Minnesota Pollution Control Agency

Procedures for assessing contamination at large above-ground storage tank sites

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Remediation Division

Superfund and Emergency Response Section

Emergency Response & Large Facility Cleanup Unit

A large above-ground storage tank (AST) site is a facility that has or has had a cumulative liquid storage capacity greater than 1,000,000 gallons. There are about 100 of these sites in Minnesota. These facilities store a variety of products, such as petroleum, chemicals and food products. The Minnesota Pollution Control Agency (MPCA) Large AST Remediation Program is requiring an assessment of potential soil and ground-water contamination at all these sites. This document provides guidance for conducting assessments and investigations at these sites.

For the most part, facilities are required to follow the MPCA leaking underground storage tank (LUST) guidance documents for all site investigations. However, deviation from these guidance documents may be necessary due to the size and complexity of the site and types of products stored. Also, some LUST reporting requirements are either not necessary or require modification. It is highly recommended that facilities work closely with the MPCA large AST remediation staff when planning investigations. Using the services of a qualified environmental consultant is also highly recommended.

In most cases, the MPCA will request that large AST facilities without any previous investigation perform a limited site investigation (LSI) following the LUST guidance documents. In general, a LSI can be performed with push probes. The investigation should be concentrated in areas around the tanks and in other likely release areas, such as underground piping and loading racks. Collecting soil samples for field screening and laboratory analysis is required. Ground-water samples should be collected when feasible. If liquids other than petroleum products have been stored at the site, please consult with MPCA staff to determine the laboratory analytical parameters.

In some instances, a previous investigation may have been completed at the site for another MPCA program. In these cases, MPCA staff will review the files to determine whether the area of investigation covered all the potential source areas at the site. If the investigation was adequate and any remaining contamination met cleanup objectives, no further actions will be required. If a phase I or II environmental audit or any other environmental investigation was completed at the site, these should be submitted to the MPCA for review and may eliminate the need for a LSI.

The MPCA may require facilities that encounter contamination to conduct a full remedial investigation (RI). In general, the RI should follow the LUST guidance documents. MPCA staff may

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require additional work and chemical analysis beyond the scope of the LUST Program. In some cases, elements from the Superfund program risk-based decision guidance documents may be appropriate. It is highly recommended that a work plan be submitted for review by MPCA staff before conducting the RI.

The MPCA staff will review the results of the RI using risk-based decision-making to determine whether corrective actions are required. The MPCA Large AST Remediation Program has set a goal that it will, by 2008, have the contamination status determined at each site, and have most sites closed, with a few in active remediation and a few in a monitoring phase.

If you have any questions about the Large AST Remediation Program, call Dan Berg at (651) 297-8667 or Laura Hysjulien at (651) 297-8591 or go to www.pca.state.mn.us/cleanup/ast.html on the Internet.