

Green and Sustainable Remediation: A Practical Framework (GSR-2)

EXECUTIVE SUMMARY

The Interstate Technology & Regulatory Council (ITRC) Green and Sustainable Remediation (GSR) Team has developed this guidance document to assist the remediation industry with the integration of green and sustainable practices into existing site investigation and remediation programs. The document provides a generalized framework intended to be flexible and scalable to each phase of the remedial process. The GSR Team intends for users of the document to implement this approach as-is or adapt it to their specific program and state and federal regulatory environment.

This technical and regulatory guidance document is intended to be used in conjunction with the overview document developed by the GSR Team and titled *Green and Sustainable Remediation: State of the Science and Practice* (ITRC 2011a). A survey of the states was conducted as part of the research and development of these documents, which provided the GSR Team with valuable input on the status of GSR integration across the United States. Additional information was provided by federal partners of ITRC, detailing their position and the level of GSR integration into their respective organizations.

This document provides an introduction to GSR, including definitions of key terms specific to the concept of GSR, followed by a description of the process of planning a GSR evaluation and the implementation of GSR concepts during each remediation phase, from site investigation through site closeout. Finally, the document describes the types of tools available to the GSR practitioner. Several case studies are included in Appendix C to assist in conceptualizing GSR integration into each type of cleanup program.

The user will find the three aspects of GSR consisting of environmental, social, and economic considerations depicted in the introduction to define the process of sustainable site decision making. The GSR concepts communicated in this document will help state programs develop guidance and eventually formal GSR policy and may help some federal agencies that have not developed programs formulate a GSR policy.

The GSR planning process described in this document outlines a process to adequately prepare for a GSR evaluation, including the identification and engagement of stakeholders. The GSR Team identified three levels of GSR evaluations to provide users with a set of options to make GSR evaluations applicable to a wide array of project types. The GSR implementation process described in this document takes the user through each remedial phase, demonstrating opportunities for GSR applications and describing the documentation necessary to demonstrate the use of GSR approaches.

The description of tools provided in this document is intended to guide users in the selection of a tool that is best suited to their project in consideration of the three levels of GSR evaluations provided herein. The GSR overview document identified a number of metrics and tools that combined provide the user with numerous options for GSR evaluations. These tools and metrics range from simple to complex and may be applied as appropriate to meet the needs of a specific

project. Users must select the metrics and tools that will best assist them in the decision-making process, depending on their site-specific requirements and conditions.

This technical and regulatory guidance is the culmination of the work of the ITRC GSR Team, which has membership from a range of perspectives in GSR. The team urges users of this document to explore the wide range of GSR resources that are now available and to use these resources to select the combination of approaches, tools, and metrics that best meets the needs of their specific project. This guidance document will help users navigate the range of GSR information that is currently available.