

Military and the Environment

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ES 399: Senior Capstone
Individual Project

Personal Statement:

For this project I decided to investigate militaries' interactions with the environment. I am interested in this due to my own involvement in the Army National Guard and passion for environmental studies—particularly policy. I will be attending law school in the fall and hope to pursue a career that allows me to merge my interests in environmental policy and military service—perhaps through JAG. Since the subject of militaries' interactions with the environment is huge, I had to narrow the scope a bit.

I chose to focus on the rules and regulations in regard to two waste streams within the United States of America's Army organizations (Army, Army National Guard and Army Reserves). These waste streams are the disposal of paperwork and ammunition. Before policy initiatives can be successfully undertaken, it is necessary to understand what the existing standard operation procedure entails and why those standards are in place. In this project I aimed to learn how to go about decoding the *what* and *why* of Army regulations. Learning to navigate government documents—particularly military documents—takes practice; it is kind of like learning to read a new language.

The main goal of this project was to gain experience with military documents through locating, reading and distilling the Army regulations (ARs) relevant to the disposal of paperwork and ammunition. The bulk of this presentation addresses what I learned in the ARs themselves and what I learned about the process of working with military documents.

Outline:

This presentation includes what I hope are compelling reasons for why environmentalists should care about military actions and likewise why militaries should care about environmental quality. An overview of what I learned from working with the ARs is presented in the middle section. The third section of my project is composed of additional facts I've learned about the U.S. Army's current environmental actions. There are a lot of programs and initiatives being undertaken by the U.S. Army on the environmental front. I've shared some of these programs I've come across and provide information on where you can go for more details on those and additional projects.

Why should Environmentalists Care about Military Actions?

I found that it is relatively difficult to track down specific data on militaries' impacts on the environment. However all sources agreed that the impact is substantial.

One source claimed the following facts:¹

- ❖ Global militaries have released two-thirds of the CFC-113 that are in the atmosphere.
- ❖ Naval accidents have resulted in more nuclear reactors on the ocean floor than on land.
- ❖ The Pentagon produces five times more toxins (toxins being left undefined) than the top five American private-producers combined.
- ❖ Cleaning up all environmentally contaminated sites would cost an estimated \$ 500 billion.

As large as current U.S. military impacts are, there seems to be a shift in the way the U.S. Military operates—from fuel/resource intensive approaches to strategies that use less resources (especially less fuel). This is good news for environmental quality. Also of importance is the massive budget allocated for military operations. The United States of America spends around 19.3 % of its national budget on the military (each fiscal year).² For fiscal year 2011 the Department of Defense (DoD) has requested a 708.2 billion dollar budget.³ Just imagine the funding potential for alternate energy research and environmentally responsible development if this budget was applied to an environmentally conscientious military! A huge issue with environmental initiatives is a lack of funding. If the military stood behind goals for increasing environmental quality the funds available for environmental projects would skyrocket.

Why Should the U.S. Military Care About Environmental Quality?

There are several reasons, both strategic and overall mission-oriented, why militaries should care about environmental quality. U.S. Military has been devoting increasing funds to alternative energy research and studies on how to reduce consumption and reuse materials. The main strategic reason that this is occurring is that in current war-zones, the movement of supplies, fuel and waste are among of the most vulnerable aspects of a base's structure.⁴

¹ "The Militarys Impact on the Environment". http://www.ipb.org/i/pdf-files/The_Militarys_Impact_on_the_Environment.pdf

² www.visualeconomics.com/how-countries-spend-their-money/

³ "Too Big to Fail?". <http://www.slate.com/id/2243297/>

⁴ "Army converts garbage into energy, reduces carbon footprint".

<http://www.army.mil/-news/2011/01/09/50201-army-converts-garbage-into-energy-reduces-carbon-footprint/>

Improvised Explosive Devices (IEDs) and other attacks on supply-convoys are high contributors to wartime injuries and casualties.

From a mission-oriented perspective, Environmental health and stability are necessary for a safe and secure nation. Pursuing environmental health can be seen as a vital part of national security. "Green Security" is a term being used to discuss the merger of environmental and military priorities.⁵

Paper Waste Stream:

To gain insight into the Army's disposal process for paperwork, I reviewed two Army publications:

- 1) **Army Regulation 25-400-2** "Army Records Information Management System"
- 2) **Army Regulation 380-5** "Security Department of the Army Information Security Program"

Both publications were found on the Army Publishing Directorate website

(<http://www.apd.army.mil/AdminPubs/ProductMap.asp>) and can be downloaded in PDF form.

Army Regulation 25-400-2

Army Records Information Management System:

What is ARIMS?

The ARIMS primarily manages long-term and permanent records (as opposed to short-term records) and applies to all media (paper, electronic, and so forth).

The ARIMS aims to simplify recordkeeping and provides multiple support services and automated tools on the Web.

The ARIMS supports the conservation of records supplies and equipment and suggests that records be maintained electronically when reasonable.

Who is Affected?

"This regulation applies to the Active Army, the Army National Guard/Army National Guard of the United States, and the U.S. Army Reserve, unless otherwise stated. This regulation applies during partial and full mobilization."

Responsibility:

The Administrative Assistant to the Secretary of the Army (AASA) is Responsible for ARIMS. Statutory authority for ARIMS comes from the amended Federal Records Act.

Application:

- (1) All unclassified Army records—regardless of medium.
- (2) All Army Records classified through SECRET. TOP SECRET records may be set up in any way that makes accountability and control easier (including but not limited to ARIMS).

⁵ "Environmental Security". http://www.dod.gov/execsec/adr96/chapt_15.html

Noncompliance:

Deliberately and unlawfully destroying, damaging or removing Federal records punishable by a fine, up to 3 years in prison, or both (18 USC 2071).

*Army records may be destroyed outside of the ARIMS in situations of international armed conflict where 1) keeping the records could damage interest of the United States, and 2) the records are of minimal importance and occupy immediately needed space.

When records are disposed of in this way the incident must be reported within six months of the occurrence. (44 USC 3311).

Disposition Instructions

All records are divided into two categories: transfer (T) records and keep (K) records. The ARIMS disposition codes are the key to determining the retention time.

If the disposition code is-	The abbreviated disposition instructions are-	Then the full disposition standard would be-	And the minimum labeling instructions would be-
K (Time periods .25 through 6) (Example: K3)	Keep in CFA.	Keep in the current files area until time period specified has passed, then destroy.	The letter K, a title, the year created, and if applicable, a PA system notice number.
KE (Time periods .25 through 6 plus event) (Example: KE4)	Keep in CFA until a specific event occurs.	Keep in the current files area until the event occurs and then the specified period of time after event occurs, then destroy.	The letters KE, a title, the year created, and if applicable, a PA system notice number.
KN (Time period not known)	Keep in CFA.	Keep in the current files area until no longer needed for conducting business, but not more than 6 years, then destroy.	The letters KN, a title, the year created, and if applicable, a PA system notice number.

If the disposition code is-	The abbreviated disposition instructions are-	Then the full disposition standard would be-	And the minimum labeling instructions would be-
KEN (Event, but time period not known)	Keep in CFA until a specific event occurs.	Keep in the current files area until the event occurs and then until no longer needed for conducting business, but not more than 6 years after the event, then destroy.	The letters KEN, a title, the year created, and if applicable, a PA system notice number.
R	Rescinded record number.	Not applicable. (Maintain and dispose of existing records in accordance with original disposition instructions.)	Label for existing records should show original disposition instructions.
S	Superseded record number.	Not applicable. (Maintain and dispose of records in accordance with replacement disposition instructions.)	Label should show the replacement disposition code letter(s), a title, the year created, and if applicable, a PA system notice number.
T (Time periods over 6 years) (Examples: T6.25, T15)	Transfer to AEA, RHA, or other specified location (for example, NPRC, WNRC).	Keep in the current files area until no longer needed for conducting business, then retire to the AEA, RHA, or other specified location.	The letter T, a title, the year created, and if applicable, a PA system notice number.
TE (Time periods over 6 years, plus event) (Example: TE20)	Transfer to AEA, RHA, or other specified location (for example, NPRC, WNRC) after a specific event occurs.	Keep in the current files area until the event occurs; then retire to the AEA, RHA, or other specified location when no longer needed for conducting business.	The letters TE, a title, the year created, and if applicable, a PA system notice number.
TEP	Transfer to AEA or RHA after a specific event occurs. Permanent record.	Keep in the current files area until the event occurs; then retire to the AEA or RHA when no longer needed for conducting business.	The letters TEP, a title, the year created, and if applicable, a PA system notice number.
TP	Transfer Permanent.	Keep in the current files area until no longer needed for conducting business, then retire to the AEA or RHA.	The letters TP, a title, the year created, and if applicable, a PA system notice number.
U	Unscheduled record.	Keep in CFA until disposition instructions are published; then apply approved disposition.	The letter U, a title, the year created, and if applicable, a PA system notice number.

Records disposal

"a. Unclassified records authorized for destruction will be—

- (1) Processed through property disposal channels for sale or recycling.
- (2) Destroyed in accordance with local policy if they cannot be economically sold.
- (3) Disposed of under the DOD Precious Metals Recovery Program when in the form of exposed x-ray film, motion picture film, and certain microfilm that contains precious metals.

b. Destroy unclassified sensitive and PA records by shredding or burning.

c. Destroy classified records in accordance with AR 380-5.

e. For early disposal of records that are a menace to human life, health, or property—

- (1) Contact local fire officials...and then notify the USARMDA..."

Army Regulation 380-5: (Army Information Security Program):

What is the Army Information Security Program? This program establishes policy for the classification, downgrading, declassification, and safeguarding of information requiring protection in the interest of national security.

Information will be declassified when it no longer meets the standards and criteria for classification. The authority to declassify information resides with the OCA for that information and those appointed as declassification authorities, subject to the criteria specified in EO 12958 and/or successor orders and directives.

Who is Affected? "This regulation applies to all military and civilian members of the Active Army, Army National Guard of the United States (ARNGUS), and U.S. Army Reserve (USAR) and Department of the Army (DA) personnel. During mobilization, chapters and policies contained in this regulation may be modified by the proponent."

Destruction Standards: Classified material must be completely destroyed to prohibit reconstruction of the

classified information. Destruction methods include burning, crosscut shredding, wet pulping, melting, mutilation, chemical decomposition, and pulverizing. Classified waste containing typing ribbon, aluminum and plastic offset printing mats, and other non-paper-based products require special handling.

Burning. Burning is the most effective, versatile, and secure method of destructing paperwork. Due to environmental reasons there are limitations on bulk incineration. Therefore pyrolytic furnaces have replaced incineration at many commands. Pyrolytic furnaces operate in compliance with Federal Clean Air Act Regulatory Standards and whenever possible should be used instead of other incinerators.

Ammunition Waste Stream:

To reach an understanding of what the regulations are in regards to ammunition disposal I turned to the "Department of the Army Pamphlet 700-16" on the Army Ammunition Management System.

Department of the Army Pamphlet 700-16:

This pamphlet summarizes the system for management of the ammunition program by the U.S. Army and aims to provide a qualitative conceptual structure for Army actions to provide ammunition to operational forces domestic and aboard (under security assistance programs). The framework includes information on ammunition research, development, and acquisition; distribution, storage, and maintenance; and ammunition production base readiness, modernization, and expansion.

Disposal Information:

- a. Ammunition disposal is required to rid the distribution and storage systems of obsolete, extra, degraded, damaged and/or hazardous. The disposal referred to in this document mainly relates to dealings involving large amounts of ammunition.
- b. Authorized methods of disposal include:
 - (1) Sales
 - (2) Commercial contract demilitarization.
 - (3) Disassembly and retention of usable components and packaging materials, washout of explosive filler, and reclamation of propellant and metal parts for reuse.
 - (4) Demilitarization by detonation or burning. (This is still seen as a viable method for disposal but environmental concerns limit detonation an open burning.

Additional Information:

- a. The US Army acts as the procurement agent for most ammunition common to several Dept. of Defense services plus and for overseas customers under security assistance programs. This is due to a Secretary of Defense mandate that the Secretary of the Army be assigned as the Single Manager for Conventional Ammunition –SMCA).
- d. Because many of the ammunition is common to all services, the supply network must be able to restrict production for peacetimes and also able to expand to accommodate mobilization of all branches

What I learned:

Words like recycling, reuse and environment don't appear often in these documents. More often than not when the word "environmental" appeared it was in reference to

office/work environments. Despite the lack of emphasis directly put on environmental concerns (such as reducing waste streams), I am not discouraged. I noticed that efficiency is a top priority (after security concerns) throughout these documents. Reducing production to only what is necessary and reusing materials are already standard operating procedure with these two waste streams (paperwork and ammunition). These reducing and reusing plans are phrased in terms of time and monetary efficiency. The Army likes to do what needs to be done, quickly, safely, effectively and efficiently. Seeking efficiency in Army operations will (and has) lead to reduction in over-production.

As far as the actual disposal methods for paperwork and ammunition, there seemed to be a lot of decisions left up to the individual commands where the waste is located. The standards for various procedures are specific and disposal is restricted to one of those approved procedures. Nevertheless, each unit has control over which approved procedure is used. This freedom in choice is significant because it leaves the door wide open for recycling efforts (when not dealing with classified documents or hazardous materials).

I had hoped that after shifting through 500 + pages of Army regulations, I would be able to impart pearls of wisdom on how to read ARs quickly and still find the information you need. Sadly I've found that there really aren't many tricks to getting better at reading military documents. Instead of short cuts, I found that reading Army regulations is a practice-makes-perfect situation. The content section is somewhat helpful in initially dictating the correct chapter/title /section of the document, however most sections refer to programs and processes that are described elsewhere in the regulation. This results in reading most if not all of the document in order to ensure that the context is properly understood.

Some U.S. Army Environmental Projects:

Tactical Garbage to Energy Refinery (TGER)—a hybrid technology converts a variety of waste substances into usable power. The TGER turns waste into ethanol and composite gas. Together these two outputs and 10 % diesel produce electricity via a diesel generator. This is relevant because "a 500-man unit generates about 2,500 pounds of trash per day". The TGER sports a zero carbon footprint and outputs one cubic yard of ash (that can be used as a soil additive) for every 30 cubic yards input into the system.⁶

Hamilton City Flood Damage Reduction and Ecosystem Restoration (Sacramento, CA)—This U.S. Army Corps of Engineers project will reduce flood risks and achieve ecosystem restoration. It is the first project of its kind.⁷

⁶ "Army converts garbage into energy, reduces carbon footprint".

<http://www.army.mil/-news/2011/01/09/50201-army-converts-garbage-into-energy-reduces-carbon-footprint/>

⁷ Plain, Todd. "Corps' first multi-benefit project moves forward at Hamilton City". <http://www.army.mil/-news/2011/04/25/55499-corps-first-multi-benefit-project-moves-forward-at-hamilton-city/>

Pilot Army Net Zero Installation—an initiative aiming to conserve energy and water resources as well as reduce waste worldwide. The Army aims to have five Net Zero Energy and five Net Zero Water installations by 2020. They also hope to have at least one installation that is Net Zero in energy, water and waste. These pilot installations will serve as models to examine the benefits and costs to the Army of pursuing this type of development plan.⁸

Solar Panel Installation in Stuttgart, Germany—Solar electric panels have been installed on the roof of a building in U.S. Army's Kelley Barracks (Stuttgart, Germany). This installation is projected to save the U.S. Army Garrison Stuttgart over \$36,000 per year.⁹

More Information:

2011 NDCEE Program Conference. June 14-15, 2011. National Defense Center for Energy and the Environment "As a critical component of the DoD's environmental quality investment strategy, the NDCEE investigates, demonstrates and helps field viable, mission-driven solutions that reduce total ownership costs and fulfill DoD environmental, energy, health, safety, and sustainability requirements."

http://www.ndcee.ctc.com/event/programconference_june2011/PC_Jun_11.htm

"DoD Goes Green"

http://www.defense.gov/home/features/2010/1010_energy/

Environmental Management System (EMS): "the part of an organization's overall management system that integrates environmental concerns and issues in the organization's management processes. An EMS addresses organizational structure, planning activities, responsibilities, practices, procedures, processes, and resources for developing, implementing, achieving, reviewing, and maintaining environmental policy."

http://www.sustainability.army.mil/tools/programtools_ems.cfm#10

⁸ Chopra, Jasmine. "Army looking at installations for pilot 'Net Zero' program".

<http://www.army.mil/-news/2011/04/06/54433-army-looking-at-installations-for-pilot-net-zero-program/?ref=news-environment-title1>

⁹ Young, Tanya Fogg. "Solar panels to reduce garrison costs". <http://www.army.mil/-news/2010/11/01/47464-solar-panels-to-reduce-garrison-costs/>