

ITRC's DRAFT Document: Optimizing Injection Strategies and In Situ Remediation Performance

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Interstate Technology and Regulatory Council (ITRC) and its team of state regulators, consultants, academics, and federal government stakeholders has almost completed what will be a web-based guidance document aimed at helping the practitioner who is either about to start an in situ remediation project, or, is in the midst of a project, experiencing failures and is seeking answers. This document is not a “101 course” on in situ remediation and assumes the “basic” conceptual site model has been completed and the extent of the plume is known. Remediating a myriad of contaminants in the subsurface requires a strategy of various inputs and moving parts. This document enhances four key steps within ITRC’s 2011 Integrated DNAPL Site Strategy (IDSS) “linear process” of evaluating the selected remedial technologies, implementing, and monitoring their performance to clarify that the process is actually iterative. A unique graphic consisting of two octagons (Remedial Design Characterization and Implementation/Feedback/Data Analysis) plus a “Design Wheel” in between consisting of Amendment, Dose and Delivery, was built to show this iterative process and to demonstrate that optimization opportunities exist along each step. Because each of the three pods are not dependent upon another, the practitioner can choose which pod will address their particular failure (or situation) and be directed through the web links to specific sections of the document, fact sheets, and data or tool tables. The Remedial Design Characterization pod (Chapter 2) looks at costs and benefits of design, gives steps on how to refine the conceptual site model (CSM), and provides a table of lessons learned. The Design Wheel pod (Chapter 3) takes this remedial design and discusses the various amendments to be used, their compatibility with the subsurface and delivery equipment, proper dosage considerations, and fact sheets are referenced for types of amendments and delivery. The third pod, Implementation / Feedback / Data Analysis (Chapter 4) discusses implementation of the selected remedy, the Optimization Staircase, bench and pilot studies and monitoring the progress. Regulatory perspectives are given from selected states (Chapter 5) and community and tribal stakeholder considerations are discussed (Chapter 6). As stated, we hope the practitioner consults this document from their computer as a tool to optimize a current remediation strategy, to ensure their planned remedial strategy will work in a given geology, or to determine if all necessary processes have been considered before implementation. The document is due to be published and accessible on the internet by April 2020.