

## INTRODUCTION AND BACKGROUND

### 1.1 INTRODUCTION

In early 2004, the Missouri Department of Natural Resources issued a draft guidance document, titled “Missouri Risk-Based Corrective Action (MRBCA) Process for Petroleum Storage Tanks.” That document, published after extensive discussions with and work by a variety of stakeholders, built on the generic framework developed by the American Society for Testing and Materials (ASTM) in their standard E1739-95, and implemented a more technically sound approach to the risk-based cleanup of tank sites that had been used in Missouri since 1992.

In 2005, the process provided for by the guidance was modified by the addition of six supplemental guidance documents. These seven guidance documents were formally incorporated into regulations issued by the Missouri Hazardous Waste Management Commission in 2011.

This 2013 version of the 2004 Guidance Document incorporates most of the 2005 supplemental documents; those not incorporated are no longer applicable. In addition, this version of the guidance streamlines, clarifies and adds some requirements.

### 1.2 APPLICABILITY AND PURPOSE

This document will go into effect when it is incorporated into rules issued by the Hazardous Waste Management Commission, and will apply to any petroleum tank release that occurs or is discovered on or after the effective date of those rules.

Because some persons will be in the midst of cleaning up a petroleum tank site when that occurs, the following “transition procedures” will apply:

Any petroleum tank release that occurred or was discovered after January 2004 and prior to the effective date of the rules that incorporate this revised guidance document may be addressed under either this guidance or the 2004/2005 MRBCA tanks guidance documents, provided that –

a) prior to the effective date of the rules, the Department approved a work plan for site characterization, risk assessment, or corrective action pertaining to the release, and

b) that work plan is or was implemented within one year of the Department’s approval of the plan.

**Deleted:** The Tanks Section of the Missouri Department of Natural Resources’ (MDNR) Hazardous Waste Program is charged with the task of overseeing response actions at regulated petroleum storage tank sites (both underground and aboveground) having petroleum hydrocarbon contamination. The primary objective and responsibility of the Tanks Section is to protect human health and the environment. ¶

¶ Because the science and state of practice related to the investigation and remediation of contamination at tank sites has advanced in recent years, MDNR, with the help of a stakeholder group<sup>1</sup>, undertook an effort to review and revise the process by which tank sites are investigated and remediated. That effort led to the development of a process that focuses on the actual and potential risks petroleum contamination poses to human health and the environment. The Tanks Section’s efforts are consistent with, and a part of, MDNR’s agency-wide effort to establish a consistent risk-based approach for the management of contaminated sites in Missouri. ¶

¶ The approach presented in this guidance document is intended to result in a more consistent and predictable regulatory process for property owners and developers who are managing issues related to releases from petroleum storage tanks. In addition, the approach presented herein will likely result in a reduction in the overall cost of remediating petroleum storage tank sites while maintaining acceptable risk levels. Although MDNR will not allow cost considerations to compromise public health or the environment, it recognizes the need to promote cost-effective site activities (characterization as well as remediation) that are protective of human health and the environment. ¶

¶ This integrated risk-based decision-making framework for the investigation and remediation of petroleum impacted sites is subsequently referred to as the Missouri Risk-Based Corrective Action (MRBCA) process. This customized process builds on the generic framework developed by the American Society for Testing and Materials (ASTM) in their standard E1739-95.

**Deleted:** The MRBCA process is applicable to all media and all regulated petroleum storage tank sites (both aboveground and underground). Neither the entity responsible for the tanks nor the MDNR have the choice of picking or choosing the media or sites to which this process will apply, except during the transition period when sites that are close to receiving a “No Further Action” (NFA) letter from MDNR will be managed under MDNR’s existing guidance

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If both of these criteria are not met, the release must be addressed under this guidance, unless another method is approved by the Department.

MDNR will not require that sites previously granted a NFA letter be reevaluated under this revised guidance unless new information related to previously addressed releases becomes available, or a new hydrocarbon release occurs at the site.

This document does not in any way replace or supersede MDNR's enforcement or permitting authority, notification requirements, or other applicable requirements, nor does it reduce any of the responsible party's obligations under state or federal laws or regulations.

The intent of the MRBCA process for tank sites is to ensure sites are adequately characterized and to provide a means by which site-specific target levels can be developed. These levels are protective of human health and the environment under current and reasonably anticipated future conditions. This document provides a technically defensible procedure for developing site-specific risk-based target levels and investigating releases at petroleum storage tank sites.

This document has been developed for environmental professionals having experience in, and a working knowledge of, site assessment and investigation, risk assessment, and remedial actions. Technical information is included that describes the MRBCA process and its elements, including site assessment, risk assessment, risk management, and the tank closure process. The calculation of risk-based target levels is described at length in this document. However, this document is not intended to be a guide to every aspect of the practice of risk assessment. Prior experience or training is necessary for an individual to correctly implement the MRBCA process and, by that, ensure efficient site management.

**Deleted:** as developed by MDNR. Since the development of risk-based target levels is an integral part of the overall process of risk management and has not been described earlier in Missouri's guidance documents, the calculation of risk-based target levels is described at length in this manual.

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**Deleted:** Note that this guidance document replaces the following MDNR documents pertaining to petroleum storage tanks and tank sites:¶

**Deleted:** <#>March 1996. *Underground Storage Tank Closure Guidance Document.*¶  
<#>February 1992. *Underground Storage Tank Site Characterization Guidance Document,* and¶  
<#>February 1992. *Petroleum Storage Tank Corrective Action Guidance Document.*¶

**Deleted: 1.3 SPILL REPORTING¶**  
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Report petroleum releases at the earliest practical moment to MDNR at (573) 634-2436. .  
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The purpose and intent of this guidance is to provide a process for addressing petroleum releases in a manner that is protective of human health and the environment. This guidance does not relieve persons from the requirements of Section 260.500 to 260.550 RSMo, commonly referred to as the "Spill Bill," or the regulations promulgated thereunder. For any given site, various measures may be required by MDNR to address a hazardous substance emergency. At a minimum, all releases of petroleum greater than 50 gallons (25 gallons for underground storage tank (UST) sites) shall be reported at the earliest practical moment to MDNR at (573) 634-2436.

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