



ITRC PROJECT PROPOSAL:

Using RAO's in Remedy Selection to Incorporate Green Technologies and Ecological Enhancements

Proposal Date: March 9, 2009

Proposal Contact:

Nancy Fagan 214.665.8385

Sairam Appaji 214.665.3126

Call for Proposals Topical Area

- Site characterization and remediation (CHAR/REM)

Problem Statement (why is this project necessary and relevant to ITRC's purpose & mission⁴?)

The Triad approach has advanced the remedial site investigation process; however, remedy selection is still mired by the traditional culture of choosing a specific technology as a final remedy to meet cleanup goals. In order to advance our decision-making process, this ITRC project would clarify how to use a performance-based approach to final remedy selection – thus illustrating how the stakeholders agree on Remedial Action Objectives (RAOs); then the facility proposes how to meet the objectives. Guidance is needed on how to write RAOs strong enough to be “stand alone” remedy decision statements.

Green remediation and ecological enhancements can be part of a performance-based remedy when scripted into the RAOs. Using this approach leaves the door open for the facility to use new innovative green remediation strategies as they evolve. Green remediation and ecological enhancements will encourage use of sustainable practices during the cleanup process thus reducing the environmental footprint.

RCRA Corrective action programs have the Government Performance and Results Act (GPRA) objective of reaching the corrective action milestone of “Remedy Selection” (site-wide) and Remedy Construction Completion for 95% of all RCRA sites on the 2020 baseline [this milestone will be measured in 3-year increments until 2020]. States that are fully authorized in corrective action are expected to show progress towards this goal.

Proposed Scope to Address Problem (what is the approach for this project?)

The most important tools to utilize in the development of this performance-based approach are 1) a conceptual site model with all known information presented, 2) a communication strategy, and 3) RAOs. Once the RAOs are defined and agreed upon, the success of a performance-based remedy relies on performance monitoring, periodic performance reviews and well-established

⁴ **ITRC Purpose:** To advance innovative environmental decision making
ITRC Mission: Develop information resources and help break down barriers to the acceptance and use of technically sound innovative solutions to environmental challenges through an active network of diverse professionals.

contingency plans. This project will clearly show regulators and facility managers how to incorporate **green remediation** and **ecological enhancements** into the remedy selection process.

Net Environmental Benefit Analysis (NEBA) is a tool that can be part of this process. The NEBA approach uses a combination of the same tools used in a benefit-cost analysis that is needed in final remedy determinations. [More information on the NEBA can be found in Section 7 of the **July 2006 "Planning and Promoting Ecological Land Reuse of Remediated Sites"**.]

Regulators will be provided with case studies and examples of model language to use in the decision document for the final remedy.

The project will have clearly illustrated flow charts and diagrams to show the steps to implementation, along with case studies that have successfully incorporated this approach.

Targeted Users (who will use products generated by this project?)

The primary users of the project are state and federal regulators in RCRA. Secondary users are project managers of Superfund, Brownfields and other voluntary cleanup programs.

Summary of Deliverables (primary project product(s))

2010 – one year process

The expected product of this project will be a Technical Regulatory guidance that expands on the previous ITRC March 2006 product on "Exit Strategy – Seeing the Forest Beyond the Trees" (use of RAOs in an Exit Strategy) and "Planning a Promoting Ecological Land Reuse of Remediated Sites". This project product would have model language and would be used as a regulatory guidance for state and federal regulators.

Webinar training sessions

Impact (how will this project result in more effective environmental decision making?)

Getting sites to final site-wide remedy with inherent flexibility for individual facilities to modify their technology to meet RAOs using new/green remediation would completely change our cultural approach to cleanup. This project product will provide needed guidance on making a final remedy decision with the added feature of incorporating sustainability in the remedy.

Using this approach ensures timeliness and flexibility to the remedy selection process.

Project Schedule

Delete this text and outline the schedule for the proposed project including target dates for major products listed above. Please refer to ITRC Project Life Cycle for assistance with scheduling at <http://www.itrcweb.org/planning.asp>. (PLACEHOLDER)

Proposed Personnel

Potential Team Membership/Needs

Based on information shared with state regulators the following persons are interested in participating in this project in some capacity:

Ellie Wehner TCEQ (current ITRC team member)

States interested in participating – Louisiana, Texas

Other organizations interested; Department of Defense (DoD), Wildlife Habitat Council,

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- Proposed Team Leader(s) including a 1-2 paragraph description of background and qualifications for leadership (approval and appointment of Team Leaders is made by Board Co-Chairs upon selection of project proposal). Background should demonstrate knowledge and experience working on the topic being proposed in the project and prior leadership experience (both formal and informal work on teams, volunteer activities, etc.).
- List states that would be interested in participating in this project and why.
- List other organizations that have expressed interest in participating as team members for this project and why.
- Skill mix of Team Members required (e.g., hydrogeology, engineering, risk assessment, etc.).
- Sectors of Team Members required (e.g., federal, state, community, regulated, regulator, etc.).

Proposed In-Kind/Direct Project Funding

If additional resources (financial or in-kind personnel support) have been committed or may be available from outside entities, please contact ITRC Director Anna Willett at awillett@sso.org and reference this proposal. Information is not being requested in proposals so that proposals may be evaluated on content vs. solely on funding commitments.

Related ITRC Work:

Exit Strategy – Seeing the Forest Beyond the Trees, March 2006

Planning and Promoting Ecological Land Reuse of Remediated Sites, July 2006