Executive Summary

In February 2003, the New England Interstate Water Pollution Control Commission (NEIWPCC) mailed a "Survey of State Experiences with M*t*BE and Other Oxygenate Contamination at LUST Sites" to the 50 states, the District of Columbia, and the U.S. territories. This survey, which is a follow-up to a survey conducted in 2000 by NEIWPCC that addressed state experiences with M*t*BE at LUST sites , focused on the following oxygenates: methyl *tertiary*-butyl ether (M*t*BE), *tertiary*-butyl alcohol (TBA), ethanol, *tert*-amyl methyl ether (TAME), ethyl *tertiary*-butyl ether (E*t*BE), and diisopropyl ether (DIPE). As with the 2000 survey, all 50 states responded. (None of the territories or D.C. responded.)

This survey provides us with a snapshot, as of April/May 2003, of state experiences with M*t*BE and other oxygenates at LUST sites. The results show that while many states have made a shift in requiring more protective oxygenate concentration levels over the past three years, the shift has not been dramatic. For example, only five additional states have, or expect to have, M*t*BE action levels, cleanup levels, or drinking water standards. Seven or fewer states have standards or levels for any of the other oxygenates addressed in this survey.

There is considerable variability among the states in oxygenate cleanup, action, or drinking water levels. This variability in levels or the absence of levels continues to reflect back to the lack of federal leadership in producing MCLs or health and toxicity information for any of the oxygenates. As one respondent noted: "If M*t*BE is considered by EPA to be a national issue, then it ought to be a national priority. The federal government should give priority to all fuel oxygenates in terms of research. They need to establish a reference dose, a cancer potency factor, or an MCL for all of the oxygenates." Some states have moved ahead with adopting action levels or cleanup levels, grabbing on to some aspect of information that is available, such as a reference dose. A number of states have zeroed-in on either the earlier EPA advisory of 70 ppb or the more recent advisory of 20 to 40 ppb. Some states have adopted advisory or guidance levels that cannot really be enforceable until a federal standard is available.

The survey itself shows that most of the states are sampling for, analyzing for, and undertaking remediation of M*t*BE associated with petroleum releases at LUST sites, even without standards. Far fewer, however, are addressing the potential presence of other oxygenates at these sites.

We learned from the survey which analytical methods states are using. How effective these methods are depends on which compounds are being investigated and the ability of the method as implemented to detect desired concentrations. The survey indicates that M*t*BE in groundwater is detected in gasoline releases (averaged among the states) 60 percent of the time.

Based on the responses to this survey, most states do not intend to reopen closed sites to look for M*t*BE or TBA unless they have reason to suspect a problem. Yet 32 states said M*t*BE plumes are often or sometimes longer than typical BTEX plumes. Only

11 states require three-dimensional characterization of plumes, and less than half of the states are taking extra steps to make sure oxygenates are not migrating beyond standard monitoring parameters.

Thirty-three states say that M*t*BE drives cleanup/investigative activities less than 20 percent of the time or never. Most of the states say there are very few cases to none where M*t*BE is the only concern. In most states, less than 10 percent of the sites have situations where BTEX has been successfully remediated but M*t*BE remains. Thirty-four states say they have remediated sites with M*t*BE to closure. When asked approximately how many such sites have been closed, however, state responses indicate that there have been relatively few. More than half of the states are not particularly aggressive in NAPL recovery.

Twenty-three states say M*t*BE has had a noticeable impact on the cost of remediation in their state. Although we have learned a lot through this effort, we find there is still much more we need to know. States' policies with respect to oxygenates continue to evolve, and we must endeavor to keep apprised of future developments.