



ITRC TEAM PROJECT SUMMARY STATEMENT PRE-IMPLEMENTATION

**ITRC Integrated DNAPL Site Strategy (IDSS) Team
Integrated DNAPL Site Strategy
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METHODOLOGY SUMMARY

State of the Methodology

Chlorinated solvents are prevalent and persistent groundwater contaminants that are widely distributed throughout the country. Numerous chlorinated solvent–release sites have been assessed, and remediation has begun, typically focused on groundwater remediation. By the mid-1990s monitoring data showed that many remedies and operational decisions were based on an incomplete conceptual site model, poorly developed remedial objectives, and a misunderstanding of the performance of remedial technologies in a heterogeneous environment.

To address this problem, the IDSS Team developed the *Integrated DNAPL Site Strategy* guidance document, which will assist site managers in developing an integrated DNAPL site management strategy incorporating five key features: conceptual site model, remedial objectives, treatment technologies, monitoring strategies, and strategy reevaluation. This guidance is intended to assist in developing more efficient and effective integrated site management strategies through a collaborative process.

The IDSS Team members acknowledge that the document does not provide quick and easy answers to a difficult problem but rather includes a streamlined integrated approach for making efficient cleanup progress. Technology overviews and case studies are included in the document to help solidify the importance of the key elements included in this integrated approach.

The Future

The future use and acceptance of the IDSS document will improve and accelerate the management and cleanup of chlorinated solvent, as well as other contaminated sites. The document provides a comprehensive management model for sites where chlorinated solvents occur in multiple phases. Project managers, consultants, and stakeholders will gain an understanding of the five key features, enabling more efficacious solutions for managing complex sites. The management of a chlorinated solvent site is a lengthy process of investigation and characterization, remediation, and post-remedial review. Some sites will likely have contaminants remaining after completion of the remedy and thus will require long-term monitoring and management.

TEAM SUMMARY

IDSS Team Process Attributes

The ITRC IDSS includes representatives from state and federal agencies, industry, academia, and community stakeholders. Fields of expertise represented on the team include biologists, biochemists, geologists, and engineers. Many team members have extensive experience working with DNAPL sites.

While there were differences of opinion, team members collaborated to provide a comprehensive understanding of the problems and the consequences of establishing unrealistic remedial objectives. The team crafted a process which will improve the overall performance and the effectiveness of remedial activities at any contaminated site, in particular chlorinated solvent sites.

Key Learning

- An integrated and strategic approach to chlorinated solvent contaminated sites will support significant progress within a generation (~20 years).
- A key concept of this guidance is that functional objectives should be specific, measurable, attainable, relevant, and time-bound (SMART).
- Site professionals should target their monitoring approach to achieve SMART objectives.
- Because of site similarities this strategy can apply to any chlorinated solvent contaminated site regardless of the presence of DNAPL.
- An IDSS for a chlorinated solvent–contaminated site can be developed or updated at any point in the remedial process.
- This IDSS does not suggest ignoring the regulatory requirements for site restoration, but it may mean leaving some contamination to be managed by longer-term treatment while using aggressive treatment technologies to reduce the site’s risks.
- Many of the challenges of groundwater restoration at DNAPL sites arise as much from natural aquifer structure as from the characteristics of DNAPLs themselves.

IDSS Team Next Steps

During implementation the IDSS Team expects to accomplish the following:

- Encourage the use of the Internet-based training course among all intended document users.
- Offer short classroom training courses and presentations in coordination with conferences and meetings.
- Submit follow-up reminders to State Points of Contact (POCs) for concurrence.
- Gather success stories and send to ITRC.
- Develop a “white paper” which can be published in journals and magazines.
- Offer presentations and outreach to POCs in regards to models, case studies, and/or technology questions.
- Find projects where team members can document the specific use of the IDSS document and clearly evaluate the methodology.
- Develop marketing tools which will highlight the team’s document.

- Develop a one-hour series of slides describing the use of the guidance and offer it in EPA regions, brownbag lunches, corporate trainings, etc.

ITRC's Role with respect to IDSS Development/Deployment in the Future

- Product/documents available on the ITRC website.
- Mail document or CD when requested.
- Make the document available at ITRC booth during conventions and conferences.
- Continue to provide ITRC processes involving POCs as a key marketing area.
- Document success stories on ITRC website.