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Contingency Environmental: OIF/OEF

**Colonel Cawthorne
25 Feb 09**

UNCLASSIFIED



Overview

- **Background**
- **Environmental Conditions – Iraq / Afghanistan**
- **Iraq / Afghanistan Environmental Comparisons**
- **Top Environmental Issues**



Ranger Dan – USAR





Background

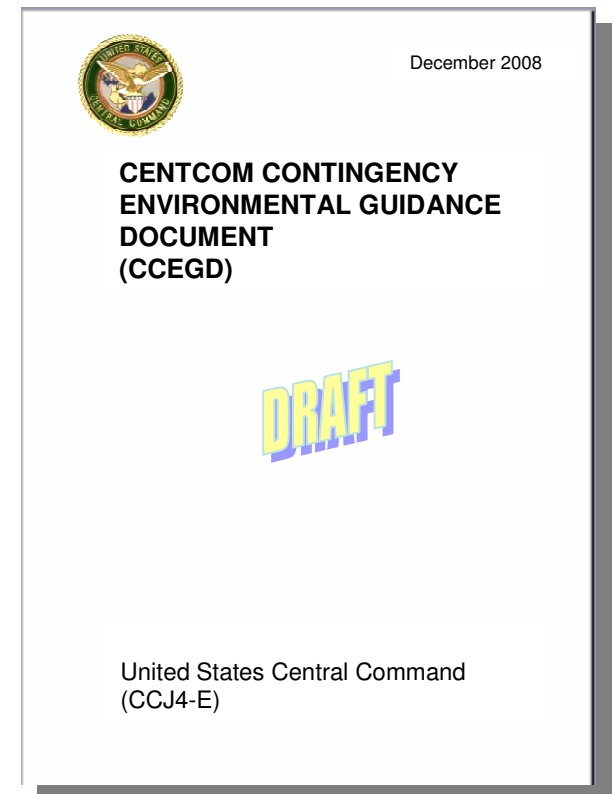
2007 - Top Environmental Issues (Iraq)

- Lack of Overarching Environmental Policy for Theater
- Lack of Personnel
- Funding Priorities (Current Ops vs. Future Liability)
- HazWaste Destruction (Coalition Forces & Insurgent)
- Chemical Response Capability
- Base Closure/Transfer (Assessments)
- Inadequate Environmental Training
- Incinerator Challenges



Background

- **Environmental Policy:**
 - Overseas Environmental Baseline Guidance Document (OEBGD) does not apply to contingency ops
- **CENTCOM producing “Contingency” Environmental Guidance Document (CCEGD):**
 - Will promulgate into Contingency AOR (Iraq and Afghanistan) Policy by Mar 09





Background

- **Staffing:**
 - Iraq: Late 2006, OIF environ staff was Army of One
 - Afghanistan: One
- **Current Situation:**
 - Iraq: Has 14 trained environmental professionals (mostly contractors)
 - Afghanistan: Approved increase to 12

OIF	√		
OEF			√



Iraq Environmental Conditions



Solid waste: the way it used to look





Iraq Environmental Conditions



Solid waste: the way it used to look



Iraq Environmental Conditions



Solid waste: Incinerators now exist in Iraq



Afghanistan Environmental Conditions



Solid waste: Few incinerators exist in Afghanistan



Afghanistan Environmental Conditions



Solid waste: more sorting and recycling done in Afghanistan



Solid Waste Disposal

- **Background: Waste generation based on 9lbs/person/yr**
 - **Iraq: waste = +469,000 tons/yr**
 - 41 solid waste incinerators purchased in 2006
 - **Afghanistan: waste = +114,000 tons/yr**
 - Rely mostly on burn pits, some burn boxes
- **Current Situation:**
 - **Iraq: 17 incinerators operating, 19 under construction**
 - 5 additional incinerators funded (in storage)
 - 8 landfills funded, contracts awarded (\$25.8M)
 - **Afghanistan: 1 incinerator under construction**
 - 1 incinerator in-bound
- **Way Ahead:**
 - **Iraq: Possible additional requirements**
 - Based on future closings (not funded)
 - Working funding strategy for remaining needed incinerators
 - **Afghanistan: Designs underway at 3 locations (USACE)**
 - In coming personnel to assess/design systems for all sites



OIF		√	
OEF			√



Iraq Environmental Conditions



2006/07/31

Hazardous waste: the way it used to look



Iraq Environmental Conditions

Hazardous waste: the way it used to look



Speicher

improper
Haz waste
disposal





Iraq Environmental Conditions



Hazardous waste: Contract now in place for local disposal



Afghanistan Environmental Conditions



Hazardous Waste: for the most part, well managed in Afghanistan



Hazardous Waste Disposal

- **Background:**
 - Iraq: Unable to transport through neighboring countries - not member of Basel Convention
 - Afghanistan: Member of Basel Convention (dispose of waste in Germany)
- **Current Situation:**
 - Iraq: HW = +30 million pounds (60,000 drums)
 - \$54M contract awarded for in-country disposal
 - Afghanistan: DRMO managed contracts to move waste twice/year through Pakistan
- **Way Ahead:**
 - Iraq: Contractor on site:
 - HW destruction to occur at Speicher & Al Asad
 - Afghanistan: Next waste shipment by Mar 09



OIF	✓	✓	
OEF	✓		



Medical Waste (MW) Disposal

- **Current Situation:**
 - **Iraq:**
 - 24 MW incinerators operating
 - 8 under construction
 - **Afghanistan:**
 - 7 MW incinerators operating
 - 1 under construction
- **Way Ahead:**
 - **Iraq:**
 - 2 MW incinerators in planning stage
 - No additional requirements expected
 - **Afghanistan:** Additional assessments needed to determine future requirements



OIF	✓		
OEF		✓	



Afghanistan Environmental Conditions



Wastewater: contracted for local disposal in Afghanistan



Waste Water Treatment

- **Current Situation:**
 - Iraq: Rely mostly on lagoons; some treatment plants
 - Afghanistan: Most sites have inadequate treatment systems
 - UXO limit usable land
 - Use local companies to truck sewage off site – fate of material unknown
- **Way Ahead:**
 - Iraq: Continue to use current system
 - Initiate wastewater (gray water) recycling program
 - Afghanistan: working to change “Pump ‘n Dump Contracts”
 - Unacceptable design
 - In-coming personnel to assess/design systems for all sites



OIF	√		
OEF			√



Iraq Environmental Conditions



Insurgent Chemicals: 1st Responder teams in place in Iraq



1st Responder Capability

- **Background:**
 - **Iraq:** During surge – increased amounts of insurgent chemicals
 - Used for making home-made explosives (Nitric Acid)
 - U.S. personnel not equipped/trained to respond
 - Periodic spills associated with base camp operations
 - **Afghanistan:** Periodic spills associated with base camps
- **Current Situation:**
 - **Iraq:** Has contracted 1st Responder Team (VBC)
 - PPE equipped/trained for all known chemicals
 - **Afghanistan:** Rely on base camps to manage
- **Way Ahead:**
 - **Iraq:** Additional response teams planned
 - Speicher, Al Asad, Taji, Adder, Balad
 - Contract to be awarded late DEC 08 (\$33M)
 - **Afghanistan:** Incoming personnel to assess/determine needs



OIF	Green	Yellow ✓	Red
OEF	Green	Yellow	Red ✓



Iraq Environmental Conditions



Environmental Training: done numerous times per year in Iraq



Environmental Training

- **Background:**

- Iraq and Afghanistan: Units/individuals deploying without any environmental awareness training
- Training shortfalls compound environmental issues

- **Current Situation:**

- Iraq: Developed in-country training program
 - Have trained +800 since MAR 07
 - New training on 6-month intervals
- Afghanistan: No training program

- **Way ahead:**

- Iraq: Continue current program
- Afghanistan: Adapt MNF-I training program
 - Dependent on people
- USAES: To expand environmental training



OIF	Green	Yellow ✓	Red
OEF	Green	Yellow	Red ✓



Iraq Environmental Conditions



Gabe

quality of
ESCS
Reports



Iraq Environmental Conditions

Hazardous waste pit

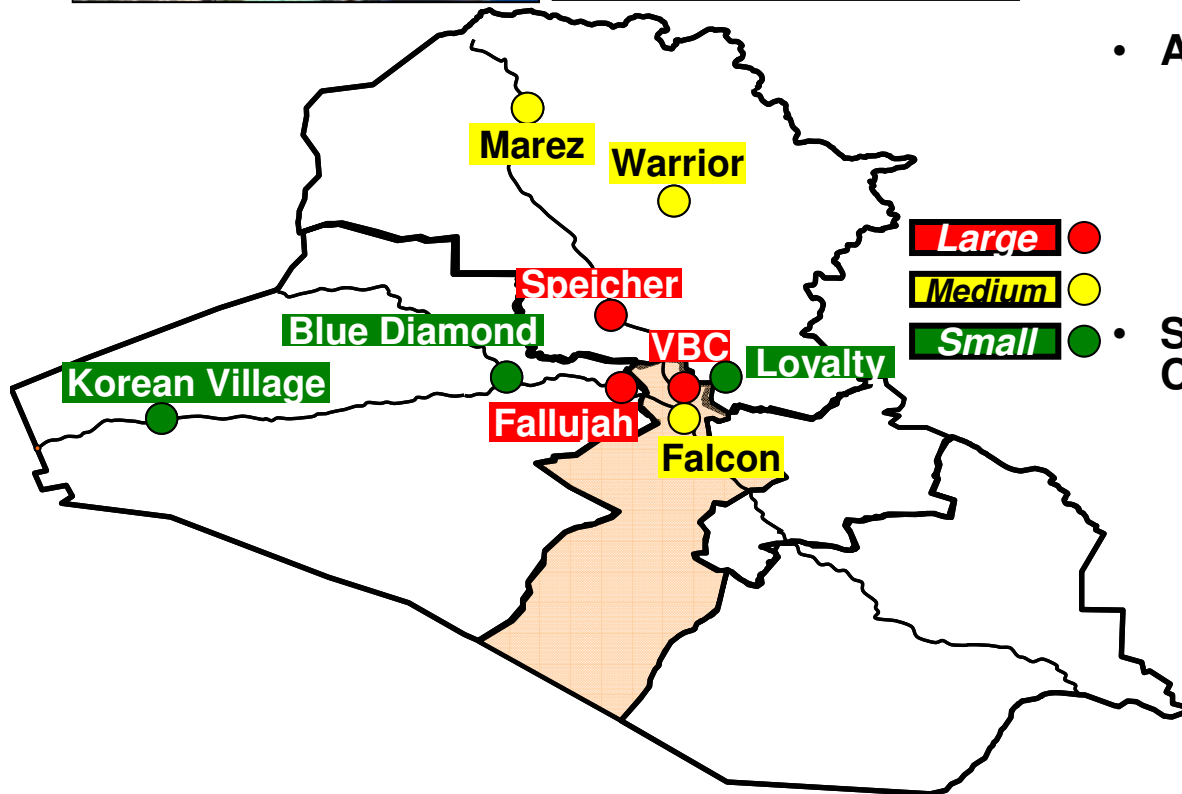


Burn pile



Environmental Surveys

- Purpose: Determine environmental costs for remediation of current / past operations in Iraq
- Assessed 9 representative bases to:
 - Collect data on current status and results of waste disposal
 - Develop remediation estimates to support base closures
- Survey team: CH2MHILL (AFCEE Contract) / MNF-I / MNC-I personnel





Iraq Environmental Conditions



IZ



Iraq Environmental Conditions



Baranah

spills
&
releases



Solid Waste Cleanup - Iraq

Complexity	Number of Bases	Range of Costs (\$ - Millions)	Average \$ / FOB (\$ - Millions)	Weeks to Complete
High	9	\$231 - \$339	\$23 - \$37	57 - 65
Med	17	\$130 - \$292	\$8 - \$17	11 - 32
Low	39	\$56 - \$117	\$1 - \$3	6 - 10
Total	65	\$401 - \$750		6 - 65

Three Scenarios:

- 1) Driven by 100 day schedule – do what you can (low/med bases)
- 2) Sort, segregate, landfill, incinerate, remediate, transport haz waste
- 3) Same as #2, but to higher (US) standards (i.e. landfill liners)

* cost does not include hazardous waste disposal (only transportation)



Iraq / Afghanistan Comparisons

Item	Iraq	Afghanistan	Notes
Total US Personnel*	143,000	35,000	As of Sep 08
Number of Bases	61	~40	As of Sep 08
ENV Personnel	14 (16)	1 (12)	On hand (planned)
Member - Basel	No	Yes	International Hazardous Waste Treaty
Tons/Yr – HW (In country)	15,305	1,015	As of Nov 08
Solid Waste Recycling	No / Yes	Yes / No	Larger Afghan sites recycle Little recycling done in Iraq
AVG Tons/Yr – SW**	469,000	114,000	Based on 9 / lbs / day / person
Incinerators – HW	5 (0-2-0-3)	0 (0-0-0-0)	Operating - constructed - on hand - planned
Incinerators – SW	56 (17-19-5-15)	3 (1-0-1-1)	Operating - constructed - on hand - planned
Incinerators – MW	33 (25-1-0-7)	8 (7-1-0-0)	Operating - constructed - on hand - planned

BLUF: The issues are different, therefore the solutions will be different

* = Military (doesn't include contractors)

** = Military and Contractors (X2)

SW = Solid Waste
HW = Hazardous Waste
MW = Medical Waste



Iraq / Afghanistan Comparisons



Morales-Frasier, Afghanistan

BLUF: Overall environmental program more developed in Iraq, but process easier in Afghanistan

Env Program

Adder , Iraq





Iraq / Afghanistan Comparisons

Haz Waste

VBC, Iraq



BAF, Afghanistan



BLUF: Hazardous Waste is bigger issue in Iraq (due to Basel)



Top Environmental Issues

- **Contingency Operations Environmental Policy**
- **Funding Priorities (Current Ops -vs- Future Liability)**
- **Base Closure/Transfer (Shrink & Share concept)**
 - **Environmental Assessments / Remediation**
- **Hazardous Waste Destruction**
- **Incinerator Challenges (Medical / Solid / HazWaste)**
- **Environmental Staffing**
- **Environmental Training**



FOUO



QUESTIONS