



Army Southeast Region

Military Mattresses: Cradle to Cradle

Federal Environmental Symposium - West

17 Jun 08





Outline

- IMCOM-SE
- Mattress Problem
- Interim Solutions
- Next Steps



IMCOM-SE

- 8 states and Puerto Rico
- 20 installations/1.1M acres
- 1.5M soldiers, civilians, families
- 34M meals/yr
- \$300M/yr construction; \$6B BRAC
- 28,000 buildings
- 20,000 acres paved surface
- 331 environmental permits

- Closed 22 of 23 MSW landfills
- 50% C&D diversion policy
 - FY07 actual: 82% of 1.2M tons
- 40% MSW goal
 - FY07 actual: 34% of 368K tons
 - \$66.8M in landfill cost avoidance
 - \$12.8M in recycling revenue
 - Recycling revenue directly benefits soldiers
- 5 installations have set zero waste goals



- *Diversity of missions/markets*
- *Proximity/economies of scale*
- *Volunteers*



The Problem





Disposal Costs Rising

- Trends
 - Total landfill bans (MA, some localities)
 - Quantity caps (>64 per week)
 - Vendor return fees (usually 15%)
 - Landfill surcharges (\$2 to \$16 per mattress or \$80 to \$600 per ton)
- Reasons are mostly economic, not environmental
 - Landfills lose \$47.87 for every mattress accepted
 - Shorten landfill life prematurely
 - Poor compaction; equipment jams
- SERO installation impacts
 - Fort Jackson SC – Ban, then cap
 - Fort Gordon GA – C&D nearly full



Increasing:

- Fire/health risks
- Storage costs
- Disposal costs



How we won the war... How we win the war.



**WASTE PAPER
MAKES CONTAINERS
FOR BLOOD PLASMA**

SAVE IT... AND HELP
Save a life



The plasma contained in this package
has prevented, cured, blood plasma
has been administered by the
American Red Cross.



U. S. VICTORY WASTE PAPER CAMPAIGN

**Half the Metal in
every ship**



every tank



every gun



is SCRAP!

**THROW YOUR SCRAP
INTO THE FIGHT!**



**Housewives!
SAVE
WASTE
FATS
FOR
EXPLOSIVES!**



*Take them to your
meat dealer*



Mission Support





Early Solutions

Fort Gordon

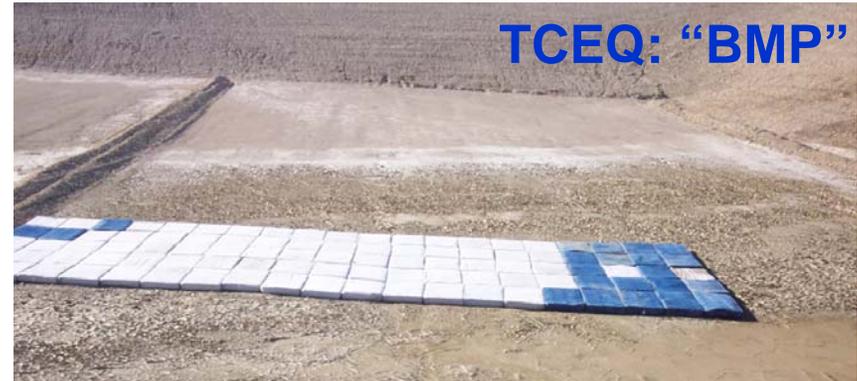
- Donate selected units to local Goodwill for 3rd-party re-use

Fort Bragg

- Refurbish and re-use internally
- Typical barracks mattress: \$120
- Rewrapped & recovered for \$60
- FY06 1450 mattresses renovated = \$87K savings/year

Fort Hood

- Leachate control system
- Approved by State of Texas as best management practice





Growing Awareness

- International Sleep Products Association
 - Mattress Disposal Task Force
 - Army roughly 0.5% of 40M units in total US market
 - What to do with old mattress is key barrier to buying a new one
- Meeting
 - SERO, ISPA, Ft Jackson, Logistics, Contracting, Air Force, GreenBlue, NDCEE, Ga P2AD, Ga Tech
 - Confirmed need; identified needed research

Ga Tech Study

- *Viability of a Product Recovery System for Used Mattresses*
- “Free”
- Multi-Disciplinary
 - Faculty and graduate students from College of Management (lead), with MBA, Engineering (Mechanical, Textile, Industrial & Systems), Public Policy, and Urban & Regional Planning
- Industry Analyses
 - Cost comparisons and benefit analyses (for users and mfrs)
 - Existing state legislation (refurbish/recycle)
 - Deposit systems (lessons from tires, bottles)
 - Leasing (lessons from carpet)



Studies Yield New Solutions

- **Minimize waste disposal volume by inspecting mattress condition while still on bed frame, rather than switching out an entire barracks all at one time.**
- *Fort Jackson DOL*

- **Poor condition: Recycle (bent frame or non-standard size)**
- *Fort Detrick DOL*
- *Camp Ripley MN*
- *Redstone Arsenal*

- **Buy new from vendors that provide a no-cost take-back agreement, thereby eliminating Army disposal cost.**
- *Fort Jackson DOL*



Studies Yield New Approaches

Fort Jackson

- Waste reduction focus: Refine mattress inspection process to reduce waste volume

Fort Jackson

- Procurement focus: Buy new 100% foam units with take-back agreement
- *Triple bottom line*

Fort Detrick

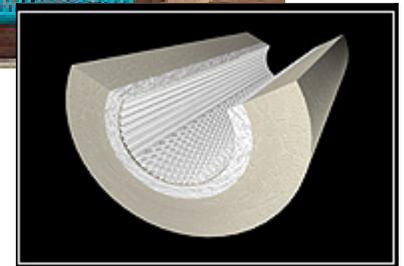
- For-profit shred/recycle

IMCOM-SE

- Partner with GA Dept of Economic Development

Camp Ripley

- Non-profit deconstruct/recycle
- In partnership with State of Minnesota, ISPA, and Goodwill Industries





Redstone Arsenal

Depot Program

- Buy new 100% foam units
- Send back old units on same truck, reduces trucking costs by 70%
- Refurbishable units: \$5 credit ea
 - Sold to 3rd party charities
- Recyclable units: \$5 debit ea

Demonstration

- Two tractor trailers full of mattresses
- Disposal costs completely avoided
- Small credit applied toward purchase of new units
- Purchase of new units priced about the same as traditional units
- Soldiers can now select personal comfort level
- Addresses both new and “legacy” disposal issues





Way Forward

- Encourage Redstone and Minnesota/Goodwill models
- Learn from UNICOR's recent Sources Sought Solicitation
- “Go purple” with federal agencies for procurement and recycling
- Integrate with Sustainable Interiors Showrooms and Huntsville Corps centralized furniture buying program
- Develop Lean Six Sigma documentation
- Partner with ISPA, PURRC, CARE, universities to develop a mattress industry sustainability standard



John Wuichet
JMWA/IMCOM-SE
404-464-0708
john.wuichet@us.army.mil