USACE Remediation System Evaluations (RSEs): Building on More Than a Decade of Experience

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Overview

- Presentation reflects my personal observations and thoughts, not those of the Army or USACE
- Key Aspects of Optimization Based on USACE Experience over Past 12 Years
- Planned Assessment for Army Cleanup Programs
- Optimization & Sustainability – A Natural Combination
  - USACE Sustainability Initiatives
  - Incorporating Sustainability into RSEs
- Future Issues
Key Aspects: RSE Team Composition

- Senior Personnel
  - Multi-Disciplinary – Engineering, Hydrogeology
  - Experienced
  - Knowledgeable in Alternative Technologies

- Independent from Project Team
Key Aspects: Technical Considerations

- Evaluate Site Conceptual Model, Site Goals, Closure/Exit Strategy
  - Must be Holistic Evaluation
- Technical Review of Operational Data
  - Look for Problems
  - Amazing What is In Details
- Verify Recommendation is Viable, Consistent with Site Conditions
Key Aspects: Technical Considerations 2

- Suggest Approach to Implementation
- Provide Realistic, Inclusive Cost Estimates
- Follow-Up
  - Verify Project Team Understands RSE Recommendations
  - RSE Team to Facilitate Implementation of Recommendations
Key Aspects: Human Considerations

- Positive, Forward-Looking Approach
  - Emphasize Change is Expected and Inevitable
- Seek and Value Project Team’s Input from Start
- Communicate, Educate
- Consider Stakeholders
  - Invite to Observe, Participate
  - Emphasize RSE = Balance of Effectiveness and Cost
Key Aspects: Contract Considerations

- Include Contract Provisions/Options for Implementing Optimization Changes
  - Budgeted Item
- Technically Qualified Contractors
  - Engineering & Scientific Capabilities On-Staff or through Partner
Key Aspects: Contracting Considerations 2

- Fixed-Price, Performance-Based Contracts
  - Not Gov’t Responsibility to Optimize Cost, but No Reason to Waste $$
  - Government Estimate that Accounts for Optimization
    - Optimization before PBCs
  - Government Must Assure Adequate Performance Since It Retains Liability
    - Typical Five-Year Contract Life

- Can Other Contract Approaches with Optimization Outperform PBC on Long-Term Remedial Project?
Key Aspects: Institutional Issues

- Management Should:
  - Have a Clear Strategic Vision for Restoration Program – Time or Money Saved?
  - Have a Program of Periodic Independent Optimization/Performance Evaluations
  - Perform Oversight/Monitoring of Implementation of Optimization Recommendations
Key Aspects: Institutional Issues 2

- Management Should Also:
  - Measure Team Performance, Reward Efficiency
  - Offer Team Incentives for Implementing Optimization Recommendations
  - Provide Funding for Conducting Optimization and Implementing Recommendations – Pay Now or Later
Current USACE EM CX Activities

- USACE EM CX Performing Study of Optimization Potential for Army Program
  - Assess Program Opportunities and Priorities Based on Historical Observations
  - Recommendations for Programmatic Approaches
Optimization and Sustainability

► Evaluate Carbon Emissions, Resource Use, Environmental Impact, Other Risks in Alternative Technologies

► Factor in Recommendations
  • Alternative Energy Sources, Energy Recovery
  • Recycling
  • Worker, Community Risk
Optimization and Sustainability 2

- USACE / Army Sustainability Framework
  - Interim Guidance, March 2010
  - Incorporate Sustainability Considerations Through Entire Life-Cycle of Project
  - Incorporate Sustainability into Existing Processes, incl. RSEs
  - RSE Checklists to Include Sustainability Issues

- Recent Demonstrations of Sustainability Analysis as Part of Army Optimization Studies

- Upcoming Army-Sponsored Study of Sustainability Integration into all Remedial Phases, including Optimization
Future Areas of Emphasis

- Exit Strategies
  - Encourage Their Development
- Data Management for the Long Haul
  - Preserve Data Integrity over Decades
- Remediation Risk Management
  - Weigh Risks of Engineering Failure in Assessing Optimization Alternatives
Summary

- Lessons Learned over 10+ Years of RSEs
  - Independent Expert Team
  - Holistic, Constructive, Realistic, Recurring, Inclusive, and Positive Approach
  - Consider Contracting Approach, Incentives
  - Top-Down Driven: Oversight, Follow-up
    - USACE Providing Input to Army
- Sustainability to be Integrated with RSEs
- Future Emphasis on Exit Strategies, Data Integrity, Remedy Risk Management