

ITRC PROJECT PROPOSAL: [Nexus of Risk Assessment and Systematic Project Planning](#)

This is a collaborative effort between Risk and Sampling team, mainly managed under the Risk Team with technical expertise from the sampling team members.

PROPOSAL DATE: May 29, 2007 [Proposals are due to ITRC Program Administrator by June 1 each year]

Proposal Contact:

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Problem Statement

Many times during risk-based environmental clean-up activities there is a communication disconnect between those responsible for assessing risk and those responsible for collecting the data upon which management decisions are made. As a result, working towards a common goal is a challenge.

This lack of communication has a negative impact on the following processes:

- The ability to communicate the criteria upon which the sampling approach is designed and implemented.
- The acceptance of data generated by innovative collection methods.
- How the uncertainty associated with the risk is being minimized.
- Transparency in the decision-making process.

Regulatory barriers exist due to the variability in the manner in which the various assessment and sampling methods are applied at both the state and federal level. Technical and procedural barriers also exist. Non clarity, lack of understanding and lack of common frame for interpretation of sampling data and its use in risk assessment has led to vast variation in decisions made in various states.

Lack of communication between sampling objectives and risk assessors leads to not knowing what the other side needs and is a barrier towards the common goal. The two groups also do not share common technical framework and methodologies. Variations within states exist and lead to different decisions, as was evidenced in the study conducted by the ITRC Risk Team. EPA regions have not issued any guidance to assist in this area. There is a real need for guidance that leads everyone to work towards the same decision point. This problem affects all projects that rely on risk assessment for decision-making. Manifestations of the problem include schedule delays, increased costs, and low confidence in project decisions.

Solution / Impact (how will the project impact the environmental marketplace?)

Given that the generic technical and procedural problems/barriers exist at many levels within EPA, across states, and even between different case workers within states, makes the task of developing sampling plans with the objective of gathering data necessary for risk assessment a difficult job.

A proposed solution to the problem is to integrate risk assessment data requirements into the clean-up process in a systematic manner whereby all stakeholders are involved. The logical group to manage this project is the collaborative effort between risk team and sampling team. The stakeholders include the regulatory agencies,

risk assessors, project managers, contractors, technical experts, the property owner, and other affected parties such as community and tribal representatives. These groups are already represented on the Risk and Sampling teams. This attempt will enhance the usability of sampling data for risk assessment, thereby accelerating the cleanup decisions.

Some of the sampling/risk assessment issues we may consider include the following (T = technical and P = procedural):

1. Clarify appropriate sampling strategies (T/P).
2. Improving the transparency of the decision making process (P).
3. Explaining the use of collaborative data sets (T/P).
4. Exploring ways to reduce variability in key risk assessment parameters/criteria (T/P).
5. Evaluating the best data spatial evaluation procedures as this relates to the conceptual site model development (T/P).
6. Clarifying the difference between scientific and non-scientific inputs to the decision making process (P).

Success Measures

1. EPA acceptance of this Tech-Reg guidance
2. Evidence of follow on collaborative efforts
3. Use of the Tech-Reg Guidance by both States and Federal agencies
4. Training Attendance
5. Long-term acceptance and impacting change
6. Team member's experience
7. Regional implementation and evidence of changed behavior
8. Outreach Implementation

Summary of Deliverables

This is a joint project between risk and sampling project, led by risk team. The project would produce a Technical/Regulatory document. This would be focused on specific topics related to the problem statement.

- Clear statement of the problem this ITRC document is intended to resolve.
- An explanation as to why end users of data, including risk assessors, are not effectively incorporated into the systematic project planning process.
- Recommendations for achieving team-based approaches to planning and executing projects.
- A discussion of where variability exists in risk assessment methodologies and how this affects systematic project planning.
- A stakeholder section emphasizing the public's interest in team-based procedures that cost-effectively achieve clean-up of affected properties.
- Recommendations as to where various sampling strategies are, or are not, effective (to include the topic of multi-incremental sampling).
- Approaches to better incorporate field methods into an overall data collection program focused on developing conceptual site models appropriate for risk assessment and site decision-making.
- A synopsis of key publications that provide additional insight and guidance on this topic.
- Case studies to demonstrate key points.

Training. The team would conduct Internet training based on the Technical/Regulatory document.

Outreach. Team members would be encouraged to speak on this topic at appropriate conferences. Conference workgroup in the EPA Systematic Project Planning meeting, 2008

Project Schedule

2008:

Survey of State and Federal Sampling and Risk Assessment Related Methodologies
Start of the Tech-Reg Document – Outline and First Draft

2009:

Draft and Final Tech-Reg document
Internet Training preparation

2010:

Final publication of Tech-Reg Document
Internet Training delivery
Fall Workshop around the topic
Team Closure activities and outreach

Target Audience

This problem affects all those involved in environmental restoration (Department of Defense, Department of Energy, Environmental Protection Agency, industry, and the states). The Department of Defense is especially troubled by the inefficiencies caused by the problem and would actively participate in improving the situation. There is a perceived need for working on targeted training for specific audience.

Resources Required

Personnel:

- **State Members:**
Brian Espy, ADEM and Steve DiZio, CA DTSC (Co-Team Leaders), Stu Nagourney, NJDEP, Paul Hadley CA, Brad Parman, TN DEC, Ligia Mora-Applegate, FL
- **Skill Mix:**
Team Members with expertise in risk assessment, field application of risk assessment to risk management, sampling methodologies, engineers, scientists and regulators/risk managers.
- **Sectors of Team Members:** Federal – Army Corp of Engineers, DOD, EPA, state, community, private sector companies, state regulators and public stakeholders.

Financial Resources:

Major funding will be for Risk team and limited funding for the sampling team for travel etc.

2008:

Team Travel - \$14,000, CPM - \$2,000, Contractor Support - \$50,000 TOTAL: \$66,000

2009:

Team Travel -\$14,000, CPM - \$2,000, Contractor Support - \$65,000 TOTAL: \$81,000

2010:

Team Travel -\$14,000, CPM -\$6,500, Contractor Support - \$65,000, TOTAL: \$85,500

Related Work:

A brief review of the literature indicates that a number of environmental practitioners have published papers on related topics. Ongoing initiatives, such as systematic project planning, are a cornerstone in the recent Uniform Federal Policy guidance, the UFP QAPP, developed by the Interagency Data Quality Task Force. The Environmental Protection Agency's Triad approach, speaks to the importance of comprehensive project planning. The Corps of Engineers also has specific guidance for systematic project planning. This project would build on earlier work and benefits would be expected throughout the country on a wide variety of projects.

Background work by the ITRC Risk Team has reinforced the need for this follow-on project. This includes the Risk Team's published document *Examination of Risk-Based Screening Values and Approaches of*

Selected States and their current Technology-Regulatory document, "Use of Risk Assessment in Management of Contaminated Sites." Both these efforts address the variation of procedures used in sampling and risk assessment, and their direct impact on risk management decisions.