

Headquarters U.S. Air Force

Integrity - Service - Excellence

Keynote: Environmental Policy

AFCEE Technology Transfer Workshop



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HQ USAF/ILEV

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Overview

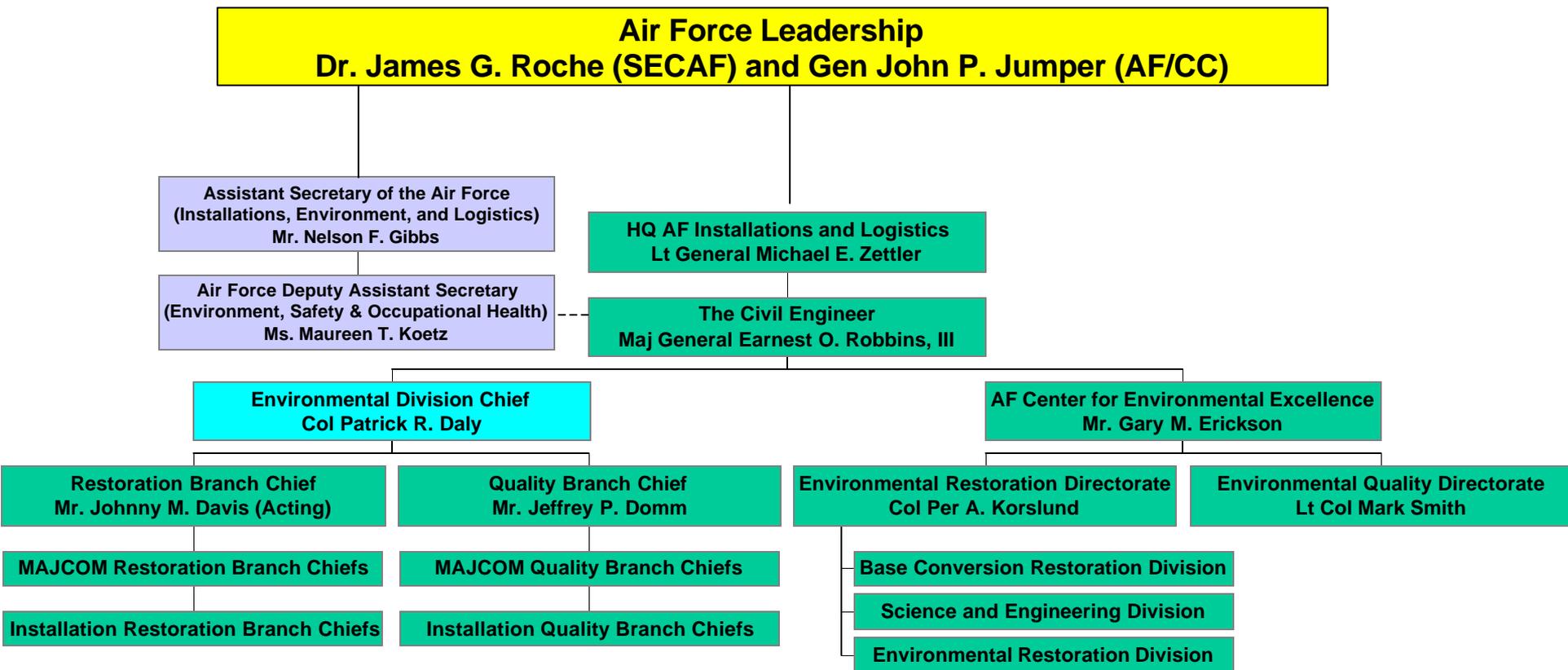
- Organization
- Environmental Overview
- Restoration Program
- What's on the Horizon
- Challenges
- Technology Initiatives



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Organization





Environmental Overview

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Restoration Program

- Centrally Managed by Air Staff
- Separate Appropriation



Quality Program

- Decentralized to Major Commands
- Mostly O&M Funded

- *Protect Human Health and the Environment*
 - *Partner with stakeholders*
 - *Ensure operational readiness*



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Restoration Program

- Cleanup pre-1984 contamination caused by past Air Force practices
- Contaminated Site Cleanup in CONUS and US Territories Using Environmental Restoration Funds
- Closed Range Restoration



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Restoration Program

- **Goals:**
 - **Protect human health and environment**
 - **Have final remedies-in-place by end of FY14**
 - **Comply with legal agreements**

- **Methodology:**
 - **Clean up “worst first”**
 - **Involve stakeholders and community**

- **Key to Success:**
 - **Partner with stakeholders**
 - **Use new business practices**



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Restoration Program

Goals: Have sites cleaned up to lower relative risk category or have remedial systems in place for...

50% of “high” relative risk sites by end of FY2002

100% of “high” relative risk sites by end of FY2007

100% of “medium” relative risk sites by end of FY2011

100% of “low” relative risk sites by end of FY2014

Goal Year Projection	Current Status*	# Sites Remaining
71%	71%	434
98%	71%	36
99%	43%	6
99%	31%	1

100% = 1494 High Sites

716 Medium Sites

822 Low Sites

*UXO sites excluded from counts.

Current Status based on total sites in program.

As of: 30 Sep 02



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Restoration Program

What's on the Horizon

- **New Cleanup Standards Proposed**
 - **Ammonium Perchlorate:**
 - **All Services and OSD upper management involved in policy and standard development**
 - **National Academy of Sciences will be directed to conduct a review of the science used for establishing the 1999 interim guidance (equivalent to cleanup standards at 4-18 parts per billion (ppb))**
 - **AF is site characterization and cleanup technology lead**
 - **Trichloroethylene:**
 - **Environmental Protection Agency proposed lowering standard from 5 parts per billion (ppb) to 1 ppb**
 - **May lead to significant increase in cleanup costs**
 - **AF is DoD lead agent for reviewing the health risk assessment**



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Restoration Program

What's on the Horizon

- **Munitions Response Program (MR)**
 - **Site Prioritization Protocol**
 - **Proposed Rule and Preamble in Federal register**
 - **Reconcile MR site names with States, Tribal Nations, EPA, DOI, DOE, and DOA**
 - **New MR section to the RPM Handbook**
 - **UXO and chemical constituents standards needed**





- **Incorporate new business practices into cleanup process**
 - **Performance Based Cleanup**
 - **Performance Based Contracting**
 - **Guaranteed Fixed Price Remediation**
 - **Decrease time to site closure**
 - **Time to Record of Decision**
 - **National Priority List de-listing**
- **Reduce the Cost-to-Complete**
- **Chief Financial Officer reporting**
- **Munitions Response program integration with ERP**



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Technology Initiatives

- **Air Force Center for Environmental Excellence as the AF technology leader**
 - **Mission: Reduce risk, cost, and liability of AF and AF Real Property Agency (formerly AF Base Conversion Agency) contaminated land**
 - **Roles and Responsibilities:**
 - **Provide in-house technical expertise**
 - **Conduct innovative technology field demonstrations**
 - **Publish results and technical protocols**
 - **Influence regulatory technical and policy environment**





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Technology Initiatives

Examples of Cost Avoidance

<u>Technology (#Sites)</u>	<u>Savings</u>	<u>ROI</u>
■ Bioventing (138)	\$24.0M	3:1
■ Natural Attenuation (45)	\$525.0M	45:1
■ Internal Combustion Engine Soil Vapor Extraction (6)	\$3.5M	2:1
■ Bioslurper (33)	\$15.5M	6:1
■ Risk-Based Site Closure (22)	\$10.1M	5:1
■ Diffusion Sampler (18)	\$2.4M	8:1
■ Remedial Process Optimization (18)	\$39.0M	7:1
■ Phytotechnologies (8)	\$7.0M	6:1

Total Savings (eight initiatives) = \$626M AVG ROI = 12:1

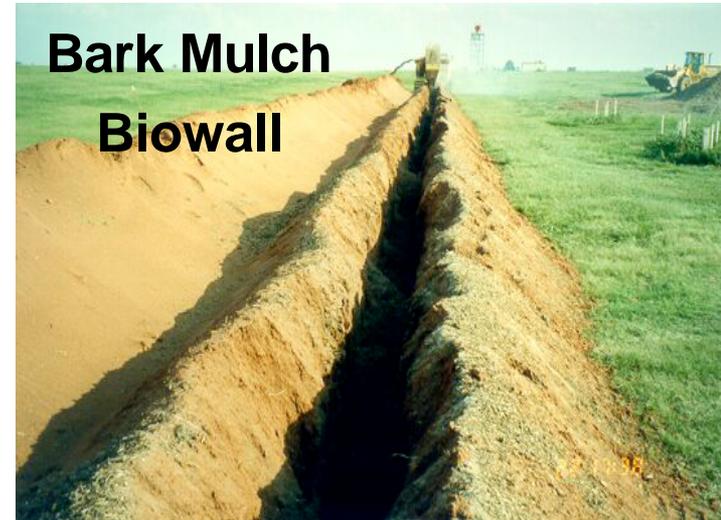


New Technology Initiatives

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- **Enhanced Bioremediation**
 - Using low-cost carbon sources (molasses, vegetable oil, hydrogen gas, bark mulch)
 - Joint Principles and Practices Manual

- **Munitions Response**
 - Multi-sensor Towed Array Detection System (MTADS)
 - Fire Ecology for Range Management (FERM)
 - UXO/Range Biosensors





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Thanks!!

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