

Ogden Air Logistics Center

Benefits from the 2003 CERCLA Five-Year Review Process for Site Management and Optimization at Hill Air Force Base

17 June 2004

*Conference on Accelerating Site Closeout
and Reducing Costs through Optimization*



U.S. AIR FORCE

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Outline



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- **FYR for Hill AFB – EMR Goal(s) and Process**
- **Approach to create Site Management tool**
- **Examples: Benefits for Site Management and Site Optimization**



Acknowledgements



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- Julie Vigil
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■ Hill AFB EMR Staff

- Operable Unit PMs (5)
- Basewide Sampling PM
- Public Involvement Coordinators
- Innovative Technology Assessment PM



Hill AFB FYR – Goal(s)

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■ Per 2001 Guidance⁽¹⁾

“...evaluate the implementation and performance of a remedy in order to determine if the remedy is or will be protective of human health and the environment.”

★ Periodic

★ Independent

★ Comprehensive

■ Hill AFB EMR

- Evaluate protectiveness AND
- Provide a tool for site management

(1) EPA 540-R-01-007, June 2001



Hill AFB EMR Site Management



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The GOAL for each Operable Unit is to:

- Meet RAOs (long-term)
- **Avoid unacceptable exposures/risk (manageable-term)**



Hill AFB EMR Direction



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- FYR Report will be a TOOL for communicating with the public
- FYR recommendations should be “pragmatic”
- FYR Report will be a TOOL for each PM to use for Site Management decisions
 - Address specific recommendations for 2008 AND
 - Address general and basewide recommendations to improve process for operating and evaluating remediation systems



Hill AFB FYR – Process



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- 42 Installation Restoration Program sites in 12 OUs
- Objective Technical Assessment based on:
 - Public Involvement
 - Document Review
 - Interviews
 - Inspections
- Results: Issues  Recommendations to Improve Protectiveness

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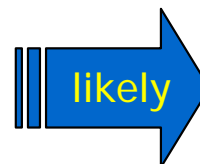


Hill AFB FYR – Report



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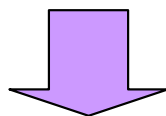
Issues! ↓ Protectiveness



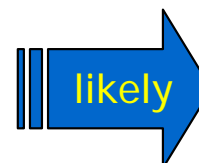
Performance



Cost



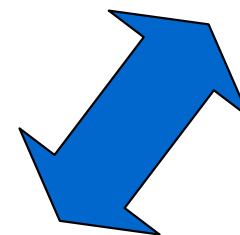
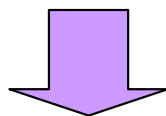
Recommendations ↑ Protectiveness



Performance



Cost



Site Management Strategies



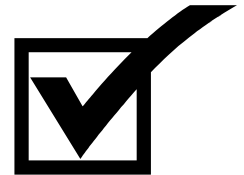
Hill AFB EMR Approach



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Comprehensive: ALL IRP sites reviewed = Baseline

- Document/ confirm sites with NFRAP status



- Starting point for following FYRs



- Identify Basewide Issues





Reduce Treatment Times – Basewide



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Issue

Information gathered under O&M and LTM contracts not always considered collectively or available for timely evaluation

Recommendations

1. Greater integration of data sets
2. Frequent, less rigorous reviews of operations and LTM data sets
3. Confirm separate contracts are comprehensive when combined

Benefits: Increase treatment efficiency, Reduce time to identify O&M problems, Reduce time to closure



Demonstrate Remedial Progress at Appropriate Cost – Basewide



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Issue

Some performance verification plans have inadequate parameters and metrics to evaluate system performance and protectiveness

Recommendations

Review each plan and update to ensure:

1. Appropriate metrics selected
2. Appropriate parameters measured
3. Appropriate locations sampled

Benefits: Recognize progress and Reduce monitoring costs



Reduce Time to Closure – OU 1



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Issue

LNAPL may be present down- and side-gradient of the extraction/ containment system (2002 finding)⁽²⁾

Recommendation

Reevaluate appropriateness of MNA remedy based on current data

⁽²⁾ Intera, Sep 2002

Benefit: Focus remedy to Reduce life-cycle costs



Reduce Mass Removal Cost – OU 2



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Issue

Improved Source Zone
characterization –
Extractable DNAPL in
some areas

Recommendations

1. Continue use of portable pumps to remove free-phase DNAPL
2. Consider benefit of second portable system

Benefit: Reduce life-cycle costs and \$\$/ lb of
contamination removed



Reduce Maintenance Costs – OU 3



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Issue

Cap not marked adequately



Roll-off bins parked on cap



Cap Damage

Recommendation

Add signs and markings to define cap extent and use

Benefits: Increase remedy effectiveness and Reduce maintenance cost



Improve Remedy Effectiveness – OU 4

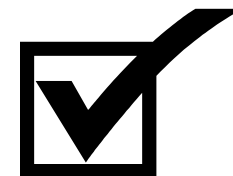
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Issues

1. Inadequate evaluation of existing information for long-term plume management
2. Erosion of soil cover over drains

Recommendations

1. Review available information and develop a plume management plan
2. Protect drain lines from damage with soil



Benefit: Reduce time to closure and maintenance costs



Reduce Costs – OU 5

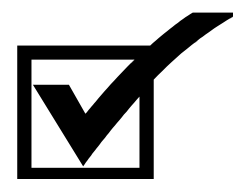
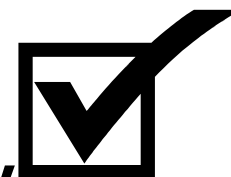
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Issues

1. Aeration curtain allowing [TCE]>5 $\mu\text{g/L}$ to pass: blower failures and clogged sparge lines
2. Phase II extraction system not containing 100 $\mu\text{g/L}$ plume contour

Recommendations

1. Consider replacing blowers with compressors and develop preventative maintenance strategy for sparge piping
2. Shutdown Phase II system



Benefits: Increase efficiency and Reduce costs of operation and maintenance



Improve Performance – OU 6



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Issues

1. Concentrations in off-Base pond have been below MCL for several **years**
2. Drawdown in two extraction wells has not reached design levels: undersized extraction pump?

Recommendations

1. Reduce sampling frequency in surface water
2. Determine if adequate drawdown and replace pump if necessary

Benefit: Reduce costs for monitoring and Improve remedy performance



Reduce Costs – OU 8



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Issue

Some extraction locations have had concentrations consistently less than MCLs for several years and are sampled **quarterly**

Recommendations

1. Determine appropriate sampling frequency to estimate mass removal and reduce sampling frequency accordingly
2. Consider taking some extraction wells offline
3. Consider discharge to storm drain

Benefit: Reduce costs of monitoring and operation



Summary



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- **Conduct CERCLA Five-Year Reviews per EPA Guidance**
- **Approach review in order to gain benefit beyond evaluating protectiveness**
- **Envision FYR Report as a Site Management tool**
- **Take advantage of the comprehensive, independent, periodic FYR process to identify Site Management and Optimization improvements**

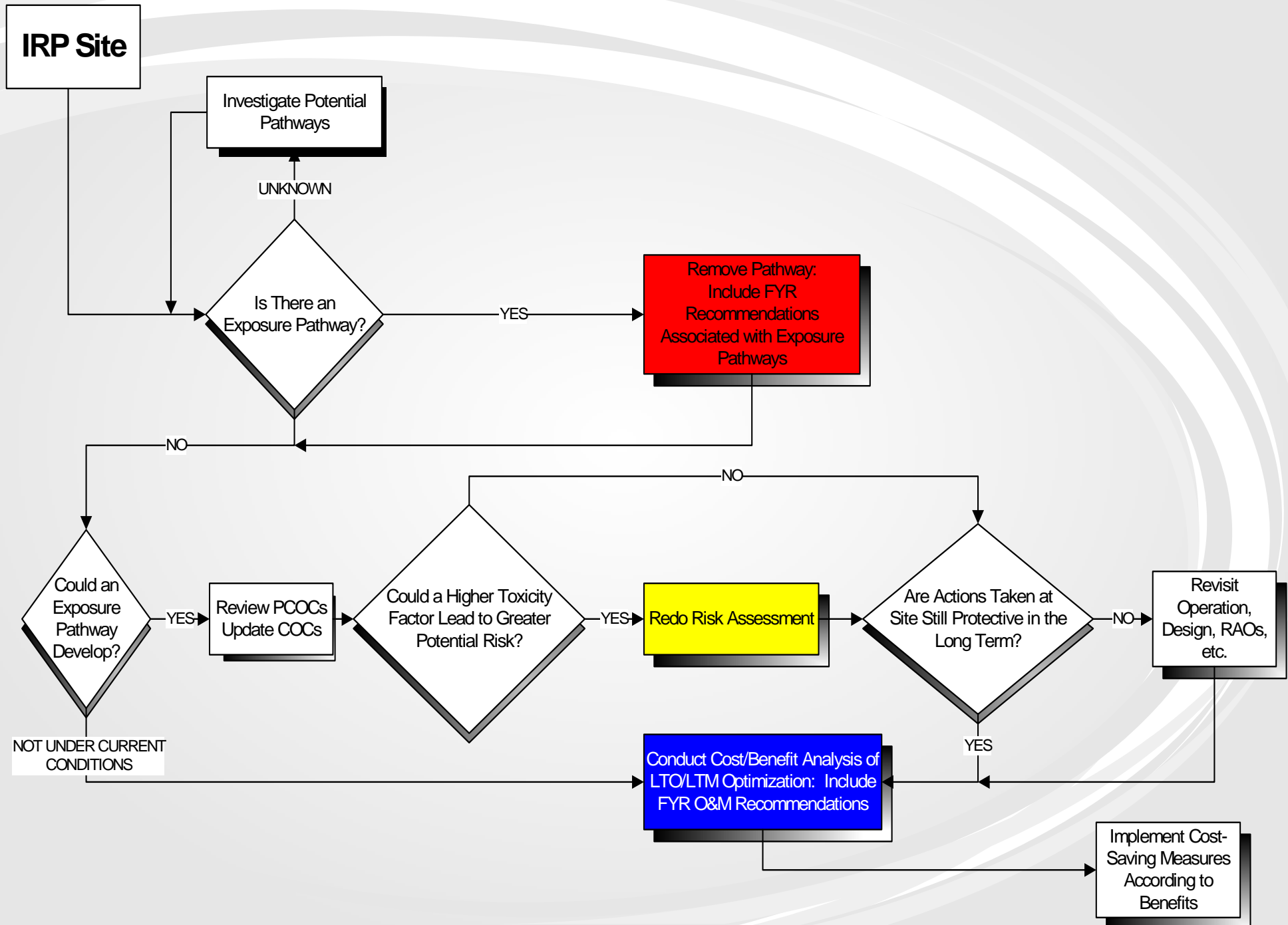


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QUESTIONS?

BE AMERICA'S BEST

Site Management Tool for Prioritization of Further Actions





Hill AFB EMR Approach



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Independent:

■ URS

- Developed the FYR approach
- Staffed the team
- Conducted the review
- Identified the data gaps

■ Hill AFB EMR

- Supported data requests
- Provided interviews as requested
- Provided “institutional knowledge” not available through document review



Hill AFB EMR Approach



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Periodic:

URS developed database that sets stage for the 2008 FYR

Pragmatic:

Recommendations should be USABLE and constraints (missing data) clearly defined

Programmatic:

Look basewide where appropriate

Prioritized:

Impact to Protectiveness: Current or Future