIPL) provides guidance to SIL or project leader for the proper repair for the anomaly and ensures the pipeline is repaired with the proper repair technique.
Additionally, Standard MPLMNT03 describes the general practices and procedures used to maintain and repair valves associated with MPL pipelines.
Procedures for Dealing with Abnormal Operations
Reported discovery of a potentially injurious pipeline anomaly will most likely originate from an integrity-based program in-line inspection assessment survey. The Responding to Anomalies Standard (MPL-MNT-00504-PRS) describes the required reporting procedures and operational responses to discovery of an injurious pipeline anomaly. This Standard identifies procedures for anomaly discovery, response, operational risk analysis, remediation, and pressure reinstatement. It also describes roles and responsibilities, as well as documentation requirements.

C.1.1 Spill Detection, Continued

C.1.1 Spill Detection, Continued
Procedures for Dealing with Abnormal Operations, Continued
The manner of response to a pipeline anomaly include: Pipeline shutdown, pressure reduction, and/or remediation as needed. It is directly related to long-term operational success and Integrity Management Program (IMP) regulatory compliance. Reported discovery of a pipeline typically originates from an In-Line Inspection (ILI) assessment or Operations & Logistics (O&L) Disciplined Decision Making Process.
Leak Detection Adequacy Risk Assessment
The Leak Detection Adequacy Risk Assessment Standard (MPL-DOT-00477-PRS) outlines Marathon Pipe Line's (MPL's) process to ensure appropriate level of leak detection is used on each integrity management program (IMP) assessment segment, and comply with the requirements of the U.S. Department of Transportation (DOT) 49 CFR Part 195.452(i)(3) "Pipeline Integrity Management in High Consequence Areas – Leak Detection".
The leak detection adequacy risk assessment process for mainline and receipt/delivery line segments consists of five steps: • Step one evaluates existing leak detection methods. • Step two gathers and scores operational characteristics for an assessment segment to generate an overall operational complexity score. • Step three gathers and scores risk characteristics for an assessment segment to generate an overall risk score. • Step four convenes an evaluation panel to review the information gathered in steps one through three. The panel recommends the level of leak detection for an assessment segment. • Step five develops an implementation plan if the recommended leak detection method is not in place.
To manage the process, the process owner completes the review task assigned within T&L's ops Compliance system.

C.1.2 Spill Prevention

Programs designed to prevent emergencies include:

- Corrosion control programs,
- Preventative maintenance programs,
- Controller training programs,
- Operator training programs,
- 24-hour emergency telephone numbers,
- Supervisory control and data acquisition (SCADA) systems,
- Inspection programs,
- Emergency response drills,
- Maintaining containment systems around tankage,
- Membership in one-call organizations, and
- Public awareness programs.

The purpose of these programs is to prevent or mitigate a potential release and subsequent emergency response.

C.2 WORST CASE DISCHARGE (WCD) SCENARIO

The equipment and personnel to respond to a spill are available from several sources and are provided with the equipment and contractors in **SECTION 7** and **APPENDIX B**. The following sections are discussions of these scenarios.

APPENDIX C.4 provides worst case discharge calculations. Discussion of this scenario is as follows:

Upon discovery of a spill, the following procedures would be followed:

1. The First Responder would notify the Area Management and the Pipeline Operations Center and notifications would be initiated in accordance with **SECTION 2**.

2. The Area Manager (or designee) would assume the role of Incident Commander until relieved and would initiate response actions and notifications in accordance with **SECTION 2**. If this were a small spill, the local/company personnel may handle all aspects of the response. Among those actions would be to:

    - Conduct safety assessment and evacuate personnel as needed in accordance with **SECTION 2**
    - Direct pipeline responders to shut down ignition sources
    - Direct pipeline personnel to position resources in accordance with **SECTION 2**
    - Complete Preliminary Incident Report Form in accordance with **SECTION 3**
    - Ensure regulatory agencies are notified

3. If this were a small or medium spill, the Region Manager may elect for the First Responder to remain the Incident Commander or to activate selected portions of the Emergency Response Team. However, for a large spill, the Region Manager would assume the role of Incident Commander and would activate the entire Emergency Response Team in accordance with activation procedures described in **SECTION 4.2**.

4. The Incident Commander would then initiate spill assessment procedures including surveillance operations, trajectory calculations, and spill volume estimating in accordance with **SECTION 2**.

    - The Incident Commander would then utilize checklists in **SECTION 4** as a reminder of issues to address. The primary focus would be to establish incident priorities and objectives and to brief staff accordingly.
    - The Emergency Response Team would develop the following plans, as appropriate (some of these plans may not be required during a small or medium spill):
    - Site Safety and Health
    - Incident Action
    - Disposal
    - Site Security
    - Decontamination
    - Demobilization

Plan templates are included in **SECTION 5**.

The response would continue until an appropriate level of cleanup is obtained.

C.3 PLANNING VOLUME CALCULATIONS

Once the worst case discharge volume has been calculated, response resources must be identified to meet the requirements of 49 CFR 194.105(b). The worst case discharge calcuation is provided below. Release volume estimation calculations to determine the drain down volume used within the worst case discharge calculation are provided in **APPENDIX F.1**.

C.4 SPILL VOLUME CALCULATIONS

DOT/PHMSA portion of pipeline/facilities

The worst case discharge (WCD) for the DOT portion of the pipeline and facilities, as defined in 49 CFR 194.105(b), as the largest volume of the following:

1. The pipeline's maximum shut-down response time in hours (based on historic discharge data or in the absence of such data, the operators best estimate), multiplied by the maximum flow rate expressed in barrels per hour (based on the maximum daily capacity of the pipeline), plus the largest drainage volume after shutdown of the line section(s) in the response zone expressed in barrels; or
2. The largest foreseeable discharge for the line section(s) within a response zone, expressed in barrels (cubic meters), based on the maximum historic discharge, if one exists, adjusted for any subsequent corrective or preventative action taken; or

3. If the response zone contains one or more breakout tanks, the capacity of the single largest tank or battery of tanks within a single secondary containment system, adjusted for the capacity or size of the secondary containment system, expressed in barrels.

Under PHMSA's current policy, operators are allowed to reduce the worst case discharge volume derived from 49 CFR 194.105(b)(3) by no more than 75% if an operator is taking certain spill prevention measures for their breakout tanks and presents supporting information in the response plan. An operator can reduce the worst case discharge volume based on breakout tanks in the response zones as follows:

SPILL PREVENTION MEASURES	PERCENT REDUCTION ALLOWED
Secondary containment capacity greater than 100% capacity of tank and designed according to NFPA30	50%
Tank built, rebuilt, and repaired according to API Std 620/650/653	10%
Automatic high-level alarms/shutdowns designed according to NFPA/API RP 2350	5%
Testing/cathodic protection designed according to API Std 650/651/653	5%
Tertiary containment/drainage/treatment per NFPA30	5%*
Maximum allowable credit or reduction	75%

* Note: The facilities do not have tertiary containment.

The worst case discharge for each response zone was based on the largest volume of the three criteria given above.

The Company has determined the worst case discharge volume to be a catastrophic line failure of the largest line section with the greatest drainage capacity in each response zone or 30% of the volume of the largest tank in each zone.

C.4 SPILL VOLUME CALCULATIONS, CONTINUED

Line Sections

The line sections with the highest throughput and largest drainage volume between block valves on pump stations were chosen to calculate the pipeline worst case discharge. Although the entire discharge volume of each line was used for the worst case discharge, in an actual spill event, it would take days to drain the line completely. The line would be sealed early in the response effort.

The worst case pipeline volume is calculated as follows:

The worst case discharge for the pipeline segment is calculated at the Capline 40", [redacted], Marion County/Illinois [Based on calculations in Section F.1].

WCD = [(DT + ST) x MF] + DD

Where:

WCD = worst case discharge (bbl)

DT + ST = maximum detection time + maximum shut down time in adverse weather (generally five minutes except where noted)

MF = maximum flow rate (bph) (using 30000 bph)

DD = drain down volume (bbl) (internal diameter)

WCD = 0.167 hours x 30000 bph + 36047 bbls = Capline 40", [redacted], Marion County/Illinois [Based on calculations in Section F.1] 41,057.00 bbls

C.4 SPILL VOLUME CALCULATIONS, CONTINUED

Maximum Historic Discharge

The maximum historic discharge is 5,790 bbls Crude. Given above are the tank and pipeline WCD calculations for this plan.

DOT/PHMSA Worst Case Discharge (WCD) in Barrels (bbls)

LINE SECTIONS	BREAKOUT TANKS	MAXIMUM HISTORIC DISCHARGE
Capline 40", [redacted], Marion County/Illinois [Based on calculations in Section F.1] = 41,057.00	[redacted]	[redacted]

As detailed above, the DOT/PHMSA WCD volume for this plan is:

Patoka Capline, Vernon (Marion County), IL [redacted]

C.5 PIPELINE - ABNORMAL CONDITIONS

Because PHMSA considers the "substantial threat" term in 49 CFR Part 194.115(a) equivalent to the "abnormal conditions" term under 49 CFR Part 195.402(d), procedures to identify events and conditions that can pose a threat of worst case discharge, and actions to take for preventing and mitigating such events and conditions are described in **SECTION 2** and **SECTION 4**.

C.6 PRODUCT CHARACTERISTICS AND HAZARDS

Pipeline systems described in this plan may transport various types of commodities, including, but not limited to:

- Butane
- Crude Condensate
- Crude Oil
- Fuel Oil/Diesel/ Kerosene
- Gasoline
- Jet Fuel
- Propane

The key chemical and physical characteristics of each of these oils and/or other small quantity products/chemicals are identified in the SDS. The SDS can be obtained by the facility via the Company SDS website at https://msdsmanagement.msdsonline.com/ae566978-ae00-4703-a832-385ccee1bf43/ebinder/?nas=True.

FIGURE C.6-1 describes primary oils handled.

FIGURE C.6-1 - SUMMARY OF COMMODITY CHARACTERISTICS

COMMON NAME	SDS NAME	HEALTH HAZARD	FLASH POINT	SPECIAL HAZARD	REACTIVITY	HEALTH HAZARD WARNING STATEMENT
Butane	Marathon Normal Butane	1	4	-	0	May reduce oxygen available for breathing overexposure may cause cns depression breathing high concentrations can cause irregular heartbeats w hich may be fatal direct contact w ith liquid may cause frostbite (freeze burns) see toxicological information section for more information extremely flammable compressed gas liquid vapor may cause flash fire or explosion
Crude Condensate	MPC Crude Condensate	2	3	-	4	Extremely flammable liquid and vapor. May accumulate electrostatic charge and ignite or explode. May release highly toxic hydrogen sulfide gas that quickly fatigues the sense of smell. May be fatal if sw allow ed and enters airw ays. Causes serious eye irritation and may cause respiratory irritation, drow siness or dizziness. May cause genetic defects or cancer. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life w ith long lasting effects.
Crude Oil	Marathon Petroleum Crude Oil	2	3	-	0	EXTREMELY FLAMMABLE LIQUID AND VAPOR; May accumulate electrostatic charge and ignite or explode; May be fatal if sw allow ed and enters airw ays; May release highly toxic hydrogen sulfide gas that quickly fatigues the sense of smell; Causes serious eye irritation May cause cancer; May cause respiratory irritation; May cause drow siness or dizziness; May cause damage to organs (blood, liver, spleen, thymus) through prolonged or repeated exposure.

Health Hazard	**4 = Extremely Hazardous 3 = Hazardous 2 = Warning 1 = Slightly Hazardous 0 = No Unusual Hazard**	**Fire Hazard (Flash Point)**	**4 = Below 73°F, 22°C 3 = Below 100°F, 37°C 2 = Below 200°F, 93°C 1 = Above 200°F, 93°C 0 = Will not burn**
Special Hazard	**A = Asphyxiant C = Contains Carcinogen W = Reacts with Water Y = Radiation Hazard COR = Corrosive OX = Oxidizer H_2S = Hydrogen Sulfide P = Contents under Pressure T = Hot Material**	**Reactivity Hazard**	**4 = May Detonate at Room Temperature 3 = May Detonate with Heat or Shock 2 = Violent Chemical Change with High Temperature and Pressure 1 = Not Stable if Heated 0 = Stable**

FIGURE C.6-1 - SUMMARY OF COMMODITY CHARACTERISTICS, CONTINUED

COMMON NAME	SDS NAME	HEALTH HAZARD	FLASH POINT	SPECIAL HAZARD	REACTIVITY	HEALTH HAZARD WARNING STATEMENT
Fuel Oil/Diesel/ Kerosene	MPC Fuel oil/ Diesel/ Kerosene	1	2	-	1	Vapors, fumes, or mists may cause respiratory tract irritation may be harmful or fatal if sw allow ed may cause lung damage overexposure may cause cns depression may cause cancer based on animal data see toxicological information section for more information combustible liquid and vapor vapor may cause flash fire material may accumulate static charge
Gasoline	MPC Gasoline	1	3	-	0	May cause eye and respiratory irritation, lung damage. May be harmful or fatal if sw allow ed. Overexposure may cause CNS depression. Breathing high concentrations can cause irregular heartbeats w hich may be fatal. Contains benzene - may cause cancer can cause leukemia and other blood disorders.
Jet Fuel	Aviation Turbine Fuel Jet A	1	2	-	1	May cause respiratory tract irritation. May be harmful or fatal if sw allow ed. May cause lung damage. Overexposure may cause CNS depression.

Health Hazard	**4 = Extremely Hazardous 3 = Hazardous 2 = Warning 1 = Slightly Hazardous 0 = No Unusual Hazard**	**Fire Hazard (Flash Point)**	**4 = Below 73°F, 22°C 3 = Below 100°F, 37°C 2 = Below 200°F, 93°C 1 = Above 200°F, 93°C 0 = Will not burn**
Special Hazard	**A = Asphyxiant C = Contains Carcinogen W = Reacts with Water Y = Radiation Hazard COR = Corrosive OX = Oxidizer H_2S = Hydrogen Sulfide P = Contents under Pressure T = Hot Material**	**Reactivity Hazard**	**4 = May Detonate at Room Temperature 3 = May Detonate with Heat or Shock 2 = Violent Chemical Change with High Temperature and Pressure 1 = Not Stable if Heated 0 = Stable**

FIGURE C.6-1 - SUMMARY OF COMMODITY CHARACTERISTICS, CONTINUED

COMMON NAME	SDS NAME	HEALTH HAZARD	FLASH POINT	SPECIAL HAZARD	REACTIVITY	HEALTH HAZARD WARNING STATEMENT
Propane	Marathon Petroleum Propane	1	4	-	1	May reduce oxygen available for breathing overexposure may cause cns depression breathing high concentrations can cause irregular heartbeats w hich may be fatal direct contact w ith liquid may cause frostbite (freeze burns) see toxicological information section for more information extremely flammable compressed gas liquid vapor may cause flash fire or explosion

Health Hazard	**4 = Extremely Hazardous** **3 = Hazardous** **2 = Warning** **1 = Slightly Hazardous** **0 = No Unusual Hazard**	**Fire Hazard (Flash Point)**	**4 = Below 73°F, 22°C** **3 = Below 100°F, 37°C** **2 = Below 200°F, 93°C** **1 = Above 200°F, 93°C** **0 = Will not burn**
Special Hazard	**A = Asphyxiant** **C = Contains Carcinogen** **W = Reacts with Water** **Y = Radiation Hazard** **COR = Corrosive** **OX = Oxidizer** **H_2S = Hydrogen Sulfide** **P = Contents under Pressure** **T = Hot Material**	**Reactivity Hazard**	**4 = May Detonate at Room Temperature** **3 = May Detonate with Heat or Shock** **2 = Violent Chemical Change with High Temperature and Pressure** **1 = Not Stable if Heated** **0 = Stable**