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# Leveraging EMS to Reduce Solid Waste and Increase Recycling Initiatives

## United States Army Fort Leavenworth

JSEM Presentation 8349

8 May 2008



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# Overview

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# Fort Leavenworth Background

1. Founded in 1827
  - Oldest continuously active Army installation west of Mississippi River
2. Northeastern Kansas
  - 5,634 acres on west bank of Missouri River
3. Personnel on post
  - 5,300 military
  - 5,000 dependents
  - 3,000 working civilians
  - 700 inmates – U.S. Disciplinary Barracks (USDB)
4. 1,000 buildings
  - 200+ listed on National Registry of Historic Buildings



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# Fort Leavenworth Missions

## 1. Combined Arms Center (CAC)

### Missions:

- Education (CGSC, CES, Red Team University, etc)
- Administrative (CAC-K, CADD, CAC-T, etc)
- Battle command leadership development (BCTP/BCTC)

## 2. US Disciplinary Barracks

### Missions:

- Maximum Security inmates
- Vocational training/industries
- 2010 – adds Joint Regional Correctional Facility



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# Fort Leavenworth Missions

## 3. Installation Tenants

### Missions:

- Medical (Munson Army Health Clinic, DENTAC, VSC)
- TRADOC (Threats, TRAC, etc)
- VA (National Cemetery)

## 4. Installation Support and Partners

### Missions:

- Standard Garrison Organization
- AAFES, DeCA, Michaels Military Housing (RCI), etc
- CPAC, DAPS, Trial Defense, Finance, Contracting, etc



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# Fort Leavenworth EMS Overview

## 1. Environmental Management System (EMS)

- Standardized, systematic framework for managing environmental issues at Fort Leavenworth
- Plan - Do - Check - Act management system model
- Formal, documented business processes
- Evaluating environmental impact and risk
- Compliance with regulatory and Army requirements
- Setting objectives for improved environmental performance
- Overall MANAGEMENT TOOL to improve mission performance, compliance and sustainability

## 2. Began EMS implementation 2006



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# Fort Leavenworth EMS Overview

## 3. Implemented EMSolution® by Solution Foundry

- Web-based, flexible, customizable
- Electronically documents and communicates EMS to entire installation via Fort Leavenworth intranet
- ISO 14001 conformant with full suite of EMS tools
- Primary management tool and vehicle to effectively implement the Fort Leavenworth EMS



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# Recycling History at Fort Leavenworth

1. 1994 – 2006 Qualified Recycling Program (QRP)  
Recycling Center on post
  - Operated by Family Morale, Welfare and Recreation (FMWR)
2. Five full time employees
  - With support from 10 – 14 USDB inmates
3. Eligible Recyclables included:
  - Paper, plastic, glass, metal, cardboard
4. Incurred losses > \$10,000 in FY05 and FY06
5. Center closed 2006 - unprofitable (from a NAF perspective)





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## Utilization of EMS CFT

1. Cross Functional Team (CFT) created in 2007 to assist full EMS implementation at Ft Leavenworth
2. CFT Representatives from 13 staff sections across installation
  - DPTM, SJA, CPAC, CAC, RCI housing, AAFES, CALL, MEDDAC, Commissary, USDB, DOL/DPW Engineers, DOL/DPW Environmental, FMWR
3. Conducted environmental aspects and impacts analysis
4. Recommended goals and objectives to top leadership at EQCC based on significant aspects



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## Renewed Recycling Interest Discovered by CFT

5. Fort Leavenworth EMS Goals and Objectives included:
  - Increase solid waste diversion rate to 35% by 30 SEP 09
  - Investigate recycling alternatives on post (e.g. PPV, GOCO, etc.) and present top leadership with recycling COAs for an installation recycling program by 30 MAR 08



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# Resulting QRP Courses of Action (COAs)

## 1. Public-Private Venture (PPV):

- Partnership between installation and private company
- Company "owns" installation recycled materials and keeps profits
- Fort Leavenworth records efforts in SWARs and elsewhere

## 2. Government Owned Contractor Operated (GOCO):

- Government owns equipment and recycled materials
- Hired company runs operation (services contract)
- Government keeps the profits and (or takes losses)
- Profits help pay contract - mitigate operational cost

## 3. Government Operation:

- Similar to previous Fort Leavenworth recycling operation
- Operated by NAF personnel through FMWR or DOL/DPW

## 4. Contract:

- Contract various recyclables with one or more companies to provide processing and collection.



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# Challenges

1. Fort Leavenworth = small installation without brass
  - Profitable brass supports most installation recycling programs – most other materials not profitable
2. Prior Fort Leavenworth QRP required appropriated funding support
  - Resulting low/no confidence in recycling profitability
3. Current solid waste contract paid by tip instead of by ton
  - Difficult to measure and not cost effective



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# Challenges

4. Recycling outreach and education
  - Must reach all installation personnel effectively and often
5. No personnel for potential installation recycling operation
6. Independent contractors for recycling
  - Limited number of options
  - Most very specialized – only handle certain waste streams
  - No one contractor can accommodate all Fort Leavenworth recycling



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# Independent Contractor Challenges

1. Altibiti-Bowater - shredded paper
  - Only contractor in metro Kansas City area willing to pay for shredded paper
2. Shred-it - shredded paper
  - Shreds documents and recycles their shred
  - Provides service for pay but contributes to SWAR numbers
3. Office Products Recycling Associates - printer cartridges
  - Currently accepting cartridges for free
  - Will pay once QRP account is set up
4. Batliner - cardboard
  - Pays for cardboard in bulk
  - Has no collection in installation area
  - Will have to find “sub-contractor” for collection
5. General Resources Group - metal recycling & building deconstruction
  - Primary source of metal recyclables = building renovations and deconstruction
  - Specializes in urban redevelopment
  - Requires negotiating contract project-by-project basis



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# Recommendation to Leadership

1. Contract recyclables with multiple companies:
  - Best combination of services and price based on materials and contractor availability
2. EMS Solid Waste/Recycling Action Plan:
  - Conduct solid waste characterization study
    - ❖ Identify all possible recyclables and markets for each
  - Update Fort Leavenworth solid waste management plan to include new recycling initiative
  - Coordinate with DRMO for depositing of recycling returns
  - Make profits allocation recommendation to Ft Leavenworth leadership



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## Results and Returns

1. Current white paper recycling program
  - Cost avoidance - *\$61,000* per year
2. Fully integrated EMS Recycling program to include other recyclables
  - Cost avoidance - *\$110,000* per year
3. Utilization of DRMO sales
  - Revenue to QRP program - *\$24,000* per year
4. Net result = *\$195,000* benefit to Fort Leavenworth





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## Summary

1. Previous recycling operation
  - Unprofitable, measured differently and terminated
2. EMS implementation / CFT utilization
  - Renewed installation interested in finding recycling options/answers
3. Recycling courses of action determined
  - Recommended path presented to top leadership
4. QRP now (back) in place at Fort Leavenworth



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# Questions or comments?

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