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AFCEE's ERP-O: A Journey from System Optimization to Program Optimization

Year of the Air Force
Family



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Report Documentation Page

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Outline

Introduction

Evolution

Partnerships

Summary



Optimization Evolution

Evolution (1997 – 2007)

Starting point

Breakthrough

Conceptual Site Models

Looking to the end

Big Picture

What more can go wrong

Net no harm

Even Bigger Picture

Monitoring Optimization (LTM)

RSO/RPO (RA-O)

RSC

Exit Strategy

PBM

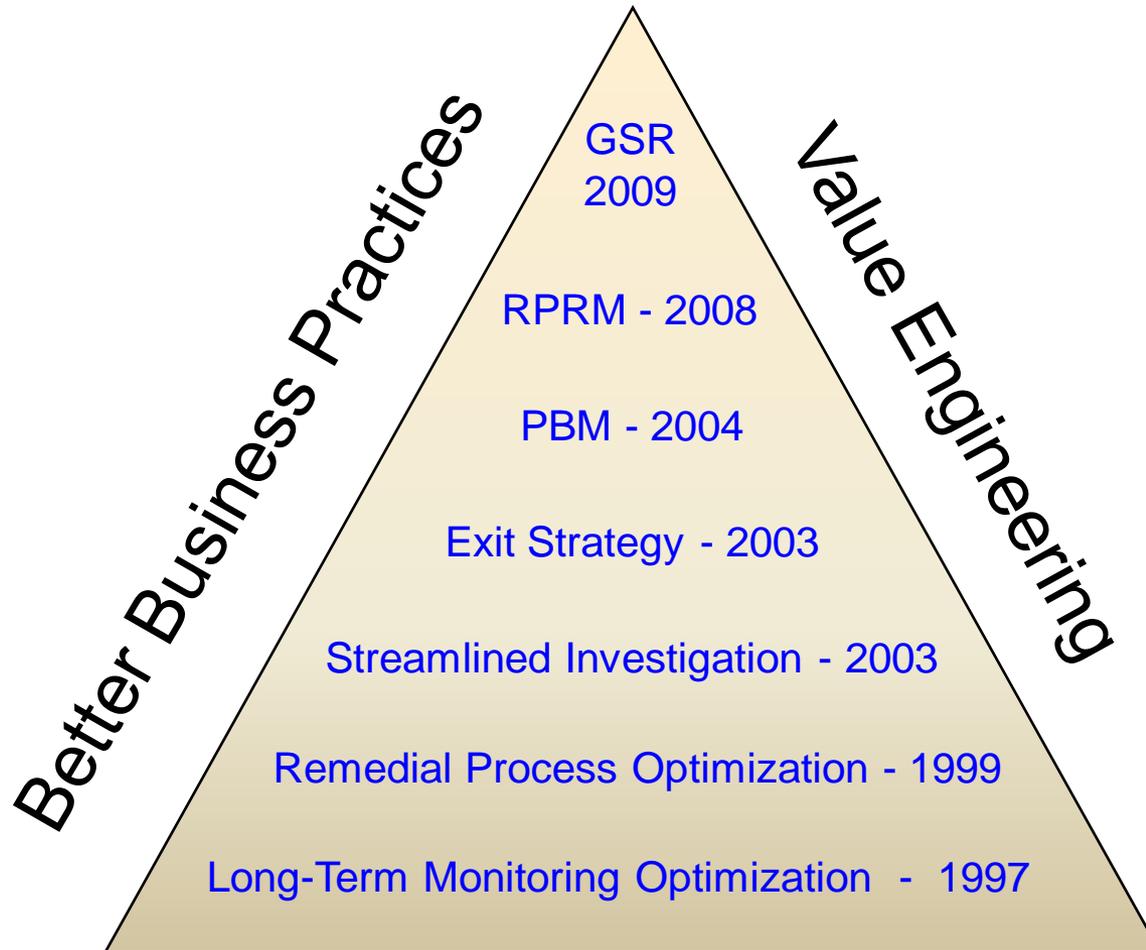
RPRM

GSR

ERP-O



Foundation for ERP-O





What we are doing now



ERP-O Definition

Definition:

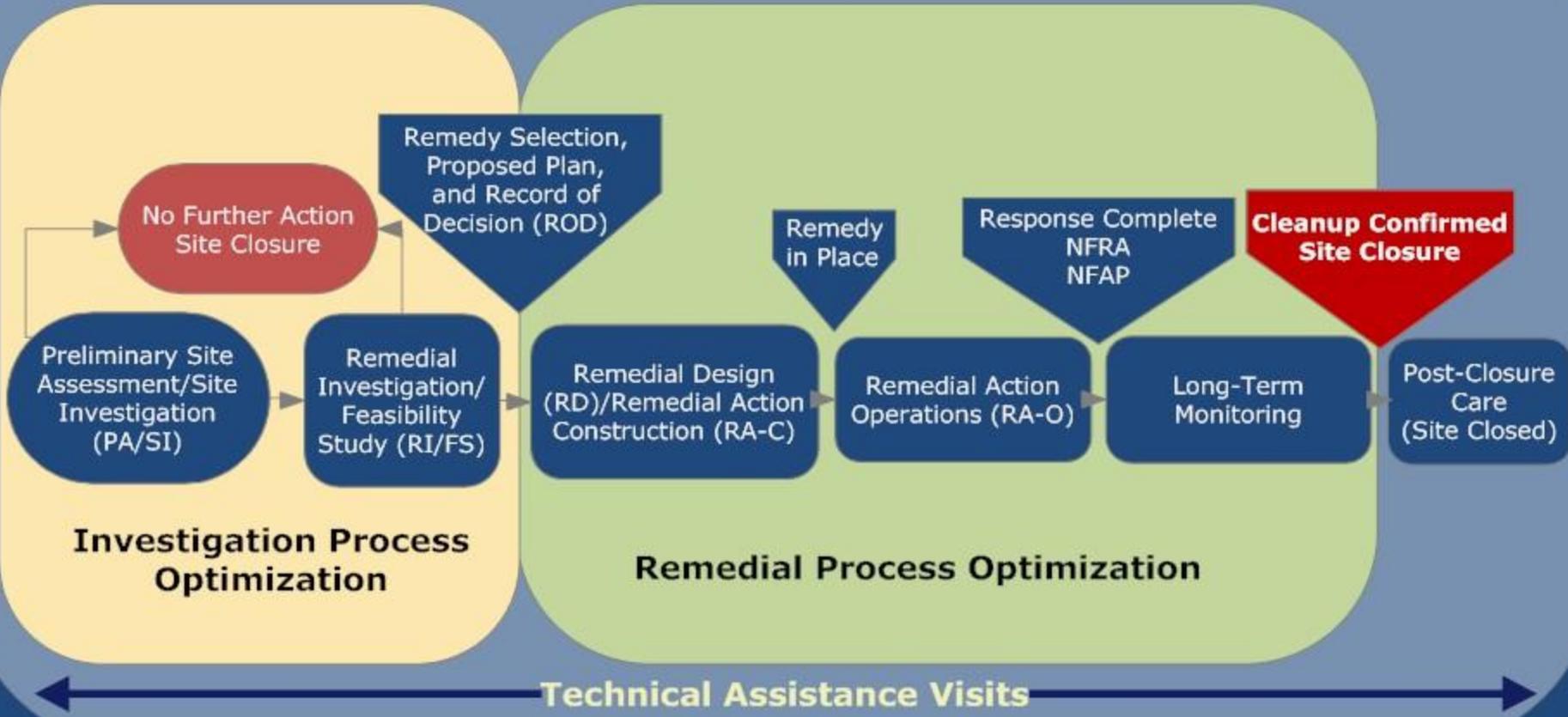
Environmental Restoration Program Optimization (ERP-O) is a comprehensive and systematic review of an installation's past, current and planned cleanup activities whose goal is to ensure protection of human health and the environment over the entire restoration life-cycle at minimal risk and optimal costs

ERP-O provides all the needed tools to manage risk and complies with AFSO21



ERP-O Flow Chart

Environmental Restoration Program Optimization





Investigation Process Optimization (IPO)

Definition:

An Iterative/Systematic Planning Approach for
Evaluating Remedial Study Programs
with the Goal of Improving Overall:

- ✓ Study Program Effectiveness
- ✓ Time and Cost to Achieve Site RIP Milestone
- ✓ Timely Feedback to Decision Makers

A component of the overall AFCEE ERP-O



Remedial Process Optimization (RPO)

Definition:

An Iterative/Systematic Planning Approach for *Evaluating Existing/Proposed Remediation Processes* with the Goal of Improving Overall:

- ✓ Control Effectiveness
- ✓ Site Cleanup Time and Costs
- ✓ Timely Feedback to Decision Makers

A component of the overall AFCEE ERP-O



Remedial Process Optimization (RPO)

Definition:

An Iterative/Systematic Planning Approach for *Evaluating Existing/Proposed Remediation Processes* with the Goal of Improving Overall:

- ✓ Control Effectiveness
- ✓ Site Cleanup Time and Costs
- ✓ Timely Feedback to Decision Makers

A component of the overall AFCEE ERP-O



Technical Assistance

Definition:

A Systematic Analytical Approach for *resolution of regulatory, technical, contractual, programmatic issues*

- ✓ Conceptual Site Models and Exit Strategies
- ✓ Decision Documents
- ✓ Contractual Strategies
- ✓ Decision Logic
- ✓ Background Studies

A component of the overall AFCEE ERP-O



Where are we in execution of ERP-O?



Where we are now

➤ ERP-Os Completed at:

❖ 45 Air Force Bases

- ❑ Primary Bases identified with sites at risk for RIP 2012
- ❑ 90% of Total CTC



❖ 4 Joint Bases

➤ ERP-O impact has been realized at many bases

- ❖ Sites closed
- ❖ Eliminated risk



Common Deficiencies

➤ At the Installation Level

- ✓ **Current, concise and representative CSMs not available**
- ✓ **Exit Strategies not defined nor documented**
- ✓ **Performance Metrics not adequately selected, defined or documented**
- ✓ **Decision Logic not well defined or documented**



Where we are now

➤ Working to achieve ERP-O ROI

❖ Implementation Challenges

- ❑ It takes time (12 to 18 months)
- ❑ It takes resolve (consistent committed effort by all stakeholders)
- ❑ It takes teamwork (coordinated efforts with PMO-PM and RPMs)
- ❑ It's hard (technically, programmatically, contractually, regulatory)

❖ Actions needed by ERP-O

- ❖ Base review, concurrence, and follow-through for implementation for Phase II and Phase III taskings
- ❖ Getting PMO PM involved to execute the action(s)
- ❖ Regulatory interface



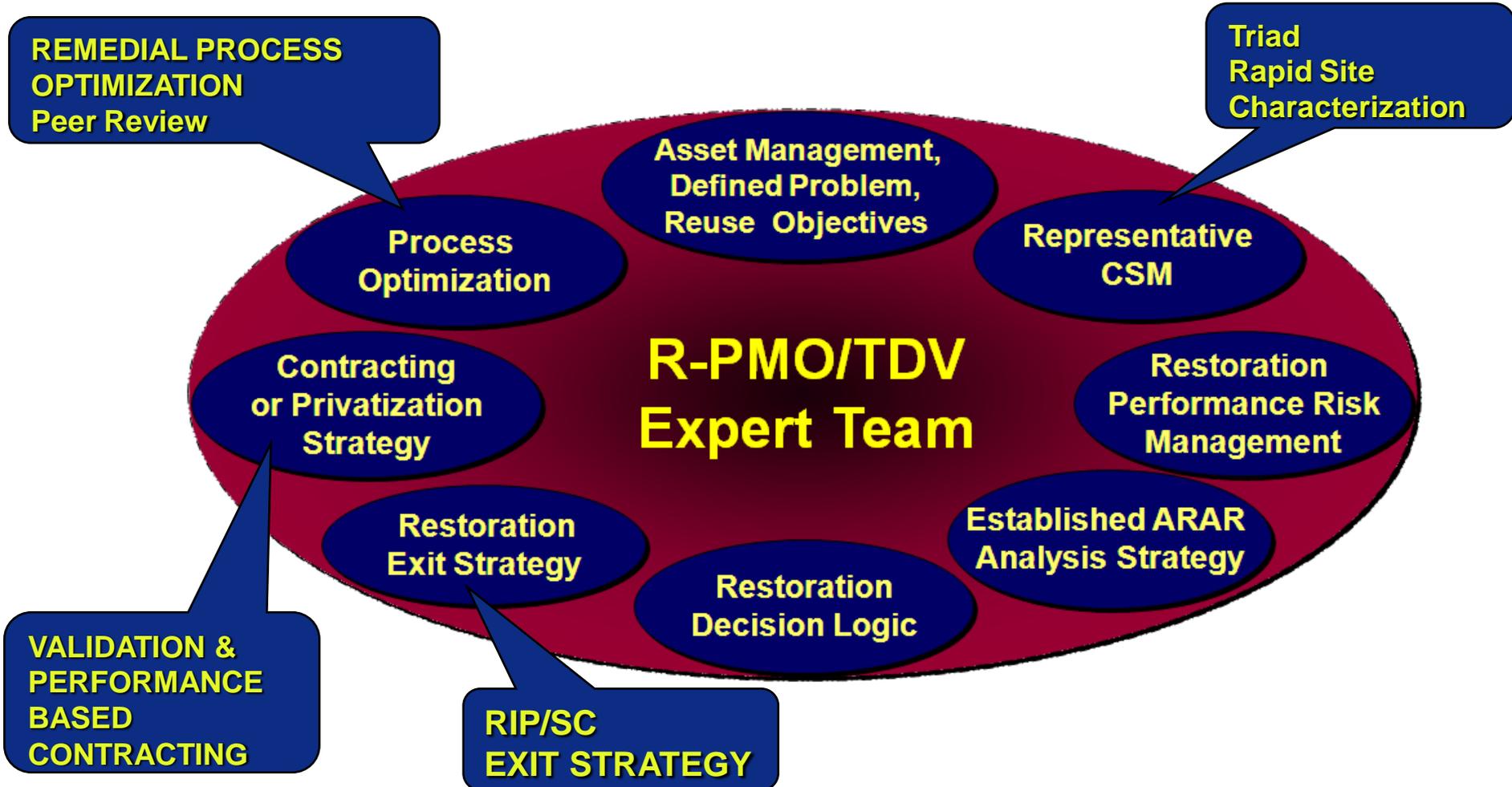
Did it Work as Planned

- **ERP-O recommendations were not being implemented years after the visit**
- **Needed a process to transfer responsibility of execution to the base**
- **A Management review was incorporated into ERP-O**
 - ❖ **Recommendations are reviewed by base and management**
 - ❖ **Approval from regulatory agency (if needed) pursued by team with base present**
 - ❖ **Request for funding documents are prepared for approved recommendations**
- **Now it is working**





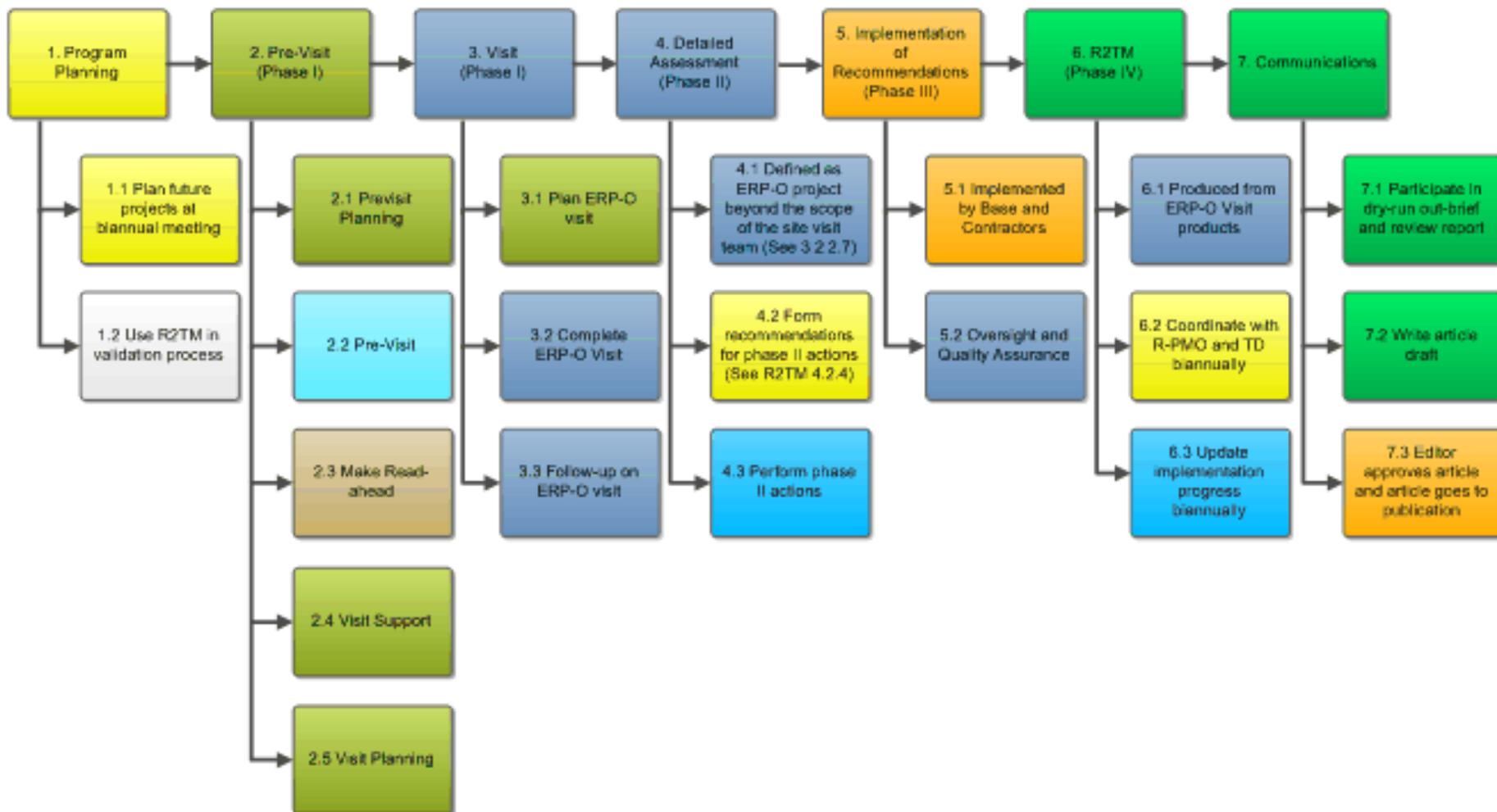
Current ERP-O Elements

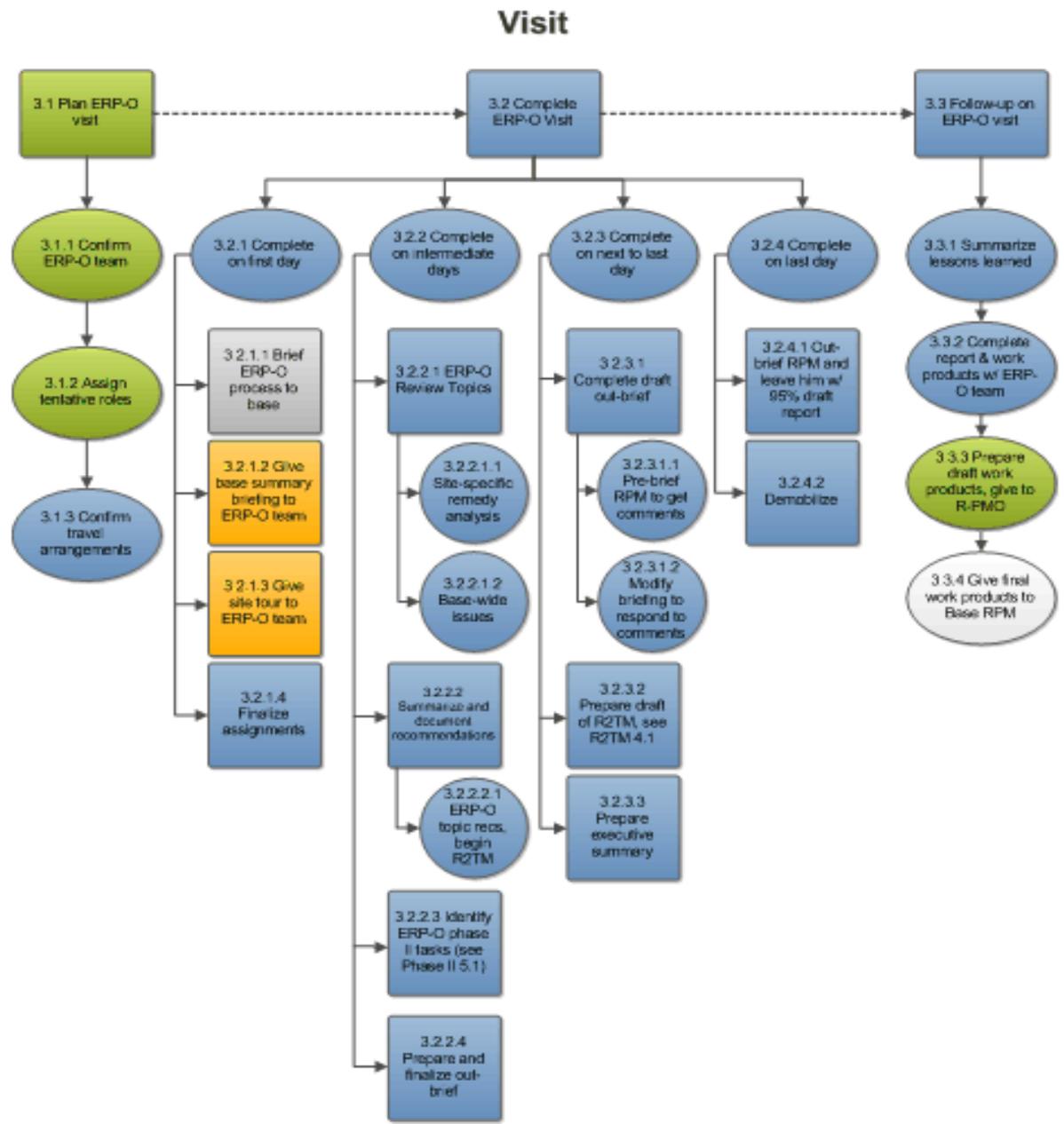




ERP-O Phases

High-Level Overview





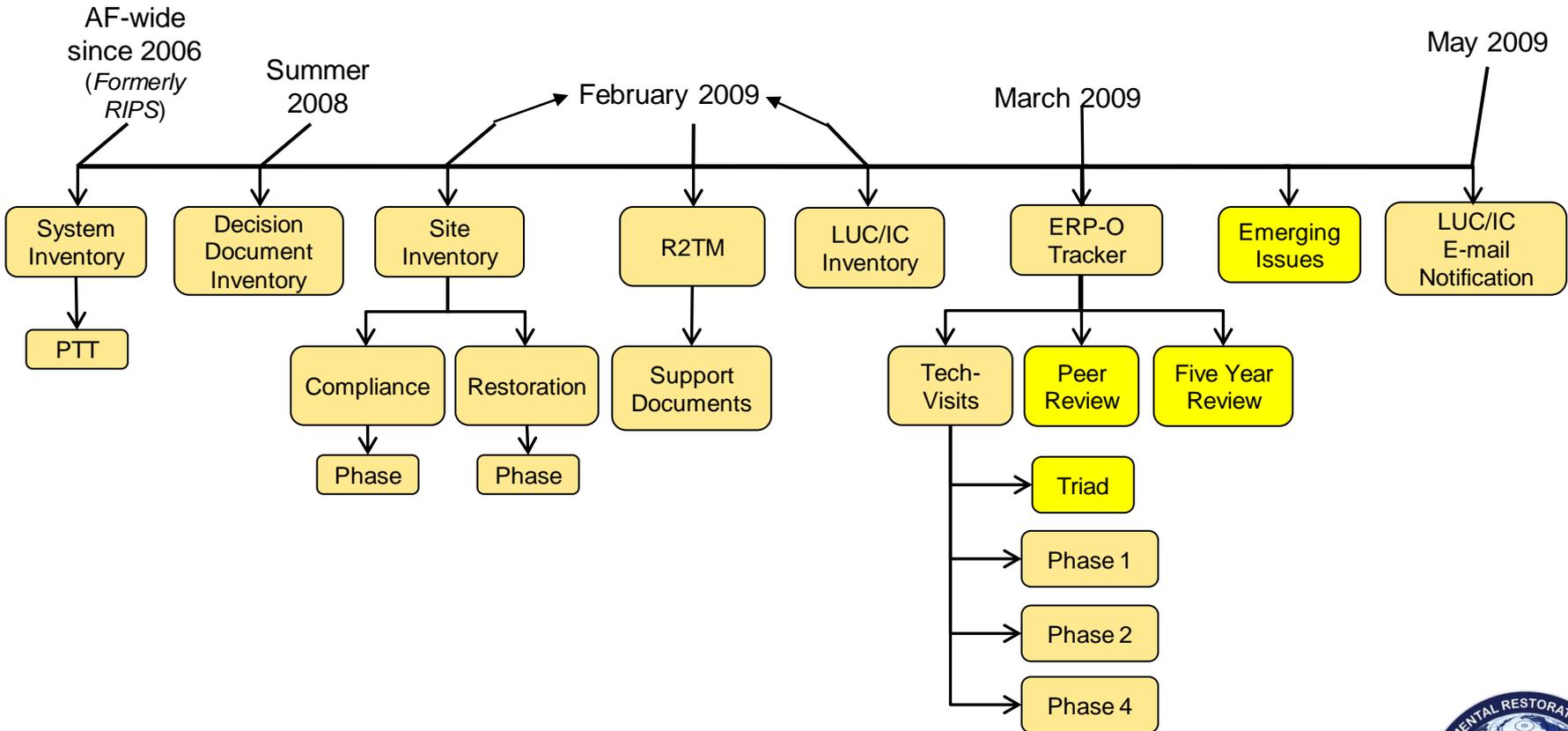


ERP-O Tools

- **EDITT**
- **R2TM**
- **UAT**
- **PTT**
- **SRT**



Environmental Decision Information Tracking Tool (EDITT)



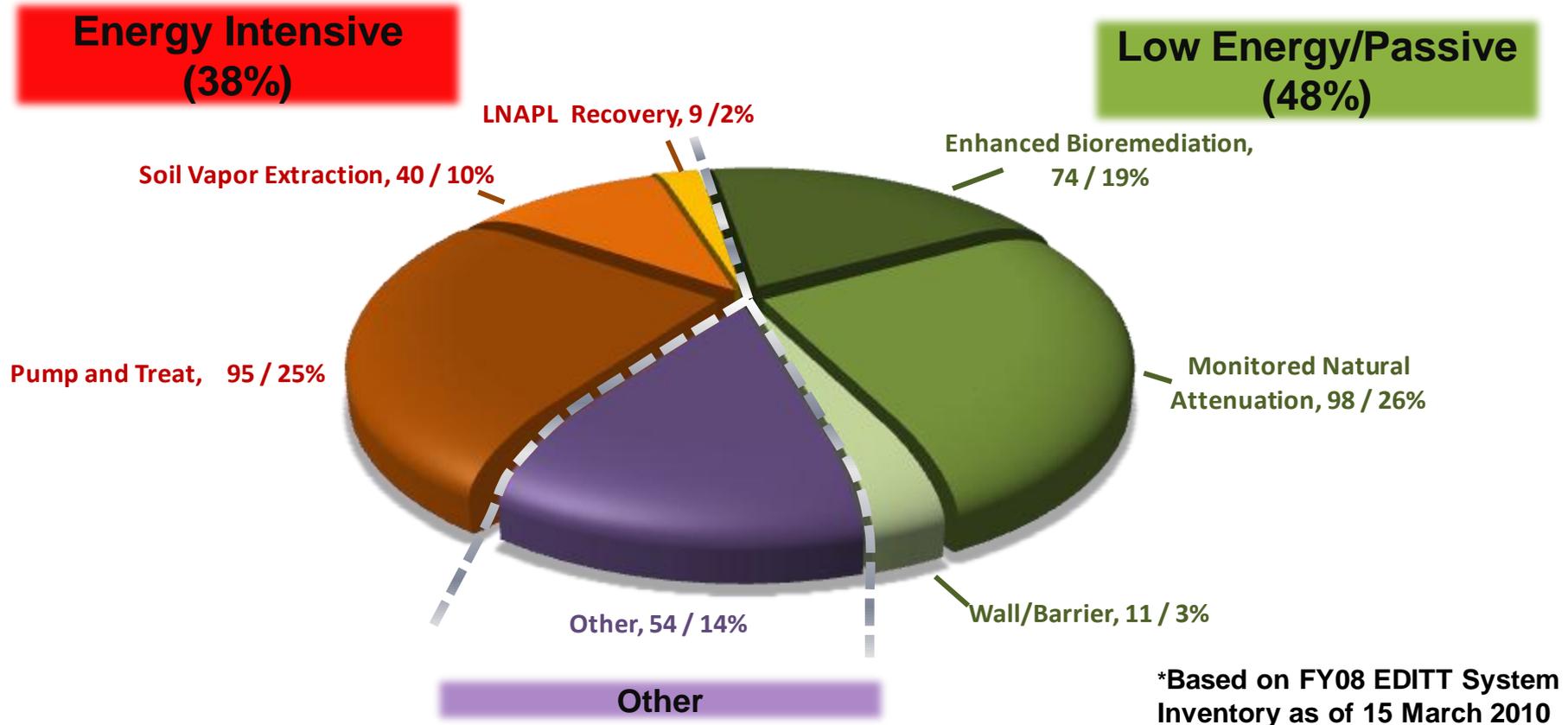
TBD





AF Remediation System Inventory by Technology

381 Remedial Systems in Operation*



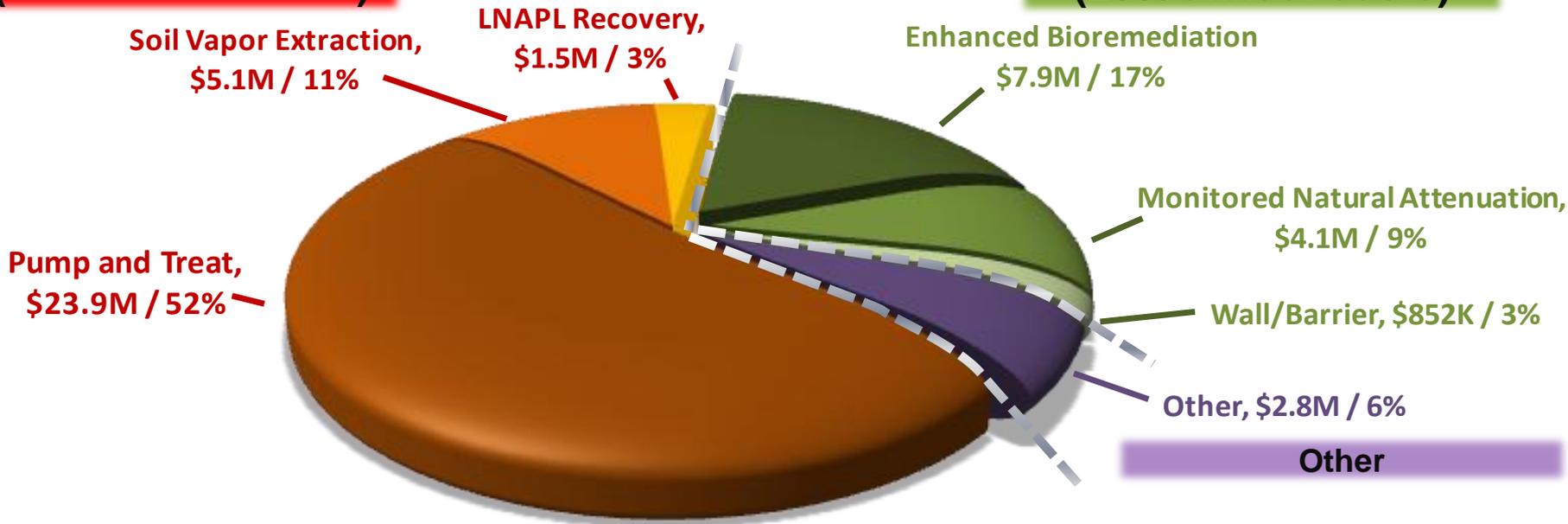


AF Remediation System Annual Costs by Technology

38% **381 Remedial Systems in Operation*** 48%

**Energy Intensive
(66% annual costs)**

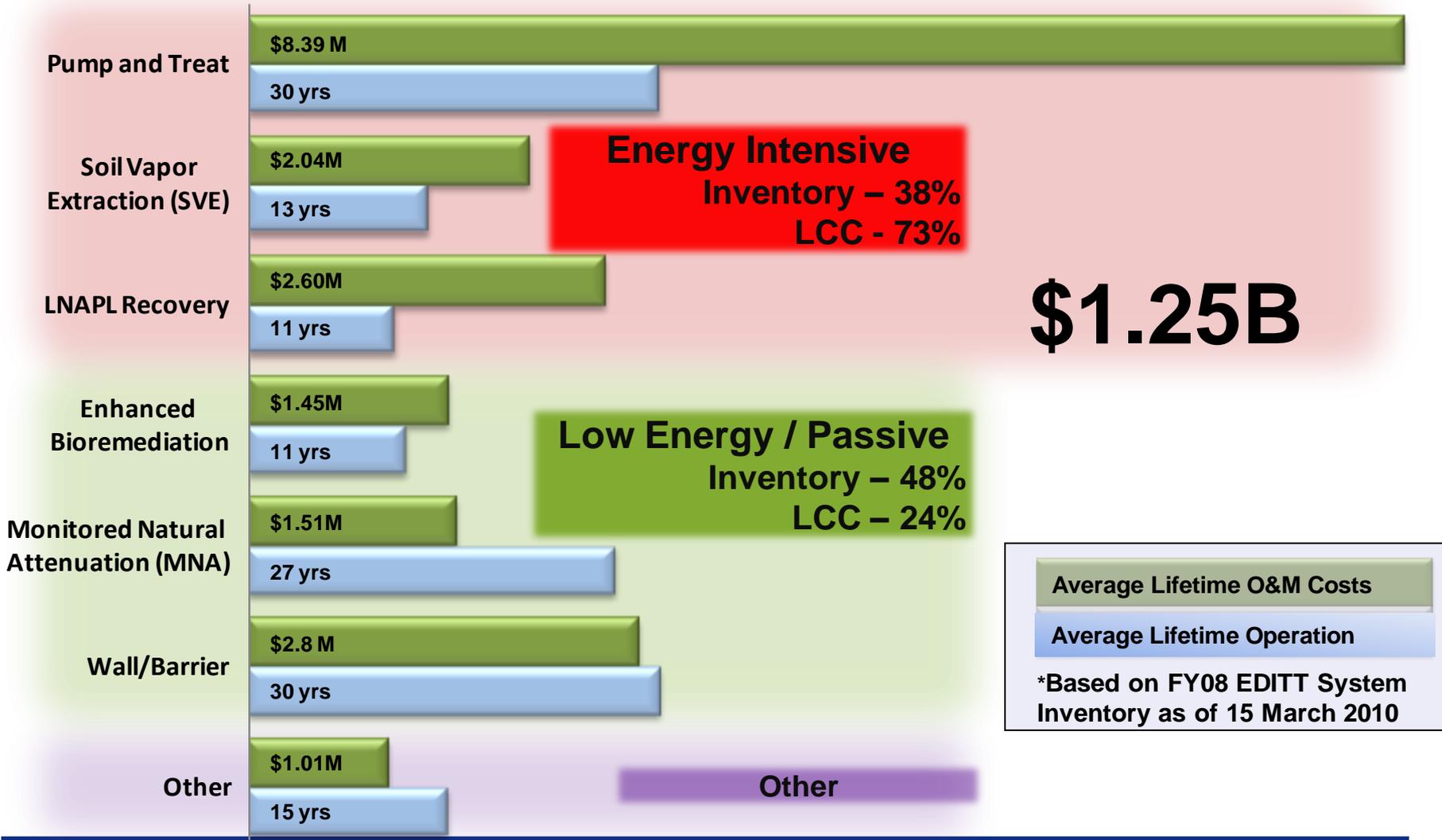
**Low Energy / Passive
(28% annual costs)**



*Based on FY08 EDITT System Inventory as of 15 March 2010



Average Life-Cycle Costs by Technology



Average Lifetime O&M Costs
Average Lifetime Operation
*Based on FY08 EDITT System Inventory as of 15 March 2010



Partnerships

- **ITRC**
- **USACE**
- **USGS**



Partnerships

- Interstate Technology Regulatory Council
 - ❖ Participates in ERP-O visits
 - ❖ Co-authored the Exit Strategy Factsheet
 - ❖ Provides support during regulatory interface
 - ❖ Provides free environmental training through the internet and class room
- Developed RPO, PBEM Technical Regulatory guidance
- Developing Remediation Risk Management Tech-Reg guidance
- Developing Green and Sustainable Tech-Reg guidance



Summary

- How we got here is a long and tortuous journey
- Over 10 years
- It is essential that we promote wise remediation where we truly manage and when possible eliminate risk
- But we have to stop transferring the risk to others
 - ❖ Digging material to send to a landfill (transfer)
 - ❖ Removing ounces of pollutants from GW while dumping tons in the atmosphere (transfer)



IMPLEMENT SMART REMEDIATION

QUESTIONS??