

**Technical and Regulatory Guidance  
for the Triad Approach: A New Paradigm  
for Environmental Project Management**

**December 2003**

**Prepared by  
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## **EXECUTIVE SUMMARY**

This technical/regulatory guidance document was prepared by the ITRC Sampling, Characterization and Monitoring (SCM) Team and serves to introduce new concepts regarding the manner in which environmental work is conducted. This document is atypical for the Interstate Technology & Regulatory Council in that it does not report on a new technology per se but introduces new concepts to the manner in which environmental work is conducted. These concepts can increase effectiveness and quality and save project money. These ideas aren't new but have been developed into a logical approach for environmental project management.

The concepts embodied in the three legs of the Triad approach are (1) systematic project planning, (2) dynamic work strategies, and (3) real-time measurement technologies. The Triad approach can be thought of as an initiative to update the environmental restoration process by providing a better union of scientific and societal factors involved in the resolution of contamination issues. It does this by emphasizing better investigation preparation (systematic project planning), greater flexibility while performing field work (dynamic work strategies), and advocacy of real-time measurement technologies, including field-generated data. The central concept that joins all of these ideas is the need to understand and manage uncertainties that affect decision making. The Triad approach consists of ideas that have been formulated previously but are now united to form a new paradigm for environmental project management.

The Triad approach relies on technological, scientific, and process advances that offer the potential for improvements in both quality and cost savings. The cost-saving potential is considered to be significant but is only now being documented by case studies. The challenges involved in changing from long-established procedures to any new method will be great, and there will be opposition to the Triad approach from those unfamiliar with its potential.

The SCM team has created this document as a first step to stimulate understanding and discussion of the ideas embodied in the Triad approach. It explains the relationship of the Triad to existing guidance such as the data quality objectives process. It lists the advantages and disadvantages of the Triad and notes regulatory and organizational barriers that may present obstacles to its use. New Jersey has only recently implemented a formal program to adopt the Triad approach, and a section is devoted to explanation of that program. Stakeholder issues are an important consideration for adoption of any technology or approach, and this document has a section dedicated to that end. Case studies revealing the advantages and potential success of using the Triad approach are summarized in the text and detailed in Appendix B.