

Headquarters U.S. Air Force

Integrity - Service - Excellence

PERFORMANCE-BASED MANAGEMENT (PBM) Tool for Compliance and Restoration Programs



U.S. AIR FORCE

Erica Becvar
Environmental Science Div.
Technical Directorate
HQ AFCEE



U.S. AIR FORCE

Discussion Points

- History and applicability of performance-based management (PBM)
- What is PBM now and how is it different from current project implementation?
- Implementation successes
- How can PBM benefit projects



U.S. AIR FORCE

AFCEE PBM – Consistent with SAF/IE Policies

- AFCEE PBM approach – consistent with requirements identified in two recent SAF/IE policies
 - Cleanup Program Performance Based Management Policy
 - 27 October 2004
 - Requires execution of cleanup projects in a performance-based, cost effective manner

 - Natural Infrastructure Management and Encroachment Prevention Policy
 - 23 November 2004
 - Requires a performance-based, cost effective approach that is focused on outcomes
 - Requires management of natural resource assets



U.S. AIR FORCE

SAF/IEE PBM-based Cleanup Program Goal

- Cost-effectively restore water and land resources to meet Active (operational) or Base Realignment and Closure mission requirements
- Must be conducted in accordance with applicable law, regulations, international agreements
- Performed in a realistic manner, consistent with planned usage of the land
- Protect human health and the environment are inherent components of successfully performing military mission activities



U.S. AIR FORCE

Performance-Based Management

➤ **PBM is:**

An approach/philosophy for managing environmental cleanup projects that uses...

- » Communication with stakeholders
- » Systematic planning, and
- » An understanding of site conditions and planned uses

...to reach an economical site closure by focusing on goals and results achieved.

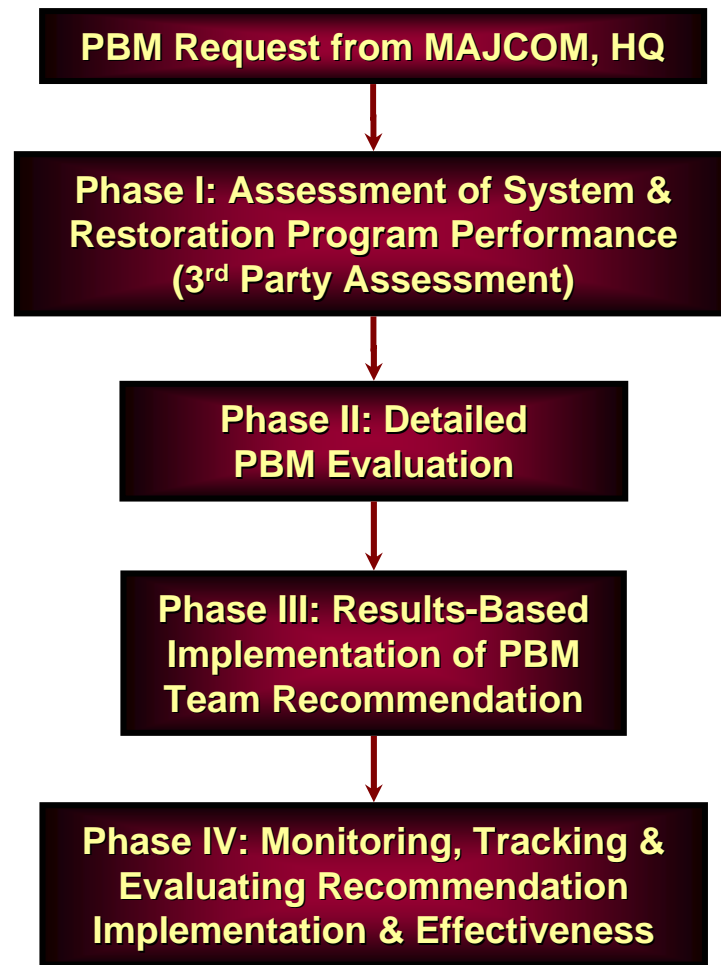
➤ **PBM is not:**

A checklist of process steps to be followed.



U.S. AIR FORCE

PBM Implementation Flowchart



Integrity - Service - Excellence



U.S. AIR FORCE

Components of PBM

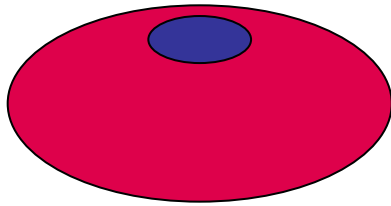


ARAR Applicable or relevant & appropriate requirements
CSM Conceptual Site Model

Integrity - Service - Excellence

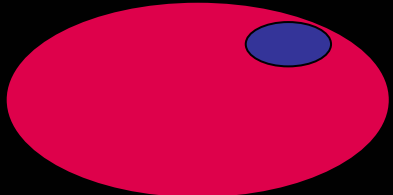


U.S. AIR FORCE

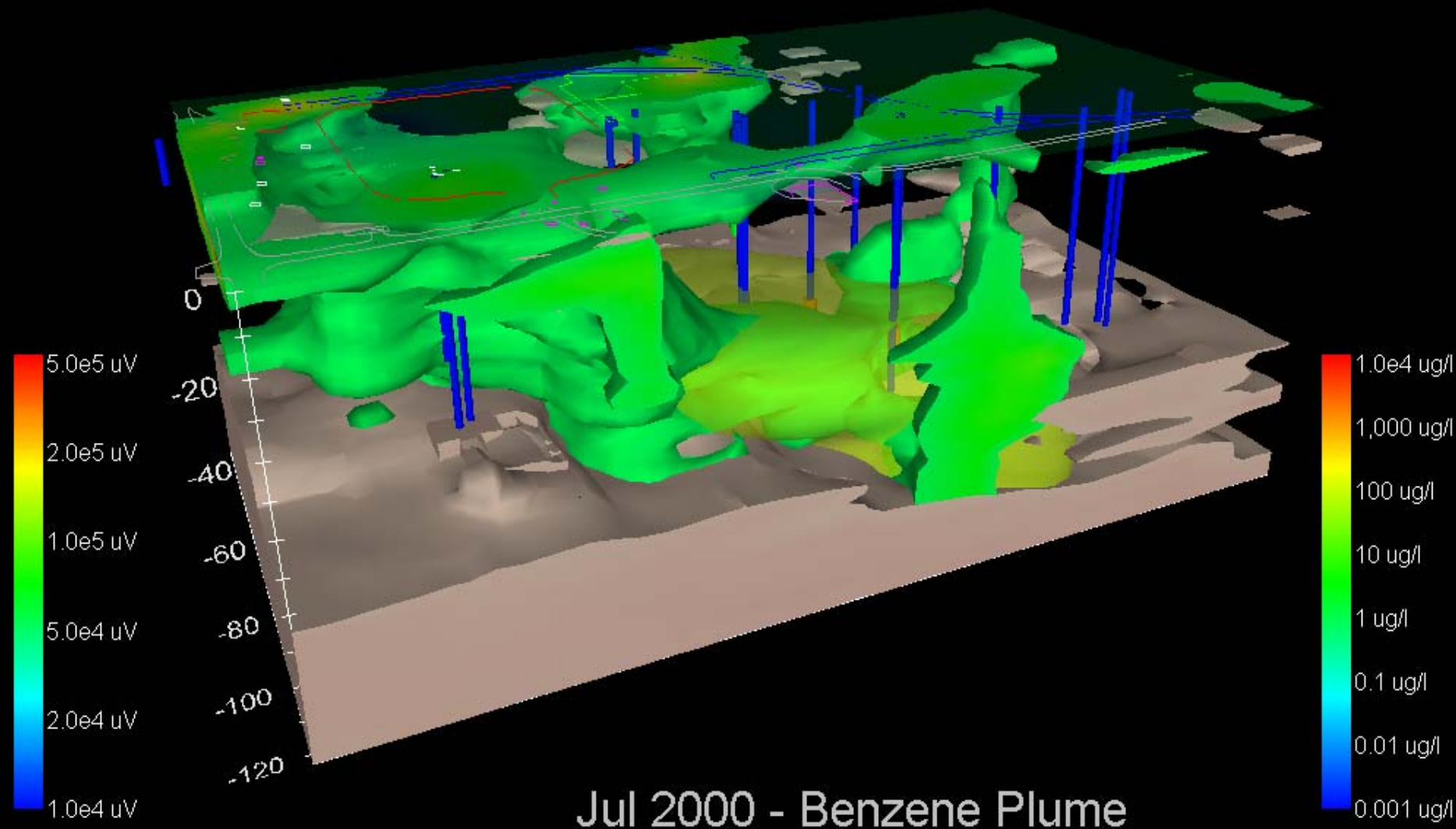


Define Land Use, Problem, & Objective

- **Identify starting point**
 - ✓ **Past use**
 - ✓ **Current use**
 - ✓ **Future use**
- **Recognize site conditions and how relate to potential threats to human health and the environment**
- **Define cleanup objectives based on agreed future land use**

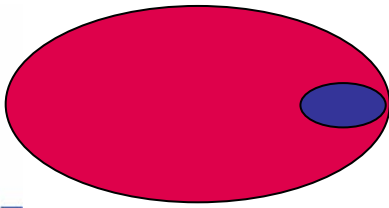


Site Characterization & Conceptual Site Model





U.S. AIR FORCE

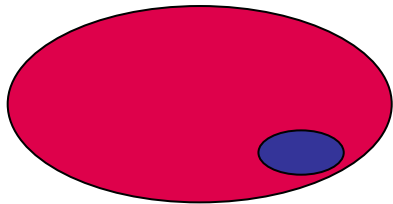


Risk Strategy Based on Future Land Use

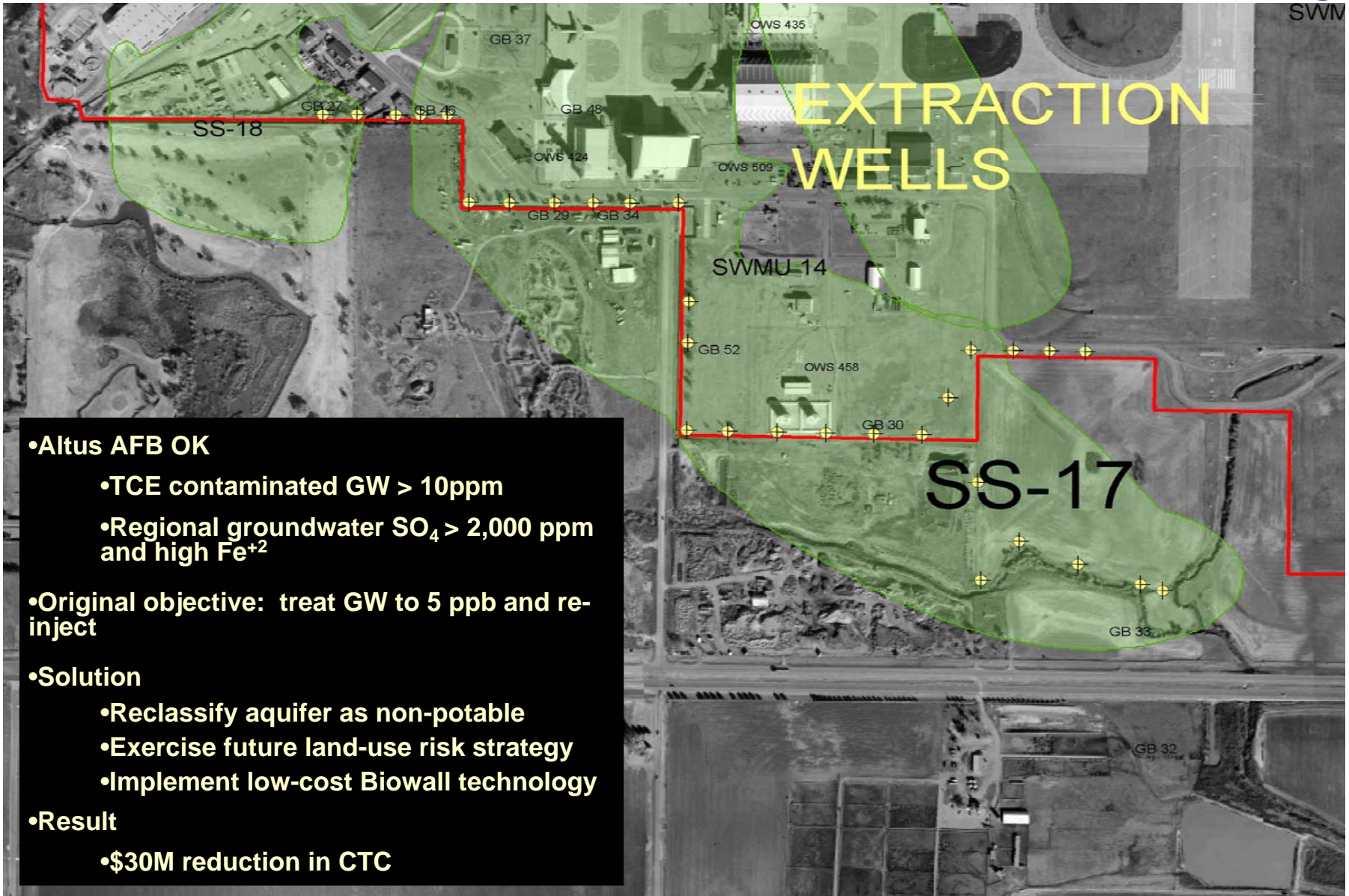
**AF Policy has been issued on Performance-Based
RODs for LUC Implementation**

**“... Commanders must have the flexibility to use land
and natural resources to meet the mission
consistent with protecting human health and the
environment.”**

**- Nelson F. Gibbs
SAF/IE**



Select Appropriate ARARs



•Altus AFB OK

•TCE contaminated GW > 10ppm

•Regional groundwater $SO_4 > 2,000$ ppm and high Fe^{+2}

•Original objective: treat GW to 5 ppb and re-inject

•Solution

•Reclassify aquifer as non-potable

•Exercise future land-use risk strategy

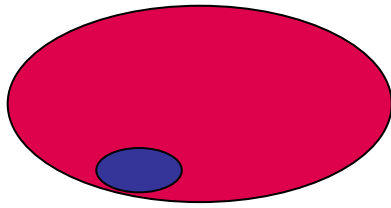
•Implement low-cost Biowall technology

•Result

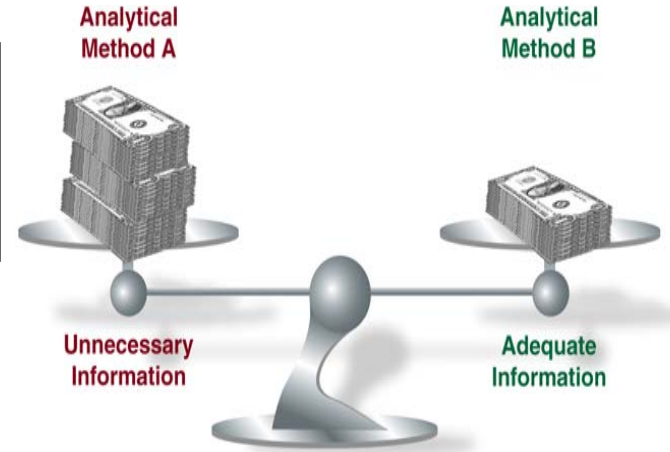
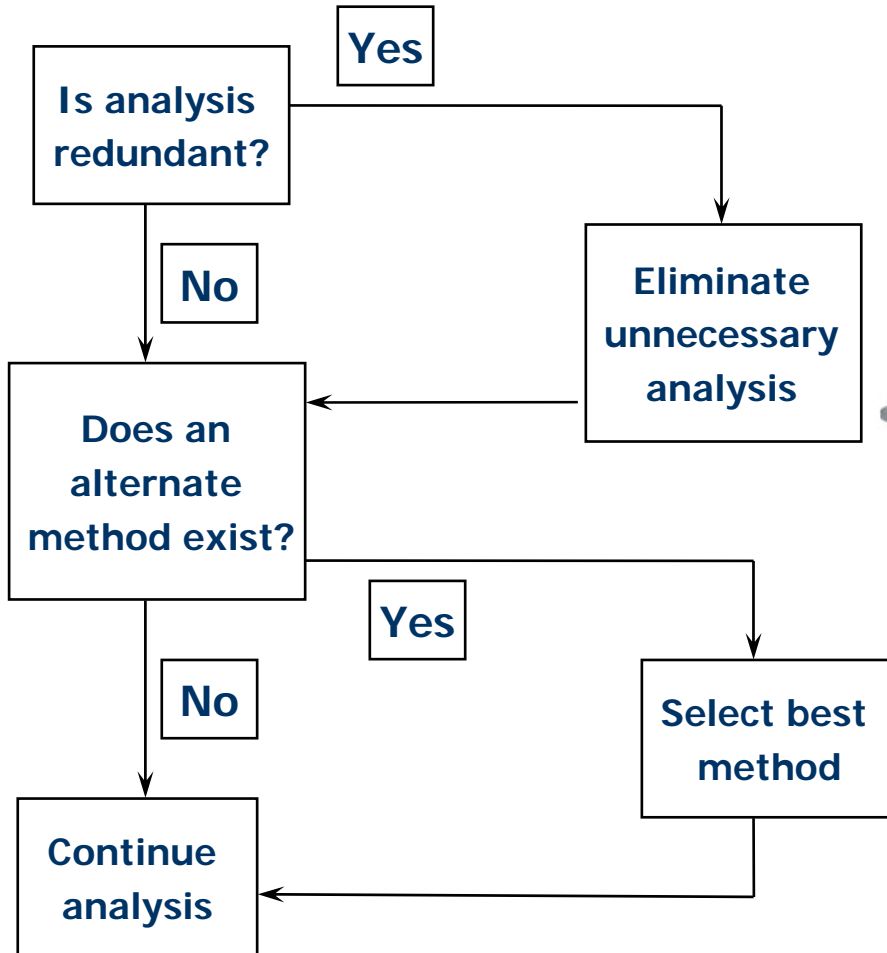
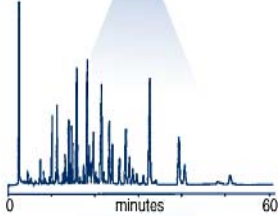
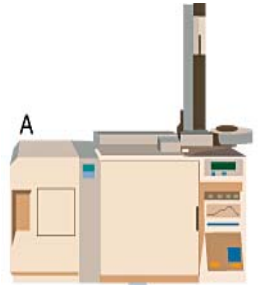
•\$30M reduction in CTC



U.S. AIR FORCE

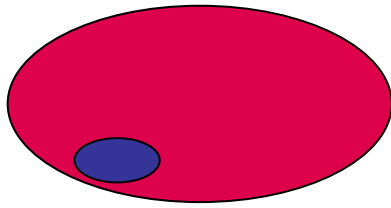


Document Decision Logic





U.S. AIR FORCE

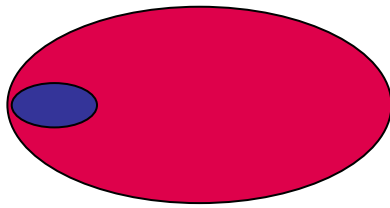


Develop the Exit Strategy

- **Exit strategy – dynamic plan that addresses approved restoration program goal(s)**
 - ✓ **Achievable in reasonable time-frame**
 - ✓ **Based on future land-use and living conceptual site model**
 - ✓ **Must address:**
 - 1. How performance of restoration project(s) will be measured**
 - 2. How decision logic will be used to select operational changes**
 - 3. How attainment of cleanup goals will be demonstrated**
 - 4. When system(s) operation and LTM will be terminated**
 - 5. When site closeout, delisting or de-permitting will be initiated**



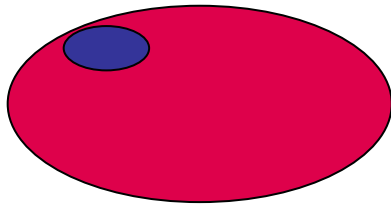
U.S. AIR FORCE



Utilize Performance-based Contracts (PBC)

- PBC – philosophy whereby contracted work is performed with minimal focus on government process and maximum focus on results
 - ✓ Describes objective and performance measures – not process
 - ✓ Used with variety of contract types (e.g., FFP, CPIF)

- PBC – component of performance-based management
 - ✓ Renewed focus on sound management principles and performance metrics
 - ✓ Comprehensive up-front planning, risk management, and performance baselining



Process Optimization

U.S. AIR FORCE

- Evaluate accuracy of CSM, appropriateness of clean-up goals, and established DQOs
- Assess potential for remedial design and/or remedial action to meet clean-up goals
- Establish decision rules, and decision trees to update clean-up goals, technology selection, performance evaluation, etc.
- Optimize Remedial Action Operations (RA-O) and performance monitoring or Long Term monitoring (LTM)
- Verify field and analytical procedures meet DQOs
- Streamline and standardize data management
- Create cleanup-team incentives that promote accelerated closure without compromising risk protectiveness
- Assess environmental impact and risk of the remedial action



U.S. AIR FORCE


How is PBM Different?


- PBM – a continuous process: Project status is evaluated throughout program life-cycle
 - Shifts focus to **results attained** rather than **steps completed**
 - Uses streamlined characterization techniques
 - Promotes establishing a realistic exit strategy
 - Implements process optimization
 - Promotes use of innovative contracting





PBM has Been Successful


U.S. AIR FORCE


- **Arctic Surplus Salvage Yard, AK**
 - Time to complete reduced from 4 yrs to 1 yr
 - Land use controls**Savings of \$30.5M on Restoration**

 - **Galena AB, AK**
 - Risk management based on future land use**Strategy developed & implemented in one site visit**

 - **King Salmon AB, AK**
 - Optimized SVE systems through RPO**Saved \$1.3M**

 - **Eielson AFB, AK**
 - Closed 3 sites with Triad-type approach**Saved \$1.8M**

 - **Pease AFB, NH**
 - Optimized sampling program**Potential Annual Savings of \$85K**

 - **Loring AFB, ME**
 - Optimized sampling program**Potential Annual Savings of \$300K**
-

Integrity - Service - Excellence



U.S. AIR FORCE

Challenges for PBM Implementation

➤ PBM implementation represents a change in the way business is done and requires:

- HQ/MAJCOM support
- Installation support
- Coordination with Regulators
 - Strong base-level relationships critical
- Service Center/Contracting Support



PBM requires up-front time commitment and active participation from all team members



U.S. AIR FORCE

The Challenge

- PBM implementation represents a change in the way business is done ...

... but the results can be worth the effort!



U.S. AIR FORCE

Questions?

AFCEE PBM Points of Contact

Dr. Javier Santillan

210-536-4366

javier.santillan@brooks.af.mil

Joann Socash (BAH)

210-536-5241

joann.socash@brooks.af.mil



U.S. AIR FORCE

PBM and Triad

- **PBM's broader concepts and Triad are complimentary**
 - **PBM – program management**
 - **Triad – project management/site characterization**

