

**MARATHON PIPE LINE LLC (MPL) EDWARDSVILLE RESPONSE
SHORELINE CLEANUP AND ASSESSMENT TECHNIQUES (SCAT) PLAN**

March 2022

[Redacted Signature]

3/15/22

USEPA Region V

[Redacted Signature]

3/15/22

Illinois Environmental Protection Agency

[Redacted Signature]

3/15/22

Marathon Pipe Line LLC

EDWARDSVILLE SCAT PLAN

PROJECT BACKGROUND

On March 11, 2022, a crude oil release occurred from MPL's Wood River to Patoka 22" pipeline, near Edwardsville, Illinois.

PROJECT OBJECTIVES

The primary objective of the SCAT is to generate information on the shoreline and conditions to determine the appropriate response priorities, treatment techniques and treatment completion endpoints.

PROJECT PURPOSE

The primary purpose of the SCAT is to provide decision-making support for shoreline treatment planning and operations throughout a response. This objective is achieved by the following:

- Collecting accurate, real-time survey data and information on stream bank oiling conditions, as well as bank and backshore character,
- Identifying environmental, cultural, or operational constraints to shoreline treatment,
- Recommending shoreline treatment priorities,
- Working with the Agency Personnel, Environmental and Operations to develop appropriate treatment endpoint criteria and treatment options,
- Monitor the treatment progress, and
- Working with Agency Personnel, Environmental and Operations to ensure agreement that sufficient treatment has been completed.

RESPONSIBILITIES AND CONSIDERATIONS

SCAT teams collect data needed to develop a shoreline cleanup plan that maximizes the recovery of oiled habitats and resources, while minimizing the risk of injury of cleanup efforts. The team's responsibilities include the following:

- Evaluating oil type and condition,
- Factoring in bank types and processes to oil behavior and cleanup methods,
- Identify environmentally and culturally sensitive resources,
- Determine and prioritize need for cleanup,
- Recommend cleanup methods and endpoints, and
- Place constraints on cleanup if necessary, due to ecological, economic, or cultural concerns.

Throughout the SCAT work, the team must give consideration to:

- Potential for human exposure, by direct contact or by eating contaminated resources,
- Extent and duration of environmental impacts if the oil is not removed,
- Natural removal rates,
- Potential for remobilized oil to affect other sensitive resources, and
- Likelihood that cleanup may cause greater harm than the oil alone.

METHODS

SCAT will be completed in 12 segments traversing from the release point along Cahokia Creek to the Cahokia Creek/Mississippi River confluence, through the four MPL response divisions. These segments were delineated during the pre-mobilization desktop assessment of the Creek, chosen for length, potential access, and ability to survey efficiently. In-field operations and SCAT form data collection will be modified to reflect sub-segments within the shoreline types and cleanup recommendations, as required. SCAT will be completed by a minimum of a two-person team utilizing Collector for ArcGIS Online (AGOL), which will allow for real-time data collection. SCAT survey times and dates will be announced at morning operation meetings and stakeholder representatives may attend, providing logistics and safety have been considered.

SCAT will be completed utilizing the following methods:

- Pedestrian surveys,
- Powered boat,
- Jon boat, and
- Side-by-side utility vehicle.

A decontamination program has been established to remove product from boats after surveys have been conducted.

PROCESS AND DATA COLLECTION

The following process will be followed during data collection for each segment:

- An initial reconnaissance and calibration will be completed prior to initiating SCAT surveys to confirm access, confirm appropriate segment lengths, and confirm the teams are consistently using the same terms and estimations.
- A water level estimate will be recorded for each SCAT segment. In addition, the projected stream conditions will be assessed (water level was rising, falling, or stable).
- The Surface Oiling Condition will be recorded for each bank of the stream, left and right, facing downstream. In addition, different sample identification (IDs) will be applied for each oil occurrence and oil distribution changes from 10% to 50%.
- The Stream Bank Zone will be recorded using the following codes to indicate the location of the oil being described as in the: midstream (MS), lower bank (LB), upper bank (UB), or overbank (OB) zone above the normal water level.
- The estimated percent of distribution of oil on the surface (preferred) will be recorded using the following codes for the specified interval:
 - C=Continuous 91-100%
 - B=Broken 51-90%
 - P=Patchy 11-50%
 - S=Sporadic 1-10%
 - T=Trace <1%
- The following Surface Oiling Descriptors for thickness will be added as appropriate:
 - TO=Thick Oil (fresh oil or mousse > 1 cm thick)
 - CV=Cover (oil or mousse from >0.1 cm to <1 cm on any surface)

- CT=Coat (visible oil <0.1 cm, which can be scraped off with fingernail)
- ST=Stain (visible oil, which cannot be scraped off with fingernail)
- FL=Film (transparent or iridescent sheen or oily film)
- The following Surface Oiling Descriptions for type will be added as appropriate:
 - FR=Fresh Oil (unweathered, liquid oil)
 - MS=Mousse (emulsified oil occurring over broad areas)
 - TB=Tar Balls (discrete accumulations of oil <10 cm in diameter)
 - PT=Patties (discrete accumulations of oil >10 cm in diameter)
 - TC=Tar (highly weathered oil, of tarry, nearly solid consistency)
 - SR=Surface Oil Residue (non-cohesive, oiled surface sediments)
 - AP=Asphalt Pavements (cohesive, heavily oiled surface sediments)
 - No oil (no evidence of any type of oil)
- The Subsurface Oiling Conditions will be collected by measuring the depths from the sediment surface to top/bottom of subsurface oiled layer. The following are the descriptors for subsurface oiling conditions:
 - OP=Oil-Filled Pores (pore spaces are completely filled with oil)
 - PP=Partially Filled Pores (the oil does not flow out of the sediments when disturbed)
 - OR=Oil Residue (sediments are visibly oiled with black/brown coat or cover on the clasts, but little or no accumulation of oil within the pore spaces)
 - OF=Oil Film (sediments are lightly oiled with an oil film, or stain on the clasts)
 - TR=Trace (discontinuous film or spots of oil, or an odor or tackiness)
- The Sheen Color, on the water surface, will be describe as brown (B), rainbow (R), silver (S), or none (N).

SCAT data forms will be collected using Survey 123, with location points automatically uploaded to the ArcGIS Online Database and Collector field application simultaneously. As stated above, SCAT forms will be collected at least once per segment, or more to reflect changes in product or stream shoreline type. The locations of actionable accumulations of product or impacted animals will be collected using the AGOL Collector app and disseminated to MPL via AGOL online map sharing.

SCAT RECOMMENDATIONS AND ENDPOINTS

As stated above, the primary purpose of the SCAT is to develop recommendations for the overall shoreline response program and to generate treatment or cleanup plans for each segment that requires treatment. Once the treatment endpoint criteria have been developed and approved, these will provide guidance on which segments would require treatment by comparing the oiling data against the endpoint criteria. If oiling conditions meet the target endpoints, the segment is designated either in the “no treatment” or “no treatment/monitor” category.

Shoreline treatment endpoints are assigned to each segment or group of segments to provide a practical and agreed working definition of treatment threshold. Treatment Endpoints may apply to all segments, groups of segments or single segments, as applicable. The generation of endpoints is influenced by various criteria, including:

- The type of stream bank,
- The value and quality of habitat,
- Operational feasibility,

- Natural cleaning and attenuation, and
- Net environmental benefit

Endpoints have a direct effect on the selection of appropriate response strategies and cleanup techniques. Qualitative endpoints are commonly used to describe the presence or absence of oil on the shoreline and the characteristics of that oil. Qualitative endpoints are rapid and straightforward, and are easy to observe and assess in the field.

Quantitative endpoints are based on visual measurements and observations of the quantity and characteristics of the oil using standard SCAT terminology. Suggested quantitative endpoints for this response that are rapid and straightforward, include:

- No stained sediment or material that produces a spontaneous sheen
- No visibly oily debris floating on the water surface
- No subsurface oil greater than 3 cm thick
- No tar balls greater than 1 cm in diameter and greater than 5% surface distribution

Once all four criteria are met for the segments, they will be considered to achieve endpoint.

REPORTING

Reporting will be completed by sharing PDF SCAT forms for review with Operations and Planning Sections as well as review of the online AGOL portal for actionable item evaluation upon request.