Elements of a Well-Designed Protocol for Managing Releases of Chlorinated Solvent

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Abstract. Managing the legacy soil and groundwater impacted by historical use chlorinated solvents is a persistent problem. In spite of large investments, many sites have not achieved closure, unaccepted risks remain, and estimated costs to closure are large. All of this is driving a wide range of initiatives focused on enhancing success. In the presentation, success is considered to be primarily dependent on reductions in risk, reductions in cost to closure, and addressing stakeholder expectations. The benefit of enhanced success includes a better environment and reduction in long-term economic liability.

Initially, consideration is given to ongoing initiatives. This includes efforts sponsored by the National Research Council, USEPA, American Petroleum Institute, Remediation Technologies Development Forum, ESTCP and AFCEE. While all of these efforts are unique, they all consider aspects of making "good decisions" that improve the potential for success. The convergence of all the parties on this theme highlights its importance. Critical aspects in making good decisions include:

- Developing attainable goals
- Recognizing technology limits
- Sufficient understanding of conditions and governing processes
- Prioritization of investments based on potential for success
- *A priori* analysis of benefits
- Tailoring solutions to sites
- Building consensus among stakeholders as to benefits and costs

Aspects of each of these are discussed. A key to developing attainable goals is analysis of how source mass depletion controls mass discharge from sources and source longevity. Next, consideration is given as to how site features (e.g. geologic setting, the size of the site, and land use) govern the potential for success. From all of this, a preliminary path forward is suggested with the hope that greater success can result in a better environment and reductions in long-term economic liabilities.

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