Evaluation Report

OFFICE OF THE INSPECTOR GENERAL

EVALUATION OF THE DISPOSAL OF MUNITIONS ITEMS

Report No. 97-213

September 5, 1997

DEPARTMENT OF DEFENSE

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Acronyms

AEDA	Ammunition, Explosives and other Dangerous Articles
ASP	Ammunition Supply Point
DA	Department of the Army
DFARS	Defense Federal Acquisition Regulation Supplement
DRMO	Defense Reutilization and Marketing Office
DRMS	Defense Reutilization and Marketing Service
EOD	Explosive Ordnance Disposal
NWS	Naval Weapons Station
QRP	Qualified Recycling Program

INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
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ARLINGTON, VIRGINIA 22202-2884

September 5, 1997

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Evaluation of the Disposal of Munitions Items (Report No. 97-213)

We are providing this final report for review and comment. We performed the evaluation in response to a request from the Deputy Under Secretary of Defense (Environmental Security) on behalf of the Secretary of Defense. We considered management comments on a draft of this report in preparing the final report.

DoD Directive 7650.3 requires that all recommendations be resolved promptly. As a result of management comments, we revised Recommendations A.1. and C.1. to eliminate joint responsibility for corrective action, and redirected the recommendations solely to the Under Secretary of Defense for Acquisition and Technology. Management comments were responsive on all recommendations except A.3.a. and A.3.b. We request additional comments from the Air Force on Recommendation A.3.a., and from all three Military Departments on Recommendations A.3.b. and A.3.c., the latter of which was also revised. All comments on the final report are requested by November 5, 1997.

We appreciate the courtesies extended to the evaluation staff. Questions on the evaluation should be directed to Mrs. Debra B.D. Murphy, Evaluation Program Director, at (703) 604-8788 (DSN 664-8788) or Colonel (Select) Martin J. Sierocki, U.S. Air Force, Evaluation Project Manager, at (703) 604-8766 (DSN 664-8766). See Appendix E for the report distribution. The evaluation team members are listed inside the back cover.

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Office of the Inspector General, DoD

Report No. 97-213 **September 5, 1997**
(Project No. 7LH-3008)

Evaluation of the Disposal of Munitions Items

Executive Summary

Introduction. The Office of the Secretary of Defense requested an evaluation of the munitions disposal process after a commercial scrap worker was killed by a live anti-tank munitions shell. The shell presumably was purchased as purportedly inert scrap from the Defense Reutilization and Marketing Office, Barstow, California.

Evaluation Objectives. The primary evaluation objective was to determine whether DoD procedures and controls adequately ensured the safe disposal of ammunition, explosives, and other dangerous articles (AEDA) residue. Specifically, we evaluated the adequacy of the policies, procedures, and management controls associated with the disposal of DoD managed munitions.

Evaluation Results. DoD needs to improve management controls to prevent public access to live AEDA. Specifically:

o DoD controls for the disposal of AEDA residue by the Military Departments were ineffective. As a result, the public was sold or had access to either discarded live AEDA or AEDA residue that had not been properly certified as inert (Finding A).

o Management controls at the Defense Reutilization Marketing Service to prevent the sale of live AEDA to the public were not fully effective. As a consequence, Defense Reutilization and Marketing Offices received and sold uncertified and improperly certified and stored AEDA residue to the public (Finding B).

o DoD policies and procedures for AEDA disposal contracts, Direct Sales Programs as part of the Qualified Recycling Programs, reporting and investigating AEDA incidents, and demilitarization were inadequate. As a result, AEDA disposal service and sales contracts varied by installations and included disparate levels of safety and oversight (Finding C).

Summary of Recommendations. We recommend that DoD implement various changes to its management controls regarding public access to AEDA. Specific recommendations are summarized below, along with management comments on the recommendations.

Management Comments. The Under Secretary of Defense for Acquisition and Technology partially concurred with the recommendation to establish an integrated process team to develop methods to prevent the sale of AEDA to the public. He stated that an ad hoc working group instead of an integrated process team has begun to review AEDA disposal weaknesses. The Deputy Under Secretary of Defense (Environmental Security) concurred with the recommendation to develop policies and procedures for the cleanup of DoD ranges. The Military Departments agreed to the recommendation to conduct compliance reviews to ensure AEDA is segregated from other scrap. Except for the Navy, the Military Departments concurred with the recommendation to conduct security risk assessments of their firing ranges. The Military Departments generally agreed with the recommendation to suspend the processing

of AEDA at their units when live AEDA is found. The Deputy Under Secretary of Defense (Logistics) partially concurred with the recommendation to revise the disposal and demilitarization manuals citing AEDA disposal policy. The Defense Reutilization and Marketing Service partially concurred with the recommendation to obtain lists and sample signatures of AEDA generators and keep them current. It partially concurred with the recommendation to accept only certified inert AEDA, segregate it from other scrap, and perform visual inspection of AEDA storage sites to prevent ordnance hazards. Also, it concurred with developing uniform disposal training requirements, and conducting disposal compliance reviews.

The Under Secretary of Defense for Acquisition and Technology partially concurred with the recommendation to create a subgroup to make standards for contractors who purchase AEDA. However, the Under Secretary stated that formalizing the ad hoc group as an integrated process team may duplicate the charters of existing formal groups. Therefore, the Under Secretary stated that the ad hoc group will explore the use of existing formal groups. The Under Secretary also partially concurred with the recommendation to open a Defense Acquisition Regulation Supplement case to provide uniform guidance to contracting officers who process AEDA contracts. The Under Secretary agreed to open the subject case but suggested that specific changes need to be addressed on a case-by-case basis. The Deputy Under Secretary of Defense (Environmental Security) neither concurred nor nonconcurred with the recommendation to clarify DoD regulations concerning AEDA processing through qualified recycling programs. The Under Secretary suggested that the recommendation was unnecessary because suggested action on another recommendation in the report, when implemented, would clarify AEDA processing through qualified recycling programs. The Army concurred with the recommendation to cease AEDA disposal operations and conduct a risk assessment at Fort Lewis. The Deputy Under Secretary of Defense (Logistics) partially concurred with the recommendation to define all range residue as AEDA. The Deputy Under Secretary stated that policy revisions are underway for the disposal and demilitarization manuals; but stated that the manuals are not the appropriate avenue for all munitions policy.

Part I summarizes management comments on the recommendations, and Part III contains the complete text of those comments.

Evaluation Response. Except for the following, comments from management were considered responsive. Although the Air Force concurred with the recommendation to conduct compliance reviews of its units that process AEDA, it did not state when it would conduct reviews. We request clarification on when the reviews will occur. The Military Departments' responses on conducting security risk assessments of their firing ranges were nonresponsive. The Military Departments need to analyze public access to their firing ranges and install security measures commensurate with the risks. We request that the Military Departments specify how the analyses will be accomplished and when. Because our recommendation to the Military Departments on suspending the turn in of AEDA found at their units during the disposal process was misinterpreted, and did not specify a specific time frame for accomplishment, we clarified the recommendation. We request that the Military Departments specify whether criteria will be established and when in response to the final report. We request all comments on the final report be provided by November 5, 1997.

Table of Contents

Executive Summary i

Part I - Evaluation Results

Evaluation Background 2
Evaluation Objectives 4
Finding A. Adequacy of DoD Controls for the Disposal of Ammunition, Explosives, and Other Dangerous Articles Residue by the Military Departments 5
Finding B. Adequacy of DoD Controls for Ammunition, Explosives, and Other Dangerous Articles Residue Disposal at the Defense Reutilization and Marketing Service 21
Finding C. Adequacy of DoD Guidance for Ammunition, Explosives, and Other Dangerous Articles Disposal Contracts, Qualified Recycling Programs, Reporting Incidents, and Demilitarization 33

Part II - Additional Information

Appendix A. Evaluation Process 50
Scope 50
Methodology 50
Management Control Program 51
Appendix B. Summary of Prior Coverage 53
Appendix C. Other Matters of Interest 56
Appendix D. Analysis of Ammunition, Explosives, and Other Dangerous Articles Disposal Contracts 60
Appendix E. Report Distribution 64

Part III - Management Comments

Department of the Army Comments 68
Department of the Navy Comments 72
Department of the Air Force Comments 75
Under Secretary of Defense for Acquisition and Technology Comments 76
Deputy Under Secretary of Defense (Environmental Security) Comments 80
Joint Logistics Commanders Comments 85
Defense Reutilization and Marketing Service Comments 88

Part I - Evaluation Results

Evaluation Background

This evaluation was performed as a result of a request by the Deputy Under Secretary of Defense (Environmental Security) on behalf of the Secretary of Defense to evaluate the munitions disposal process because of an incident that occurred in Fontana, California, on March 18, 1997. The incident involved a private commercial scrap worker who was killed by a 105-millimeter (mm) round that was purchased as inert scrap, presumably from the Defense Reutilization and Marketing Office (DRMO), Barstow, California. Accordingly, the Deputy Under Secretary of Defense (Environmental Security) was concerned that ammunition, explosives and other dangerous articles (AEDA) were not rendered safe before being sold to the public as scrap. Each year, the Military Departments expend—by firing and demilitarization—more than 200,000 tons of AEDA. The evaluation focused on the process of disposing of AEDA after it had been fired or demilitarized.

Definitions. The term AEDA, as used in this report, refers to any explosive or chemical-based munitions, such as small and large caliber ammunition, aerial bombs, grenades, mines, missiles, and rockets. In peacetime, the Military Departments expend most AEDA in controlled testing and training environments where its residue can be collected and disposed or sold as scrap. The usual AEDA residue consists of fired cartridge cases, shell fragments, packing material, wooden boxes, metal cans, and fiber containers.

Inert, as used in this report, means a munitions item or component that contains no hazardous material (explosives, active chemicals, or pyrotechnics).

DoD Guidance. DoD guidance for disposing of AEDA residue is contained in DoD Manual 4160.21-M, "Defense Reutilization and Marketing Manual," March 1990, and DoD Manual 4160.21-M-1, "Defense Demilitarization Manual," October 1991 (the DoD Manuals). The DoD Manuals, issued by the Office of the Deputy Under Secretary of Defense (Logistics), establish guidance on the disposal responsibilities of the Military Departments as well as the Defense Reutilization and Marketing Service (DRMS) and its sales offices, DRMOs.

Organizational Responsibilities. Several DoD staff elements and organizations play important roles in how AEDA is processed for disposal. A brief description of those roles follow.

Under Secretary of Defense for Acquisition and Technology. The Under Secretary of Defense for Acquisition and Technology is the principal

staff assistant and advisor to the Secretary of Defense for all matters relating to the acquisition and disposal of munitions. The following are subordinates to the Under Secretary of Defense for Acquisition and Technology.

o The Deputy Under Secretary of Defense (Environmental Security) is responsible for advising the Under Secretary on safety issues, including preventing explosive incidents and protecting people; equipment; and facilities from the effects of accidental explosion.

o The Deputy Under Secretary of Defense (Logistics) is responsible for advising the Under Secretary on all issues related to logistics, including material development; acquisition; storage; distribution; maintenance; and disposition.

o The Director of Defense Procurement advises the Under Secretary on all issues related to developing, interpreting, and publishing procurement policy.

o The DoD Unexploded Ordnance Center of Excellence (the Ordnance Center), headquartered at Fort Belvoir, Virginia, was established by the Under Secretary to institutionalize coordination and oversight of technology developments in the clearance of unexploded ordnance. The Ordnance Center establishes standards for testing, modeling, and evaluating unexploded ordnance clearance technology.

Defense Logistics Agency. The Defense Logistics Agency, headquartered at Fort Belvoir, Virginia, is responsible for buying more than 3.2 million different items for use by the military and disposing of excess property that the military generates. Subordinate to the Defense Logistics Agency is the DRMS, headquartered at Battle Creek, Michigan. It is responsible for performing the property disposal mission through 157 DRMOs worldwide. The DRMS also has regional zone managers to provide oversight of the DRMOs. DRMOs accept AEDA residue from the Military Departments and sell it as scrap to the public.

Other Groups. In addition to the above staff elements and organizations, the following groups also influence certain aspects of the AEDA disposal process.

o The Joint Logistics Commanders are the senior military logistics managers in the Military Departments and the Defense Logistics Agency. They coordinate regularly to: review any logistics topic, including AEDA residue disposal; resolve interservice logistics problems; facilitate the exchange of information; and accomplish significant joint studies and tasks pertinent to the respective organizations. The Joint Ordnance Commanders Group, one of 25 subgroups of the Joint Logistics Commanders, coordinates munitions demilitarization and disposal programs as well as monitors and evaluates proposed changes and other initiatives to munitions disposal and demilitarization programs.

o The DoD Explosives Safety Board, established by the Deputy Under Secretary of Defense (Environmental Security), is responsible for

ensuring that operations involving military explosives are conducted safely by maintaining DoD explosive safety standards, conducting site surveys, and evaluating site explosive plans.

o The U.S. Army Corps of Engineers, Ordnance and Explosives Center for Expertise and Design Center, headquartered in Huntsville, Alabama, is by designation of the Department of the Army, the Center of Expertise for Ordnance and Explosives. The Center establishes policies and procedures and provides quality and safety oversight for DoD organizations involved in the contracting of ordnance and explosives clearance from formerly used Defense sites.

Evaluation Objectives

The evaluation objective was to determine whether DoD procedures and controls adequately ensure the safe disposal of AEDA residue by the Military Departments. Specifically, we evaluated the adequacy of the policies, procedures and management controls associated with the disposal of DoD managed munitions. We also examined the management control program as it applied to the primary evaluation objective. See Appendix A for a discussion of the scope and methodology and the management control program. See Appendix B for a summary of prior coverage related to the evaluation objectives. See Appendix C for a discussion of other matters of interest, including results from a separate Secretary of Defense directed review of AEDA controls by the Military Departments and Defense Logistics Agency.

Finding A. Adequacy of DoD Controls for the Disposal of AEDA Residue by the Military Departments

DoD controls for the disposal of AEDA residue by the Military Departments were ineffective. This condition existed because DoD disposal policies and procedures for AEDA residue were inadequate, nonexistent in some areas, or not complied with in other areas, allowing the Military Departments to establish disparate disposal practices -- often out of perceived environmental, monetary, or unique operational considerations -- that did not ensure that AEDA residue was properly collected, rendered inert, and disposed of. As a result, the public was sold or had access to discarded live AEDA or AEDA residue that had not been properly certified as inert.

Adequacy of DoD AEDA Disposal Policies and Procedures

DoD controls for the disposal of AEDA residue by the Military Departments need major improvement. The DoD Manuals 4160.21-M and 4160.21-M-1 establish guidance on the disposal responsibilities of the Military Departments. Until the Military Departments turn in inert AEDA residue to the DRMOs, the AEDA residue goes through various phases or steps—collecting and clearing it from ranges, rendering it inert, inspecting it, accounting for it, storing it, and certifying it as inert. However, the DoD Manuals provide few detailed instructions on the collection and disposal process leading up to turn-in to the DRMOs. Together, the DoD Manuals require that all material generated from the firing and demilitarizing of AEDA be rendered inert and inspected by a technically trained and qualified individual before turn-in to a DRMO. The authorized individual is required to submit a certification statement as part of the turn-in document. The statement reads: "I certify that the property listed hereon has been inspected by me and, to the best of my knowledge and belief, contains no items of a dangerous nature."

The DoD Manuals also require that all scrap material generated from explosive items and chemical munitions not be commingled with other types of material, and be reinspected by ammunition personnel or by other qualified personnel designated by the installation commander during outloading to prevent dangerous material from being delivered to DRMOs.

To determine the adequacy of DoD controls for disposing of AEDA residue, we visited 16, judgementally selected, military installations (10 Army, 2 Navy, 2 Air Force, and 2 Marine Corps) and their servicing DRMOs over a 4-week period in April and May 1997. We also reviewed operations for the 12-month period ended March 31, 1997. Overall, many of the 16 military installations had implemented disposal practices influenced by safety as well as perceived environmental, monetary, or unique operational considerations. The practices, often neither advocated nor precluded by the DoD Manuals, varied significantly in how AEDA residue was collected, rendered inert, accounted for, inspected, accumulated, stored, and certified for turn-in to the DRMO.

Collecting and Clearing AEDA Residue. The military installations visited did not consistently collect or clear AEDA residue from their firing ranges. When AEDA residue was cleared or collected, the decision to do so was influenced by environmental, monetary, or unique operational considerations. The DoD Manuals provide no guidance on who collects the residue, what is collected, and the frequency of collection. Most of the military installations visited seldom collected or cleared residue downrange and at impact areas because of the possibility that duds or explosive residue may be on hand. When the military installations collected AEDA residue downrange, it was done only to change targets and under strict explosive ordnance disposal (EOD) oversight. Of the 16 military installations visited, 13 had firing ranges. Of the 13 military installations, 5 collected or cleared AEDA residue downrange on a regular basis. The collection was performed by in-house personnel or contractors and sometimes undertaken without adequately defining the scope of work and providing sufficient oversight. For example, at Fort Pickett, Virginia, we identified a significant amount of potentially dangerous material that was collected from the range and presumably sold directly to scrap dealers. Specifically, a Fort Pickett civilian employee, who served as a senior safety range specialist, collected scrap from the ranges and hauled it away. He paid the Fort Pickett recycling center $.10 a pound for the scrap. Fort Pickett did not have a written agreement with the civilian employee, and did not provide any Government oversight of the clearing of scrap from the ranges. At the Fort Pickett recycling center, the only documentation available for the collection of the scrap were handwritten notes from the employee. The latest note, dated March 20, 1997, indicated that 4,304 pounds of aluminum had been collected as well as 3,236 pounds of magnesium and 524 pounds of brass. For the 8,064 pounds of scrap metal that had been collected (for an undisclosed period) the employee remitted $807 in cash or $.10 for each pound. No certification was available to show that the material was inert.

Simply not collecting residue downrange appears to be the safest way of dealing with AEDA residue downrange. However, environmental concerns are

increasingly removing that scenario as an option. For example, in recent months, training on an active range in Massachusetts was suspended for environmental and public health reasons.

The collection and clearance of AEDA residue from firing ranges has been a longstanding problem and one that we reported on in November 1994. In Inspector General, DoD, Report, "Review of the Policies and Procedures Guiding the Cleanup of Ordnance on DoD Lands," November 22, 1994, we noted that:

o DoD ordnance cleanup requirements and responsibilities were not clearly defined,

o DoD policy and direction inadequately guided subordinate DoD organizations on ordnance cleanup,

o DoD program management and oversight were inadequate for effective and efficient ordnance cleanup, and

o technology and planned technology development were inadequate for expeditious ordnance cleanup.

We offered 10 discretionary suggestions which, as indicated by our current review, were not fully implemented and are still applicable. Accordingly, DoD still needs to establish a consistent policy for collecting and clearing AEDA residue from firing ranges, considerate of safety as well as monetary, environmental or unique operational concerns.

Rendering AEDA Residue Inert. The military installations visited did not consistently render AEDA residue inert. The main safety requirement placed on the Military Departments is that they render fired and demilitarized AEDA inert and certify it as such. Even after firing and demilitarizing AEDA, explosive and chemical properties can remain. However, the DoD Manuals reviewed did not provide criteria or instructions on how the Military Departments are to render fired and demilitarized AEDA inert or free from energetic materials. Only 2 of the 16 installations visited, Crane Army Ammunition Activity, Indiana, and Sierra Army Depot, California, washed or burned the fired and demilitarized AEDA residue to eliminate any explosive or chemical properties. As such, an important safety requirement imposed on the Military Departments in the AEDA disposal process was accomplished at only two of the sites reviewed. While funding constraints made washing or burning all AEDA residue, particularly small caliber ammunition, impractical, physically inspecting AEDA residue for explosive properties was not an adequate method of ensuring that it was inert. For example, on April 16, 1997, a commercial

scrap worker in Montana was melting expended flares and star clusters when one or more of the items supposedly exploded in his melting kettle. The range residue was purchased as inert scrap and presumably came from the servicing DRMO for Fort Lewis, Washington. Also, on April 18, 1997, the Chief of Naval Operations suspended the Naval Air Warfare Center China Lake range from turning in AEDA residue to the DRMO for sale because Naval Air Warfare Center China Lake had not properly demilitarized the AEDA residue in accordance with DoD Manual 4160.21-M-1.

Responsible Army officials told us that several depots and plants have facilities for washing and burning AEDA residue. The officials also told us that several technologies, including hot gas decontamination, have recently emerged. The hot gas decontamination process can be used to remove hazardous material from AEDA residue in a mobile facility. Accordingly, DoD needs to explore regionalizing the process of rendering AEDA residue inert and other potentially cost-effective methods, as well as establishing criteria and instructions for rendering AEDA residue inert. See Appendix C for further discussion on emerging technologies.

Accounting for AEDA Residue. The military installations visited did not fully account for AEDA residue. A basic requirement for safeguarding AEDA residue is knowing who has it and where it is. However, the DoD Manuals provide no procedures and controls to account for AEDA initially issued from ammunition supply points (ASPs) and subsequently returned as residue. Only the Army established a requirement that AEDA be accounted for from issuance to units until turn-in as residue to the DRMO. Department of the Army (DA) Pamphlet 710-2-1 (the Pamphlet), "Using Unit Supply System (Manual Procedures)," February 28, 1994, provides for the ASPs to reconcile issues and turn-ins of ammunition and residue. The Pamphlet states that the combined quantities of live ammunition and residue turned in must balance with the quantities of ammunition the ASP initially issued. Small caliber ammunition must be accounted for by weight while large caliber ammunition must be accounted for by counting shells, pins, containers, and so forth. Reconciliations are made by comparing amounts shown on DA Form 581, "Request for Issue and Turn-In of Ammunition." For any unused or residue shortages that exceed allowable losses, units must complete DA Form 5811-R, "Certificate-Lost or Damaged, Class 5 Ammunition Items." In contrast, the other Military Departments do not require reconciliations to prevent soldiers from taking or units from dumping unused or residue ammunition without detection. Notwithstanding that the Army required accountability over ammunition, its reconciliation process was flawed in coverage and application.

Coverage of Reconciliations. The Pamphlet does not require 100 percent reconciliation for all items issued by an ASP. The Pamphlet identifies only certain items that must be reconciled and, for other items, provides that major commands will establish policies and procedures for their recovery, turn-in, and disposal. The two major Army commands involved in training, the U.S. Army Forces Command and the U.S. Army Training and Doctrine Command, did not supplement the Pamphlet by identifying additional items requiring reconciliation. Nevertheless, of the 10 Army installations visited, 7 training installations that had firing ranges decided to reconcile all issues but established varying loss allowances. For example, at Fort Bragg, North Carolina, units were required to turn-in 100 percent of both ball and blank ammunition as either unused ammunition or residue. Whereas, at Fort Pickett, units were required to turn-in or otherwise account for, at a minimum, about 95 percent of ball and 60 percent of blank ammunition as either unused ammunition or residue. Reconciliations should include all ammunition that ASPs issued and they should be performed consistently among installations.

Application of Reconciliations. Army reconciliations did not always identify missing ammunition. ASPs or units may have overstated the quantities and weights of AEDA residue turned in. For example, Fort Bragg procedures require that all issues of ammunition be reconciled with no loss allowances. Our judgmental sample of 60 issues showed that 55 were reconciled solely by count or weight and 5, in whole or in part, were reconciled by using DA Form 5811-R. However, our review of the Fort Bragg amnesty program for the 9-month period ended March 31, 1997, showed that the reconciliations may be questionable. The amnesty program allows soldiers to turn in ammunition, taken either mistakenly or intentionally, to the local ASP with no questions asked. Under the Fort Bragg amnesty program, during the same time frame that all issues were reconciled, soldiers made 82 turn-ins. Of the 82 turn-ins, 41 involved controlled items that were required to be reconciled by count and at least 4 others involved such quantities that they would have affected weight computations. To be effective, reconciliations need to compare issues of ammunition with actual quantities and weights of AEDA residue turned in.

Despite the shortcomings in the Army reconciliations, establishing accountability is still an excellent control in safeguarding AEDA residue. DoD should make reconciliations or another form of accountability mandatory for all military installations that have ranges and where issues and receipts can be controlled in a practical manner.

Inspecting AEDA Residue. Except for the Army, the military installations visited did not comply with prevailing procedures that require all AEDA residue to be inspected and reinspected by trained and qualified personnel.

Inspection and Reinspection of AEDA Residue. Only Army installations followed the guidance in the DoD Manuals requiring inspections and reinspections of AEDA residue. Army training procedures provide for two and often three inspections. First, Army units inspected and certified all AEDA residue as inert before turn-in to ASPs. Second, Army ASPs inspected and certified all AEDA residue before turn-in to the DRMOs. Third, quality assurance specialists (ammunition surveillance), unique to the Army, when available, verified that accurate screening of AEDA residue was accomplished by sampling turn-in quantities. Navy, Air Force and Marine Corps installations generally had units turn in AEDA residue directly to DRMOs without a second inspection.

Training and Qualified Personnel. The quality of training and the capability of the personnel performing AEDA residue inspections were minimally satisfactory. After rendering AEDA residue inert, the second most important requirement placed on the Military Departments is that AEDA residue be inspected by a technically trained and qualified individual before turn-in to a DRMO. However, the DoD Manuals do not prescribe the training and qualifications needed to adequately inspect AEDA residue. Within the Military Departments, training was prescribed for civilians, but except for the Army Quality Assurance Specialists (Ammunition Surveillance) Program, the curriculums were oriented more towards basic familiarization procedures as opposed to the technical aspects of examining different types of ammunition for explosive properties. Time and the nonavailability of unit records precluded us from a detailed review of the degree of training individuals received. However, we did find instances in which inspectors received no training. For example, at the Fort Bliss, Texas, ASP, only one of eight personnel assigned to inspect AEDA residue had completed the minimum certification training prescribed by the U.S. Army Training and Doctrine Command. DoD needs to establish more specific requirements prescribing the training and qualifications of personnel inspecting AEDA residue.

Accumulating and Storing AEDA Residue. The military installations visited did not consistently accumulate and store AEDA residue before turn-in to the DRMO. Specifically, six of the installations visited kept AEDA residue on hand for over a year or commingled AEDA residue with other scrap.

Accumulating AEDA Residue. The DoD Manuals provide no limiting criteria on how much and how long AEDA residue can be accumulated before it should be turned in to a DRMO. Most of the installations visited sent AEDA residue to DRMOs in a reasonable time frame and in reasonable amounts. However, 4 of the 16 installations visited kept AEDA residue on hand for over a year. Often, the amounts retained were made up of different residues for

which some of the original generators were no longer known and reinspection was sometimes needed as an additional precaution and to document accountability. One installation, Fort Pickett, kept a half-filled bin of rusting 105mm shells in an outside storage area. The other three installations, the Naval Weapons Station (NWS) Yorktown, Virginia; Nellis Air Force Base, Nevada; and Yuma Proving Grounds, Arizona, kept significant amounts of AEDA residue in outside or closed storage. For example, at the NWS Yorktown, AEDA residue marked free from explosives by ship personnel was taken to an inert storage area. The inert storage area was composed of four buildings, four shelters and open fields. The local procedures require that ammunition residue taken to the inert storage area be inspected, and then await disposition instructions from the item manager. If appropriate, demilitarization instructions and funding are also required before transferring AEDA residue to the servicing DRMO. Of the 5 turn-ins to the DRMO made by NWS Yorktown during the 12 month period ended March 31, 1997, 3 involved relatively small amounts turned in. The lack of personnel resources, higher level instructions, and funding were cited as causes for the significant amount of AEDA residue being stored in the inert storage area. At the time of our review, the inert storage area at NWS Yorktown had about 14 tons of brass and 600 tons of other residue on hand. Most of the brass and other residue had been on hand at least a year and, according to responsible officials, all of the material needed to be either initially inspected or reinspected. Figures 1 and 2 show AEDA residue on hand in the inert storage area at NWS Yorktown.

Figure 1. AEDA residue in open fields at the NWS Yorktown Inert Storage Area.

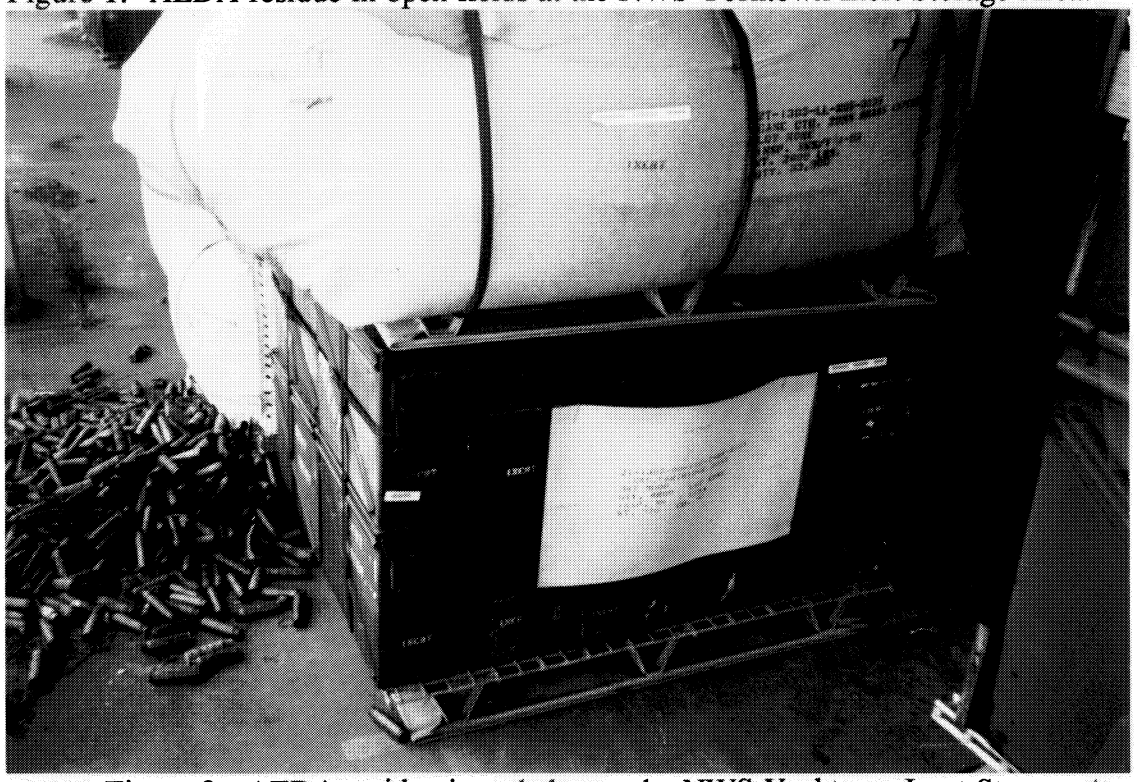

Figure 2. AEDA residue in a shelter at the NWS Yorktown Inert Storage Area.

Storing and Commingling AEDA Residue. Range residue generated from AEDA requiring inspection and certification was commingled with other scrap material at 2 of the 16 installations visited, Holloman Air Force Base, New Mexico and Camp Pendleton, California. The DoD Manuals require that material generated from AEDA, even though properly inspected and rendered inert, be segregated and not commingled with other types of scrap material. This requirement exists as an additional precaution against live AEDA accidentally getting into the hands of the public.

Holloman Air Force Base. At Holloman Air Force Base, the Oscura range residue yard contained a large scrap pile of AEDA residue commingled with other types of scrap. Specifically, flare cases, World War II practice bomb fragments (est. 1940 issue), 500 pound and BDU-33 bomb fins and 2.75 rocket motors were commingled with scrap airplane and truck parts. Air Force Technical Order No. 11A-1-60, section IV "Munitions Residue," paragraph 4-7 requires that flare cases, BDU-33/MK 106, and small pieces and fragments from all types of high explosive bombs and other similar items be inspected, placed in containers, then secured with steel band(s) or sealed. This had not occurred.

Camp Pendleton. At Camp Pendleton, the Artillery Firing Area 17, a large scrap pile of non-AEDA material was commingled with AEDA related material. The AEDA related materials in the pile contained mortar bodies, 3.5 inch rocket motors, 40mm practice grenade projectiles, 60mm practice rounds, 105mm cartridge cases, plastic magazines, and mortar fin assemblies. Non-AEDA material in the same pile included various target vehicle chassis and parts.

DoD needs to establish how much and how long AEDA material can be safely kept in storage before turn-in to the DRMOs or otherwise safely discarded and disposed, while the Military Departments need to ensure that DoD guidance on segregating AEDA residue is carried out.

Certifying AEDA Residue as Inert. The military installations visited did not properly certify all AEDA residue as inert before turn-in to DRMOs. Only 3 of the 16 military installations visited properly certified AEDA residue as inert on a consistent basis. Certification is the only requirement prescribed by DoD to ensure that the Military Departments inspect AEDA residue before turning it in to the DRMOs. However, the DoD Manuals are vague on whether certifications are to be verified, and contain no specific instructions on providing and maintaining lists of names and signatures of persons authorized to sign certifications. At the servicing DRMOs for the 16 installations visited, we judgementally sampled turn-in documents for each of the 12 months ended

March 31, 1997. Because NWS Yorktown made only five turn-ins during the period, we expanded our review at its servicing DRMO to include turn-ins by other military installations in the area. Turn-ins are made using DD Form 1348-1, "Single Line Item Release/Receipt Document." A certification statement must be printed or typed on the DD Form 1348-1. We reviewed 776 DD Forms 1348-1 that the Military Departments processed to determine whether the documents contained certification statements and authorized signatures (due to our expanded review at the NWS Yorktown DRMO, the number of documents reviewed is 57 more than the 719 documents discussed in finding B). Of the 776 documents:

- 66 did not contain certifications.
- 163 contained illegible or unauthorized signatures.

Overall, 229 of the 776 turn-in documents contained errors or omissions that increases the risk of non-inert AEDA being sold to the public. In addition, 563 contained no statement or signature evidencing a second certification or verification. DoD needs to clarify the requirement to certify and verify inspections, and be more specific in prescribing the recordkeeping requirements of the certification process. (This is further discussed in Finding B.)

Turn-In of AEDA. Four of the military installations visited did not turn in all AEDA residue to DRMOs. The DoD Manuals prescribe only one method of disposing of inert AEDA residue, that is, through DRMOs. However, the DoD Manuals do not specifically preclude the Military Departments from disposing of AEDA residue elsewhere. Of the 16 installations reviewed, 4 either elected to or were in the process of disposing of at least some AEDA residue through commercial contractors or installation recycling centers. (This is further discussed in Finding C.)

Physically Securing AEDA Residue and Range Security. The military installations visited did not physically protect the public from potentially harmful AEDA residue. Many of the installations visited were established years ago in isolated and rural areas. Currently, residential areas abut some of the installations and make AEDA easily accessible to the public, thus permitting unauthorized access and removal of AEDA residue. The DoD Manuals provide no instructions on the extent that installations are to physically secure AEDA residue. Within the Military Departments, guidance on range security is also very limited. We located only two publications, DA Pamphlet 710-2-1, and OPNAVINST 5530.13, that prescribe measures for securing firing ranges. The Pamphlet provides that installations should implement, if possible and applicable, local measures to deter access to training areas and ranges when not

in use; that is, post them off limits, employ roving patrols, or make periodic checks. Of the 16 installations visited, 13 had firing ranges and their AEDA residue was kept in fenced in storage areas after collection. However, any AEDA residue not collected at the firing ranges was susceptible to unauthorized access. None of the installations with firing ranges was enclosed and guarded. Thirteen installations were so vast that enclosure would be too costly and not entirely effective. For example, Naval Air Warfare Center China Lake, California, encompasses 1.1 million acres. For the most part, the 13 installations posted signs as the only precautionary measure, thus not preventing unauthorized access. For example, officials at Fort Pickett indicated that a hunter wandered onto an active firing range last year. Although no injury occurred, the lack of security created a potential safety hazard. At another installation, Fort Bragg, live, small caliber ammunition discarded at firing ranges was found. Enough small arms ammunition to fill a shoebox was found on a range that was adjacent to a public road, and within 2 miles of a residential area. Consequently, DoD needs to assess the current risk of public access to military installations with firing ranges and establish physical security measures commensurate with the risk.

Summary

DoD has not provided sufficient guidance and oversight to the Military Departments in disposing of AEDA residue. As a result, the Military Departments established unique and inconsistent procedures and controls over how AEDA residue is collected and cleared from ranges, rendered inert, accounted for, inspected, accumulated and stored, certified as inert, and turned in to DRMOs. The Military Departments also did not consistently secure their firing ranges from public access to potentially harmful AEDA residue. The inconsistencies or degree of procedures and controls established reflect the safety as well as environmental, monetary, and unique operational concerns of the individual Military Departments and their installations. Such concerns compete within and among the Military Departments and do not fall within the purview or expertise of a single DoD staff element for resolution. Accordingly, all key players involved in munitions disposal -- the environmental advocates, the logisticians, the ordnance experts, the safety technicians, etc. -- should be brought together to establish a unified and adequately regulated process of disposing of AEDA residue. The process should balance risk with cost and allay environmental, monetary, safety, and unique operational concerns as reasonably and practicable as possible.

Management Comments on the Finding

Defense Reutilization and Marketing Service Comments. Although not required to do so, DRMS commented on the finding. DRMS stated that guidance on ammunition, explosives, and other dangerous articles is necessary and suggested improvements in the munitions disposal process such as centralizing the processing of AEDA residue and taking advantage of current technologies to aid in rendering the material inert.

Recommendations, Management Comments, and Evaluation Response

Revised Recommendations. As a result of management comments, we revised Recommendation A.1. to eliminate joint responsibility for implementing corrective action between the Under Secretary of Defense for Acquisition and Technology and the Joint Logistics Commanders. We also revised Recommendation A.3.c. for clarity and to provide a specific time frame for accomplishment.

A.1. We recommend that the Under Secretary of Defense for Acquisition and Technology develop standard DoD-wide policy, procedures, and training that provide specific instructions on how and what ammunition, explosives, and other dangerous article residue is collected, rendered inert, accounted for, inspected and reinspected, accumulated and stored, certified, cleaned up, and physically secured. We further recommend that the Under Secretary of Defense for Acquisition and Technology establish an integrated process team to partner the DoD environmental, explosive ordnance disposal, demilitarization, munitions, safety, and training staffs to accomplish the following actions.

a. Develop a corrective action plan to implement the recommendations in the Inspector General, DoD, Report, "Review of Policies and Procedures Guiding the Cleanup of Ordnance on DoD Lands," November 22, 1994.

b. Develop standard DoD-wide accountability requirements for ammunition, explosives, and other dangerous articles residue. The integrated process team should consider adopting Army reconciliation procedures, where practicable.

c. Develop DoD-wide policies and procedures that provide specific instructions on the number and type of inspections as well as the training and qualifications required of personnel designated to inspect and certify ammunition, explosives, and other dangerous articles residue as inert.

d. Develop DoD-wide policies and procedures for the disposal or turn-in of accumulated ammunition, explosives, and other dangerous articles on a specific time interval or weight basis.

Under Secretary of Defense for Acquisition and Technology Comments. The Under Secretary partially concurred and stated that corrective actions have already been initiated through an ad hoc working group comprised of the various organizations involved in the munitions disposal process. The initiatives include addressing policy and oversight fragmentation, the need for compliance emphasis, and the feasibility of a joint regulation. The ad hoc group will explore utilization of existing formal groups to accomplish its objectives. The projected completion date is December 1997.

Evaluation Response. Although the Under Secretary only partially concurred, we consider the comments responsive. We agree that existing formal groups should be used to the maximum extent practicable to review and, where necessary, revamp the munitions disposal process. Our concern, however, is that the ad hoc group include all, not just some, of the key players involved in the munitions disposal process, and that the group has the requisite stature of an integrated process team to effect and implement needed changes. No additional comments are required. We will work with the Office of the Under Secretary and the ad hoc group to address our concerns.

Joint Logistics Commanders Comments. The Joint Logistics Commanders responded to the draft report Recommendation A.1., which recommended that they partner with the Under Secretary of Defense for Acquisition and Technology in reviewing the munitions disposal process. The Joint Logistics Commanders stated that the lead assignment for corrective action should start with the Under Secretary of Defense for Acquisition and Technology with assistance provided by other organizations like the Joint Logistics Commanders.

Evaluation Response. We agree with the Joint Logistics Commanders. As a result, we revised and redirected Recommendation A.1. solely to the Under Secretary of Defense Acquisition and Technology.

Deputy Under Secretary of Defense (Environmental Security) Comments. Although not required to comment, the Deputy Under Secretary commented on Recommendation A.1.a. by identifying a number of actions that were initiated

by the DoD ammunition, safety, and legal communities in response to our November 22, 1994 report.

A.2 We recommend that the Deputy Under Secretary of Defense (Environmental Security) partner with the DoD Unexploded Ordnance Center of Excellence to develop short and long-term DoD-wide policies, procedures, and goals for cleanup and clearance of active DoD ranges in the areas of detecting and neutralizing unexploded ordnance, oversight, and coordination of technology developments supporting range clearance; and evaluate the cost-effectiveness of cleansing potentially harmful ammunition, explosives, and other dangerous articles on a regional basis.

Deputy Under Secretary of Defense (Environmental Security) Comments. The Deputy Under Secretary concurred with the recommendation and identified additional organizations, including the Offices of the Deputy Under Secretary of Defense for Readiness and the Director, Test Systems Engineering and Evaluation, that should join the partnering effort or assist in resolving range clearance issues.

A.3. We recommend that the Military Departments:

a. Conduct compliance staff reviews of organizations involved in the disposal of ammunition, explosives, and other dangerous articles to ensure that ammunition, explosives and other dangerous articles residue is segregated from other scrap material, and the certification process is sound.

Army Comments. The Army concurred. It stated that under the provision of Army Regulation 700-13, the Office of the Deputy Chief of Staff for Logistics periodically conducts reviews of all organizations with a mission for the receipt, storage or issue of ammunition. Army advised that they will ensure that the review team makes this a special item of interest for all future reviews.

Navy Comments. The Navy concurred. It stated that the Chief of Naval Operations issued a message to ordnance handling and storage facilities to conduct a review of demilitarization and scrap turn-in procedures and report on their compliance with those procedures. All units reported to be in compliance on June 15, 1997. Further, the units were advised that the DoD Explosive Safety Board and Naval Ordnance Center Explosives Safety Inspections will address the issues as special interest items in the future.

Air Force Comments. The Air Force concurred but did not specify the actions to be taken and when.

Evaluation Response. The Army and Navy comments were responsive. Although the Air Force concurred, we do not consider the Air Force reply fully responsive. We request that the Air Force specify the staff reviews that will be performed and when in its response to the final report.

b. Assess the risk of public access to military installations with firing ranges, and establish security measures, such as fencing and using detection devices; alarms; lighting; patrols; guards; and signs, commensurate with the risk, as practicable.

Army and Navy Comments. The Army concurred, and stated that Army Regulation 385-63 governs the provisions of controlling access to firing ranges and employs the use of various methods to control access to the ranges commensurate with the risk. As a minimum, permanent signs are placed at no less than 200 meter intervals and in a way that will ensure that a person cannot enter the range without seeing at least one sign within a legible distance. Safety professionals at the installation level periodically review compliance with the requirement and initiate corrective action when required. The Navy nonconcurred, and stated that its regulatory guidance, primarily the Naval Sea System Command Operations 5, provides sufficient guidance with respect to required security and safety measures.

Evaluation Response. Neither the Army nor Navy replies were fully responsive. Both Departments discussed the adequacy of regulatory guidelines rather than independent assessments of the risk of public access to military installations with firing ranges and installing safety measures commensurate with the risk. We believe that a comprehensive and systematic program of independent assessments would be highly prudent. We request additional comments.

Air Force Comments. The Air Force concurred but did not specify the actions to be taken and when.

Evaluation Response. We request that the Air Force specify how and when assessments will be made in its response to the final report.

c. Establish criteria for subordinate organizations to suspend the turn in of ammunition, explosives, and other dangerous articles residue to Defense Reutilization and Marketing Offices when incidents of live explosives are found during the munitions disposal process.

Military Departments Comments. The Military Departments generally agreed that subordinate organizations should suspend the processing of AEDA residue turn ins to DRMOs when live explosives are found. However, our recommendation did not provide for formalizing the requirement. Accordingly, we request that the Military Departments specify what suspension criteria will be established and when in their replies to the final report.

Finding B. Adequacy of DoD Controls for AEDA Residue Disposal at the Defense Reutilization and Marketing Service

Management controls at the DRMS to prevent the sale of live AEDA to the public were not fully effective. Specifically, some of the DRMOs visited did not review and verify that accountable scrap turn-in documents were properly certified; ensure that AEDA residue was not commingled with other materials; and perform a visual inspection to recognize a potential ordnance safety hazard. Controls were not fully effective because the DRMOs did not always follow procedures to ensure that AEDA range residue, upon turn-in, was properly inspected and certified as required by DoD regulations. Further, the DoD Manuals and the DRMS procedures did not require the DRMOs to segregate material generated from AEDA from other scrap material and perform visual inspections. As a result, DRMS received, stored, and sold uncertified and improperly certified AEDA residue to the public.

Regulations

Defense Demilitarization Manual. DoD Manual 4160.21-M-1 requires all AEDA material (residue) generated from firing and demilitarizing to be rendered inert before turn-in to the DRMO for disposal. To prevent dangerous material from being turned in to a DRMO, DoD Manual 4160.21-M-1 also requires that all inert ammunition items, including dummy rounds, containers, and other items, such as ammunition pouches; bandoleers; and inert material generated from demilitarized AEDA, be inspected by a qualified individual. The individual submits a certificate as part of the turn-in documentation. The guidance also requires each organization generating demilitarized material to provide a listing of individuals qualified to inspect and certify AEDA residue as inert. DRMO personnel have the responsibility to review and verify the turn-in documents to ensure that the person who signs the certificate is included on the AEDA qualified list before accepting accountability for AEDA residue. DoD Manual 4160.21-M-1 further requires that material generated from AEDA, although properly inspected and rendered inert, not be commingled with other types of material, including scrap, when transferred to the DRMOs.

Defense Reutilization and Marketing Manual. DoD Manual 4160.21-M states that all property that has sale value only for its basic material content and is dangerous to public health and the environment shall be rendered harmless before it is turned in to the DRMO. The generating organization shall ensure that the property is properly inspected and not commingled with other property. The person conducting the inspection shall submit an inspection certificate as part of the turn-in document.

Defense Reutilization Marketing Service Letter No. 91-9, "Range Residue," September 30, 1996. Letter No. 91-9 requires the generators of AEDA residue to provide inert certifications by qualified personnel; to provide a separate secured storage area for AEDA residue; to complete all required demilitarization or mutilation before transferring AEDA residue to the DRMO; to ensure all inert AEDA containing plastic, concrete, or other inert material were opened exposing the filler; and to reinspect, recertify, retrieve, account for, and take custody of material that has been identified as containing live AEDA. The Letter also requires the DRMO to reject any range residue that does not conform to the above requirements, and to prepare a special situation report, in accordance with internal DRMS procedures, for live AEDA discovered while processing range residue.

DRMO Review and Verification of the Certification Process

Review of Accountable Turn-in Documents. Twelve of 16 DRMOs visited did not adequately review and verify that accountable documents (DD Form 1348-1, "DoD Single Line Item Release/Receipt Document") used to turn-in scrap range residue were properly certified, as required by the DoD Manuals. The inadequate reviews and verifications resulted because the DRMOs did not comply with the DoD Manuals, which require that all material generated from AEDA be inspected by a technically qualified individual, and certified as part of the turn-in document that it is inert. Specifically, DRMO personnel did not verify that the name or signature on the turn-in document agreed with the name on the list of appointed individuals. The verification is required to ensure that the signator on the turn-in document has been appointed by the generator as trained and qualified to inspect and certify that scrap material generated from AEDA is inert.

Certification of AEDA Residue as Inert. Twelve of the 16 DRMOs visited accepted accountability for AEDA residue when the certification documents (DD Forms 1348-1) were not certified or when signatures were illegible or

unauthorized. Illegible signatures could not be readily compared with the printed names provided by the generators. Of the 16 military installations visited, 15 turned in AEDA residue to servicing DRMOs (Nellis Air Force Base normally uses a contractor to dispose of its AEDA residue instead of its servicing DRMO). Of the 16 servicing DRMOs, only 3 had DD Forms 1348-1 that were properly signed for all the turn-ins that we sampled. Additionally, of the 719* DD Forms 1348-1 reviewed, 62 were not certified by the inspectors while 132 were signed by an unauthorized individual including 3 that were certified by a contractor truck driver. As a result, DRMOs did not consistently ensure that AEDA residue was properly certified as inert by the generator, upon turn-in, and thereby increased the risk of live AEDA residue sales to the public.

DoD needs to revise DoD Manual 4160.21-M-1 to require that the generator's list include not only the name but also the grade, rank, and sample signature of the individual authorized to certify DD Forms 1348-1. DoD Manual 4160.21-M-1 needs to include this guidance because it is the primary manual used by the DRMOs. In the interim, the DRMS should direct the DRMOs to obtain such a listing from the generators with provision for periodic updates. To reduce the chances of live AEDA reaching the public, DRMO personnel need to be uniformly trained on the acceptance of material generated from AEDA residue.

* The 719 total differs from the 776 in Finding A because this finding does not include the expanded review of 57 DD Forms 1348-1 at NWS Yorktown.

Table 1 shows the results of our review of turn-in documents at the DRMOs visited.

Table 1. DD Forms 1348-1 Turned In at DRMOs

Site	Number Reviewed	Not Certified DD 1348-1	Illegible DD 1348-1	Unauthorized Signature
Crane Army Ammunition Activity, IN	82	0	27	7
Fort Bliss, TX	66	47*	0	19
Fort Bragg, NC	63	1	0	4
Fort Hood, TX	71	3	0	58
Fort Lewis, WA	76	0	0	1
Fort Pickett, VA	32	0	0	0
Fort Riley, KS	27	0	1	3
Fort Sill, OK	62	0	0	1
Sierra Army Depot, CA	20	0	0	0
Yuma Proving Ground, AZ	1	0	0	0
Naval Air Warfare Center China Lake, CA	50	0	0	2
Naval Weapons Station Yorktown, VA	5	2	0	0
Holloman Air Force Base, NM	59	1	0	4
Camp Lejeune, NC	62	6	0	28
Camp Pendleton, CA	43	2	0	5
Total	**719**	**62**	**28**	**132**

Note: Nellis Air Force Base did not issue DD Forms 1348-1 for AEDA residue for the period reviewed.

*The 47 documents not certified resulted because the DRMO inadvertently assumed, based on verbal confirmation from the generator, that the quality assurance specialist (ammunition surveillance) sample inspection and certification constituted inertness for all material turned in. As part of the turn-in process, DoD Manual 4160.21-M-1 requires that AEDA be inspected and certified as inert by a technically qualified individual. Further, TRADOC Regulation 700-2, "Logistics, Ammunitions," March 10, 1989, requires that a second sample inspection and certification be performed by a quality assurance specialist (ammunition surveillance) to reconfirm that the results from the detailed inspection are adequately projected. When informed otherwise, the DRMO took immediate action requiring certification.

The DRMS needs to review and verify turn-in documents for evidence of proper certification, and only accept physical custody of material generated from AEDA that has been properly certified as inert.

DRMO Commingling of AEDA With Other Scrap Material

Of the 16 DRMOs visited, 2 improperly commingled material generated from AEDA requiring inspection and certification with non-AEDA scrap material. That resulted because the DRMS did not require that material generated from AEDA, although properly inspected and certified as inert, be segregated and not commingled with other types of scrap material. The DoD Manuals require the generators to keep scrap material separate from AEDA when transferred to the DRMO, but do not prescribe the same precautions for DRMS.

o On April 24, 1997, DRMO personnel found a live 40mm high explosive projectile commingled with scrap metal at the Fort Lewis DRMO scrap yard. Our review disclosed that the projectile was delivered to the DRMO with a certification that the scrap metal was inert AEDA residue.

o On April 30, 1997, DRMO personnel found AEDA residue commingled with an aircraft wreckage at the Yuma Proving Ground scrap yard while processing aircraft wreckage for public sale. Our review disclosed that two shipments of aircraft wreckage were delivered on December 16, 1996, and January 23, 1997, to the DRMO scrap yard with a certification of inert AEDA residue. However, the inert AEDA residue was not segregated from the wreckage. Yuma Proving Ground EOD personnel removed the AEDA, consisting of an expended redeye missile and a M61 gun system.

The DoD Manuals need revision to require DRMS to segregate material generated from AEDA from other scrap material in its storage areas. In the interim, DRMS should direct the DRMOs to segregate material generated from AEDA from other scrap material. The precaution would be another safeguard to prevent live AEDA from reaching the public.

DRMO Visual Inspection of AEDA Residue

The DRMOs did not consistently perform visual inspections of AEDA residue to recognize potential ordnance safety hazards. That condition existed because the DoD Manuals and DRMS did not require the DRMOs to perform visual inspections. However, on March 28, 1997, DRMS required its zone managers to perform a one-time visual inspection of all scrap accumulation in the DRMO storage areas. Prior to this, DRMO personnel performed some visual inspections upon turn-in of AEDA residue, several of which resulted in situation

reports. In addition, DRMS Letter No. 91-9, paragraph 2.c.b. (1) (d) and 2.c.b. (2) (a) requires DRMOs to reject any range residue in which the generator failed to open inert material exposing the filler for items, such as projectiles and mines, containing plastic, concrete or other inert material. DRMOs should extend the same level of visual inspection for other material generated from AEDA. Review of DRMO situation reports disclosed that live AEDA could have possibly been identified through visual inspection before sale to the public. For example:

o On May 14, 1996, a visual inspection of the Sierra Army Depot DRMO scrap yard found 33 105mm projectiles with live tracer components. The 105mm projectiles were certified inert by an authorized individual. EOD personnel removed the projectiles.

o On July 22, 1996, a civilian contractor found a live MK 20 rockeye bomb included with scrap containers purchased from the DRMO at Crane Army Ammunition Activity. This resulted because the generator did not follow applicable Army Material Command Regulation 755-8, "Disposal of Supplies and Equipment," April 12, 1995, requiring the removal of container lids and inspection of the container for AEDA before turn-in. A visual inspection by DRMO personnel would have disclosed this error and identified the bomb, which is approximately 6 feet long and contains about 160 bomblets. Crane Army Ammunition Activity EOD personnel removed the bomb. The container was inappropriately marked, indicating that the container had been inspected and certified that it did not contain AEDA. Figure 3 shows the rockeye bomb. On December 6, 1996, a similar incident occurred wherein a civilian contractor found a live rockeye bomblet commingled with scrap plastic components that were certified as inert and sold by the DRMO.

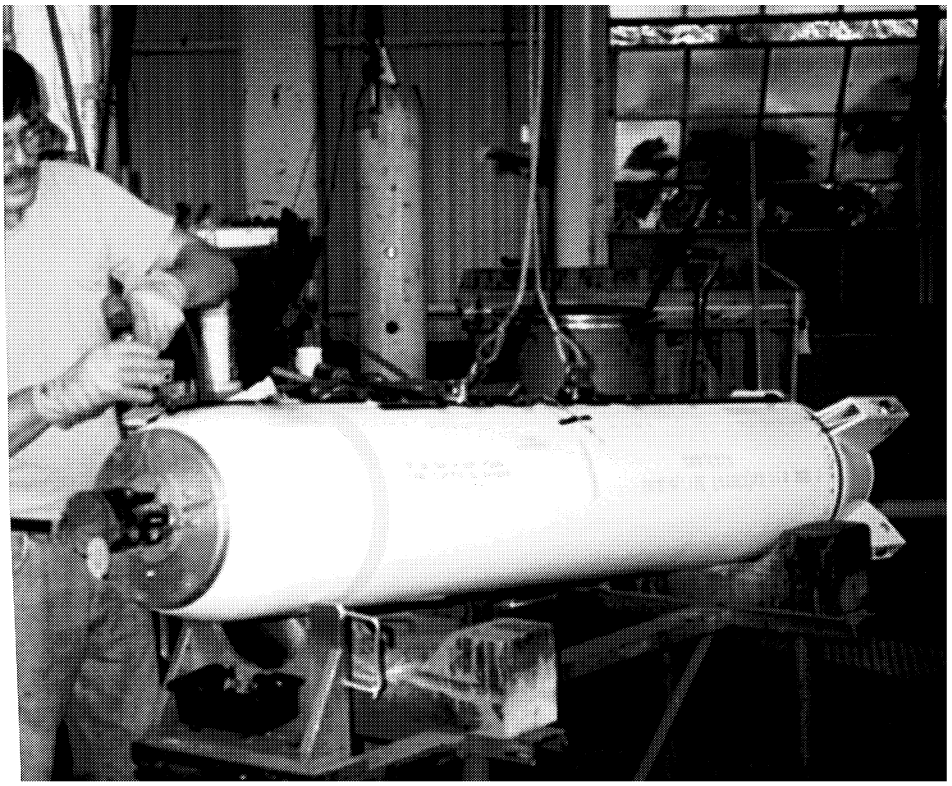

Figure 3. Rockeye Bomb

o On March 7, 1997, a visual inspection of the Nellis Air Force Base DRMO scrap yard found a live 20mm round and three practice bombs.

Routine visual inspections (upon turn-in of AEDA residue) by DRMO personnel are another safety precaution that could prevent the sale of live AEDA to the public. To facilitate the conduct of visual inspections, DRMO personnel should receive specialized training that consists of basic ordnance identification so that they can recognize a potential ordnance safety hazard, and expeditiously alert appropriately trained EOD personnel.

DRMS Oversight of DRMOs

The DRMS needs to improve controls at the DRMOs to prevent dangerous material from getting into the hands of the general public. We did not conduct an in-depth review of DRMS oversight of the DRMOs. However, our detailed review of 16 DRMOs concluded that the development of uniform training of DRMO personnel, and more periodic compliance reviews by the DRMS would reduce the chances of dangerous material being sold to the public. We

recognize that more effective controls in the AEDA disposal process require the cooperation of all parties involved, especially the Military Departments and the DRMS. Finding A identifies the DoD controls applicable to the Military Departments that must be strengthened. Finding B discusses the controls that DRMS needs to establish or strengthen to protect the public from safety hazards derived from the sale of AEDA residue. Therefore, a strong and sustained commitment by DRMS management is required to correct the deficiencies in the verification of the certification process, and the commingling of AEDA with other scrap material. Also, establishing and strengthening DRMS controls, such as implementing the requirement for visual inspections upon turn-in of AEDA residue, will greatly reduce the potential for AEDA residue, such as rockeye bombs, reaching the general public.

Management Comments on the Finding

Defense Reutilization and Marketing Service Comments. Although not required to do so, DRMS commented on the finding. DRMS provided suggestions for further improving AEDA residue disposal at its field offices, such as expanding our recommendations to require two signatures for inert certification.

Air Force Comments. Although not required to comment, the Air Force concurred with the finding and stated that the Air Force Supply Policy staff has partnered with the Defense Logistics Agency in a review of turn-in accountability policies. Also, the Air Force Munitions, Missiles and Space Plans and Policy and Explosives Ordnance Disposal staffs have partnered with the Deputy Under Secretary of Defense (Logistics) to review the functional and technical aspects of turn-in procedures.

Recommendations, Management Comments, and Evaluation Response

B.1. We recommend that the Deputy Under Secretary of Defense (Logistics) revise the DoD Manuals 4160.21-M and 4160.21-M-1 to establish requirements to:

a. Obtain from generators of ammunition, explosives, and other dangerous articles residue a listing of the name, grade, rank and sample signature of each individual authorized to certify items as inert on the DD Forms 1348-1.

b. Segregate material generated from ammunition, explosives, and other dangerous articles from other scrap material in the Defense Reutilization and Marketing Office or any other storage areas.

c. Perform visual inspections to recognize potential ordnance safety hazards upon turn-in of material generated from ammunition, explosives, and other dangerous articles.

Management Comments. The Deputy Under Secretary of Defense (Logistics) partially concurred and stated that policy revisions are already underway for the disposal and demilitarization manuals. However, the manuals are not the appropriate avenue for all munitions policy. The Office of the Deputy Under Secretary is participating in the Defense Logistics Agency ongoing review of munitions disposal, which may result in additional policy revisions. The projected completion date is December 1997.

Evaluation Response. Although the Deputy Under Secretary partially concurred with the recommendation, we consider the comments responsive. Our citation of specific manuals to be revised was not meant to restrict policy revisions in the area of munitions disposal. No additional comments are required.

B.2. We recommend that the Commander, Defense Reutilization and Marketing Service establish or strengthen, as appropriate, controls to ensure compliance with guidance. Specifically,

a. Direct the Defense Reutilization and Marketing Offices to:

(1) Obtain the generator's list that includes the printed name, grade, rank, and sample signature of the individual authorized to certify ammunition, explosives, and other dangerous articles residue as inert and require an updated list on a periodic basis.

Management Comments. The DRMS concurred, and stated that it currently requires marketing offices to maintain a listing of qualified individuals authorized to sign inert certifications. Those listings are to be updated annually or as changes occur. Revised DRMS guidance will require both the printed name and the sample signature. An element of the sales offices self-certification

process is that marketing offices comply with the existing requirement to have a listing of qualified individuals. That requirement is part of the items that are reviewed during the quality inspection process.

(2) Accept physical custody only of ammunition, explosives, and other dangerous articles scrap that has been properly certified and that is accompanied by a DD Form 1348-1 that contains the name, grade, rank and signature of an authorized individual.

Management Comments. The DRMS partially concurred, and stated that its physical acceptance of AEDA residue is to be limited to only expended cartridge and artillery cases. DRMS does not support the wholesale acceptance of other residues, such as practice bombs, spent artillery shells, and rockets until the certification process is improved. DRMS advocates that the material remain with the generator and that DRMS be designated as the sole disposal agent for disposal of the material under the auspices of a well-defined DoD policy.

Evaluation Response. Although the DRMS partially concurred with the recommendation, we consider its comments responsive. However, the DRMS advocacy of a designation as the sole disposal agent for AEDA residue other than expended cartridge and artillery cases is an issue to be addressed by the Under Secretary of Defense for Acquisition and Technology ad hoc team discussed in Recommendation A.1. No further comments are required.

b. Establish interim procedures requiring Defense Reutilization and Marketing Office personnel to segregate material generated from ammunition, explosives, and other dangerous articles from other scrap material in Defense Reutilization and Marketing Office storage areas.

Management Comments. The DRMS partially concurred, and stated that it has directed its marketing offices to cease accepting either accountability or physical custody of range residue material, except expended small arms cartridge cases and artillery cases. It stated that the need for segregation should be limited to material that is on site. The estimated completion date for segregating material on site and other actions necessary to implement this policy is October 1997.

Evaluation Response. Although DRMS did not fully concur with the recommendation, we consider its comments responsive. The Under Secretary of Defense for Acquisition and Technology will decide the type of material to be turned in and accepted. No further comments are required.

c. Establish interim procedures requiring Defense Reutilization and Marketing Office personnel to perform visual inspections to detect potential ordnance safety hazards.

Management Comments. The DRMS partially concurred, and stated that its employees accomplish visual inspections in an attempt to identify suspect AEDA that have been inappropriately turned in to the marketing offices. To enhance this effort further, sources of AEDA recognition training are being identified for marketing office employees. DRMS further states that its efforts must be limited to visual inspections, because its property disposal specialists are not AEDA experts. The estimated completion date for identifying a source of training and initiating employee training in recognizing ammunition, explosives, and other dangerous articles is December 1997.

Evaluation Response. Although DRMS partially concurred with the recommendation, we consider its comments responsive. No further comments are required.

d. Develop uniform training requirements for all personnel at Defense Reutilization and Marketing Offices who handle ammunition, explosives, and other dangerous articles and range residue to include, as a minimum, specific conditions for the acceptance of turn-in documents and basic ordnance identification.

Management Comments. The DRMS concurred, and stated that it is in the process of identifying potential sources for this training. Its objective is to improve the existing and required visual inspection being accomplished by marketing office personnel in the identification of unauthorized turn in of AEDA. Acceptance training was provided to all marketing offices in April 1997. It further stated that coverage of acceptance procedures will be strengthened in its ABCs of DEMIL [demilitarization] training. The expected completion date is the second quarter of FY 1998.

e. Conduct more compliance reviews to ensure that the Defense Reutilization and Marketing Offices follow established procedures to prevent live ammunition, explosives, and other dangerous articles from being sold to the public.

Management Comments. The DRMS concurred. It stated that it has begun a command-wide process review to assess the adequacy of internal controls in the demilitarization program, to include the processing of AEDA. In addition, DRMS plans to conduct more frequent on-site compliance and process reviews in the near future and to have the scope defined. DRMS plans to develop a protocol and schedule by September 1997.

Finding C. Adequacy of DoD Guidance for AEDA Disposal Contracts, Qualified Recycling Programs, Reporting Incidents, and Demilitarization

DoD policies and procedures for AEDA disposal contracts, Direct Sales Programs as part of the Qualified Recycling Programs (QRP), reporting and investigating AEDA incidents, and demilitarization were inadequate. The DoD policies and procedures were inadequate because:

o the Defense Federal Acquisition Regulation Supplement (DFARS) did not include uniform contracting policies for service contracts to clear ranges or for sales contracts of range residue;

o the direct sales and QRP guidance inadequately covered the handling and disposal of AEDA;

o no DoD-wide guidance governed the reporting, investigation, and coordinating of live AEDA found in unauthorized areas; and

o demilitarization policies did not cover safety precautions sufficiently.

As a result, AEDA disposal service and sales contracts varied by installation and included disparate levels of safety and oversight. DoD installations that sold expended small arms brass through their QRP had a higher risk of selling live munitions. Also, the lack of DoD-wide guidance on reporting, investigating, and coordinating AEDA incidents resulted in a lack of assurance that proper investigations were performed, that responsible individuals were identified, and that recurrences would be prevented. Finally, demilitarization guidance did not provide sufficient safety precautions for AEDA residue that may have been sold to the public.

AEDA Disposal Contracting

DoD policies and procedures for AEDA disposal contracts were inadequate. Specifically, DoD Components that have outsourced some of the processes that control the collection and disposal of AEDA residue using service and sales

contracts have not consistently included adequate contractual provisions nor provided sufficient oversight of contractor performance to prevent live AEDA from being sold to the public. This condition was the result of a lack of uniform DoD guidance for the AEDA disposal process in the DFARS. As a result, AEDA disposal service and sales contracts varied by installation and included disparate levels of safety and oversight.

DoD Policies and Procedures for AEDA Disposal Contracts. The DFARS does not contain adequate requirements for service and sales contracts that involve the handling of AEDA residue or special requirements for selling inert AEDA residue to the public. The Federal Acquisition Regulation and DFARS are the primary guidance for contracting officers and are checked for special considerations when contracts are developed.

The DFARS Subpart 223.370, "Safety Precautions for Ammunition and Explosives," states that it applies to all acquisitions involving the use of ammunition and explosives, including acquisitions for the transportation, demilitarization, and disposal of ammunition and explosives. The main purpose of DFARS subpart 223.370 is to incorporate standard contract clauses 252.223-7002, "Safety Precautions for Ammunition and Explosives," and 252.223-7003, "Change in Place of Performance - Ammunition and Explosives," into applicable contracts. The primary safety requirement in clause 252.223-7002 is that the contractor comply with the requirements of DoD Manual 4145.26-M, "DoD Contractors' Safety Manual for Ammunition and Explosives," July 19, 1985. DoD Manual 4145.26-M is being revised and is scheduled for issuance in July 1997. The present version primarily discusses production and storage of ammunition and explosives. It does not provide specific guidance for range clearance, the sale of AEDA, and the handling of unexploded ordnance.

Inconsistent and Inadequate Contract Provisions. The AEDA disposal service and sales contract provisions used by the military installations reviewed varied widely, and in many cases, important provisions covering safety and quality control were nonexistent. The inherent danger of inspecting, handling, or disposing of ammunition and explosives necessitates uniform DoD contract provisions for contractor qualifications and training, methods of handling ammunition and explosives, and site specific safety and health plans.

To evaluate contracts that included tasks involving range clearance and the handling of unexploded ordnance from firing ranges, we reviewed contracts that included range clearance tasks at Fort Lewis, Naval Air Warfare Center China Lake, Holloman Air Force Base, and Nellis Air Force Base. We also reviewed contracts for the operation of ASPs at Fort Riley, Fort Sill, and Yuma Proving

Grounds. Additionally, we examined the sale through DRMS of range residue at Camp Pendleton. We reviewed the contracts to determine consistency and adequacy in AEDA disposal contract provisions for:

o required qualifications and verification of training for contract personnel;

o methods of work for site personnel in performance of surface and sub-surface unexploded ordnance location, identification, and disposal;

o development of site quality control plans; and

o development of site specific safety and health plans.

The results of the analysis, excluding the sales contract at Camp Pendleton, are in Appendix D and a summary of the analysis is in Table 2.

Table 2. Summary of Analysis of AEDA Contracts

Contract Location	Status of Qualifications and Training	Method of Work	Site Quality Control Plan	Safety and Health Plan
Fort Lewis	Adequate	Adequate	Adequate	Adequate
Fort Riley	Adequate	Not Applicable	No Provision	No Provision
Fort Sill	No Provision	Not Applicable	Inadequate	No Provision
Yuma Proving Grounds	Inadequate	Not Applicable	No Provision	No Provision
Naval Air Warfare Center China Lake	Inadequate	Inadequate	Adequate	Adequate
Holloman Air Force Base	Inadequate	Inadequate	Adequate	No Provision
Nellis Air Force Base	Adequate	Inadequate	Adequate	No Provision
Camp Pendleton	No Provision	No Provision	No Provision	No Provision

Sales Contract of Range Residue. We reviewed one sales contract of range residue at Camp Pendleton. Contract 31-6718-0058 is a DRMS sales contract of mixed metal scrap located on the firing ranges at Camp Pendleton. The range residue was sold as mixed metal scrap on August 1, 1996. The sale was suspended as the contractor refused the material because stickers on much of the material designated it as "explosive." DRMS Form 917, "Disposal Reject/Advice Notification," states that the stickers must be removed before the material is turned in to the DRMO. Because the material was sold as mixed metal scrap, there were no requirements to inspect the material or certify it as safe. The contract contained no provisions for buyer qualifications and training,

methods of work to be used for removing the scrap, site quality control plans, or site specific safety and health plans. Because scrap from a firing range may contain undiscovered explosives, firing range residue should be sold only to qualified contractors who can recognize military explosive material. In addition, standards need to be developed for preaward surveys of range residue purchasers that contain provisions restricting buyers of range residue to contractors that have EOD training and qualifications. DRMS should maintain a data base of qualified bidders for range residue from which a list of qualified bidders can be developed. Scrap from firing ranges should be sold only to the buyers on the list of qualified bidders.

Inadequate Contract Oversight. As shown in Table 2, under the site quality control plan column, Government oversight of contractor performance was inadequate or not addressed in contract provisions for four of the eight contractor run AEDA operations. We determined the sufficiency of Government oversight provisions by analysis of contract provisions for quality control plans or quality assurance plans. Quality control requirements specify how the contractor will ensure quality performance, and quality assurance requirements specify how the Government will determine the quality of contractor performance. The contract provisions are the tools the Government uses to ensure planned methods of work are used by the contractor and that the contractor is performing the contract as the Government planned. The more stringent the quality control plan is the less stringent the quality assurance plan must be. Of the eight contracts reviewed, three had no provisions for either quality control or quality assurance. The contract at Fort Sill had quality assurance provisions but the provisions did not apply to contractor operations involving AEDA disposal. Only four of the eight contracts reviewed were considered adequate as they were approved by the contracting officer. However, an adequate contract provision does not guarantee that the Government will perform adequate oversight.

For example, the contract awarded at Nellis Air Force Base had a quality assurance plan that was approved by the contracting officer specifying that the Government shall inspect 100 percent of all completed contractor work. However, the Nellis quality assurance evaluators performed inadequate Government oversight of the contractor methods that were used in performing range clearance tasks. Specifically, the quality assurance evaluators inspected the range to determine whether AEDA residue had been cleared, but did not review the methods the contractor used to clear the range. Therefore, there was no assurance that contract workers were performing safe explosives retrieval methods in a safe environment.

To ensure that live AEDA residue does not reach the public, DoD needs uniform contract provisions that specify contractor qualifications and training, methods of work for range clearance, site quality control and assurance plans, and site specific safety and health plans. The plans developed need to stipulate sufficient contract oversight to allow the Government absolute certainty that the contractor is in total compliance with contract provisions regarding the handling of AEDA residue.

Available Assistance. Uniform contract provisions for the clearance of AEDA have been developed by the U.S. Army Engineering and Support Center, Ordnance and Explosives Center of Expertise and Design Center. The Design Center was used as the technical lead on contracts involving the disposal and removal of unexploded ordnance from formerly used Defense sites. It developed a system containing multiple safety inspections to ensure that AEDA residue that was turned in to civilian and DRMO scrap yards was safe. The contract provisions that the Design Center developed could serve as a model for future contracts involving unexploded ordnance disposal and clearance. Additionally, the Design Center has a web page at http://w2.hnd.usace.army.mil/oew/oewindex.html that contains excellent material on quality management and regulations. It also has procedural documents and sample plans that can be applied to ordnance and explosives work.

Direct Sales and Qualified Recycling Programs

DoD policies and procedures for direct sales programs that are part of the installations' QRP were inadequate. Specifically, the DoD guidance governing the direct sale of expended small arms brass and firing range residue through the Direct Sales Program and QRP did not clearly articulate the requirement for the destruction of expended brass and the certification of firing range residue as inert before the sale of the AEDA residue. As a result, installations with QRPs had a higher risk that live AEDA would be sold to the public.

Installation recycling centers were authorized only to accept and sell expended small arms brass residue and mixed metal gleanings from firing ranges. However, there were insufficient controls in place to ensure that units did not turn in other AEDA residue along with the expended brass residue to recycling centers. Military installations turned in residue from ranges labeled as scrap to obtain the funds derived from the QRP sales to the public. After the residue was labeled as scrap, no safety controls were placed on the material. For

example, at the Fort Pickett recycling center, we observed four large wooden boxes filled with metal ammunition cans, as well as a pile of expended smoke grenades and hand-held flare launch tubes. None of the residue included brass. The recycling center manager had no certificate that the AEDA residue was inert. The manger told us that a Navy training unit dropped off the material recently. The drop-off created the possibility of dangerous material being sold to the public. Figure 4 shows AEDA residue other than brass on hand at the Fort Pickett recycling center.

Figure 4. AEDA Residue at the Fort Pickett Recycling Center.

Policies and Procedures for Direct Sales Programs and QRPs. DoD policy on recycling was articulated in Deputy Under Secretary of Defense (Environmental Security) memorandums, "Policy for Recycling," August 8, 1993, and September 23, 1993. The Deputy Under Secretary of Defense (Environmental Security) recycling policy memorandums required that all DoD installations worldwide have, or be associated with, a QRP. A QRP is an organized operation that requires concerted efforts to divert or recover scrap or waste from the waste stream, as well as efforts to identify, segregate, and maintain the integrity of the recyclable materials to maintain or enhance the marketability of the materials. The program for the direct sale of recyclable material is a part of an installation's QRP.

The QRP interim guidance for conducting direct sales of recyclable materials became effective January 1, 1997. Items that may be recycled and directly sold under the QRP include expended firing range brass not requiring demilitarization, which has been crushed, shredded, or otherwise destroyed before public sale. Our review of the draft Combined Services Qualified Recycling Guide, May 1997, revealed that in the future, installations will be able to sell directly certified inert range bombs. Of the 16 installations visited, 7 were either participating in or planning to participate in direct sales of expended firing range brass and residue from ranges.

Requirement for Destruction of Fired Brass. Both the QRP interim guidance and the draft Combined Services Qualified Recycling Guide state that firing range expended brass will be crushed, shredded, or otherwise destroyed, but does not clearly specify when the destruction of the expended brass must take place. To ensure that the brass was destroyed, the installation generating the AEDA residue should have been responsible for destroying the brass before any sale was made. If destruction of the brass was a condition of sale, it was very difficult for the Government to verify that the brass was destroyed after the sale was complete and title of the property transferred from the Government to the contractor. Also, the existing and draft instructions were unclear as to how residue from the firing ranges should have been treated.

AEDA Certification. Neither the QRP interim guidance nor the draft Combined Services Qualified Recycling Guide established adequate controls for the inspection and certification of AEDA residue as inert before sale to the public. As a result, live expended small arms brass and other range residue may have been sold as scrap through the direct sales program. For example, on May 6, 1997, at the Fort Lewis recycling center, live munitions, including over 30 M230 propellant charges; 2 M16 ammunition clips, one loaded with ball ammunition and one loaded with blank ammunition; a smoke grenade; and several other small arms munitions were found. The munitions came from refuse removed from firing ranges that had been delivered to the base recycling center and landfill for recyclable scrap to be separated from refuse. The recyclable scrap was sold through a direct sales program and the refuse was taken to the landfill. At the time of that incident, the EOD personnel were notified and they came and disposed of the munitions in a timely manner. Because it appeared that live AEDA in the firing range refuse was delivered to the recycling center on a routine basis, the Fort Lewis base recycling center and the landfill may be contaminated with explosives, creating a public health hazard and environmental concerns. Accordingly, the Commander, Fort Lewis needs to assess the risk of exposure to live AEDA for base recycling center personnel, base residential areas that are close to the landfill, and the general public through direct sales of scrap range residue from its ranges. Additionally,

the Commander, Fort Lewis needs to address DRMO turn-in procedures to preclude incidents such as the Montana incident discussed in Finding A. Then, the Commander, Fort Lewis, in collaboration with EOD personnel should take the necessary steps to reduce the safety risks, as practicable.

To preclude injury or death, recycling centers must treat all range residue, including expended brass and refuse from firing ranges, as live AEDA. Treating all firing range residue as live AEDA will necessitate that specific procedures be developed for EOD personnel at those installations to certify range residue, including expended brass, as inert before turn-in to the recycling center for sale. The controls should be similar to those at DRMOs.

Reporting and Investigating AEDA Incidents

DoD policies and procedures for reporting and investigating AEDA incidents were inadequate. Specifically, there were no DoD-wide regulations governing the reporting of live AEDA in unauthorized areas. In addition, there were no DoD-wide controls governing who must be informed of live AEDA in unauthorized areas, what level of incident analysis must be performed, what coordination should exist between EOD personnel and local commands, and when incident investigations should be closed. As a result, there was no assurance that proper investigations were performed to identify those responsible and to prevent a recurrence. In addition, there was no DoD focal point to review AEDA incidents throughout DoD to identify systemic problems and to offer solutions.

Types of Incident Reports. There were no DoD-wide regulations requiring a uniform method of reporting incidents where live AEDA were found in unauthorized areas. As a result, various types of reports and reporting chains of command were used.

Situation Reports. If live AEDA were found, DRMS Instruction 3020.1, "DRMS Situation Reporting System," May 19, 1997, requires that the applicable DRMO prepare a situation report and submit it to Headquarters, DRMS. Additionally, Defense Logistics Agency Directive 3020.1, "Defense Logistics Agency Situation Reporting System," February 26, 1996, requires primary level field activities to report AEDA incidents upon discovery. The Directive also requires that a written follow-up be provided by message in all cases as soon as possible after telephone notification. The required situation report lists, among other information, the type of incident; location of incident;

date and time the incident was discovered; what was discovered; generator's name and location; EOD action taken; narrative of incident; and the status of the incident, that is, whether it is open or closed.

Explosive Ordnance Operating Report. Whenever EOD personnel retrieved live AEDA, the EOD unit prepared a report and submitted it to that unit's next higher authority. Each of the Military Departments had separate regulations controlling the format and content of that report, but the basic information contained within the report was similar. The report listed the name, organization, address, and telephone number of the person who either reported the AEDA or requested the EOD assistance; the description of the AEDA; the exact location of the AEDA; the service requested (disposal, detonation, etc.); the name and grade of the personnel responding; the EOD identification; and the EOD disposal action taken.

Safety Mishap and Criminal Activity Report. Each of the Military Departments had regulations controlling the reporting of safety mishaps and criminal activity. Therefore, if live AEDA were involved in a safety mishap or were suspected of being stolen, the incident was reported and investigated to determine how live AEDA were transported to an unauthorized area or how the AEDA were stolen.

Quality of Investigations. At the 16 military installations visited, we identified 4 instances in which live AEDA were discovered and insufficient investigations of the incidents were performed. When live AEDA are found in an unauthorized area, unless a safety mishap occurred or unless there is suspicion of illegal activity, the responsible command may perform an insufficient investigation to determine how the AEDA came to be where it was found and if culpable responsibility can be determined. There were no DoD-wide controls over the level of incident analysis to be performed. For instance, on September 28, 1995, the Naval Air Warfare Center China Lake reported that a civilian reported finding a 155mm howitzer propelling charge in an ammunition container purchased at the DRMO China Lake on September 14, 1995. The propelling charge had lot number BAJ-66830 stenciled on the bag. Personnel at Naval Air Warfare Center China Lake searched the ammunition data base and determined that Naval Air Warfare Center China Lake never received lot number BAJ-66830, howitzer propelling charges. The original informal investigation of the incident determined the incident was caused by personnel error. No further investigation was performed because the source of the propelling charge could not be determined. Action taken was to reemphasize the 100 percent inspection of all ordnance shipping and handling containers turned in to the DRMO for resale. During our evaluation, Naval Air Warfare Center China Lake reviewed another of its data bases and discovered that it had

received lot number BAJ-66B30, howitzer propelling charges. Very little documentation was available of the original investigation, which was considered closed. A more thorough analysis conducted at the time of the incident may have resulted in identifying the responsible unit, and possibly the individual who turned in a container certified as empty that in fact had a propelling charge inside.

Lack of Coordination. When live AEDA were found in unauthorized areas, the necessary coordination between EOD personnel and local commands to report accurately and to investigate the incident appeared to be informal, with no guiding regulation. The EOD unit reported to the next higher EOD authority the type of AEDA retrieved, and the exact location from which it was retrieved, but it was unclear whether EOD units had a responsibility to report the retrieval of live AEDA to the nearest military command or to the military command where the AEDA most likely originated. On April 8, 1997, the 27th Ordnance Company (the Fort Lewis EOD disposal detachment) prepared a memorandum for the garrison commander reporting all the incidents in which it had retrieved AEDA from the Fort Lewis DRMO or the Fort Lewis landfill and recycling center that appeared to be similar to the accident in Southern California (Fontana). Seven incidents were reported between September 26, 1995, and February 25, 1997. It appeared that some of those incidents were being reported to the garrison commander for the first time. DoD-wide regulations need to include guidance on the coordination of information throughout the different commands that may be involved in a live AEDA incident.

Follow-up of AEDA Incidents. No DoD-wide controls were in place to govern the quality assurance reviews of closed AEDA incident investigations. As discussed earlier, the China Lake incident was an example of when a command closed an investigation prematurely. A higher level or more objective authority may have insisted on a more thorough investigation. We did not find or hear about a single incident in which the individual who had certified AEDA as safe or certified ammunition containers as empty had been disciplined when explosive AEDA or full containers had been found. Because AEDA from different units are commingled at the DRMO scrap yards, there is no conclusive audit trail from units to the AEDA where explosives are found. However, in many instances, there is reasonable certainty as to which unit turned in AEDA that contained live munitions. In those incidents, the command should investigate, and consider appropriate action as the facts and circumstances dictate. Further, a DoD focal point needs to be established to perform quality assurance reviews of incident reports and to identify systemic problems requiring higher level corrective action.

Demilitarization of AEDA Residue

DoD policies and procedures for demilitarization of AEDA residue needed to be reviewed to cover safety precautions sufficiently. DoD-wide demilitarization procedures were unclear on the demilitarization code that should be assigned to AEDA residue. The AEDA, as defined in DoD Manual 4160.21-M-1, was hazardous or dangerous to personnel. AEDA items on the munitions list shown in DoD Manual 4160.21-M-1 were coded G and were therefore required to be demilitarized before transfer to the DRMO and before public sale. The guidance was not clear for other AEDA items, such as shell fragments and other residue, from the impact areas of firing ranges. As AEDA residue, the items were turned in to the DRMO assigned demilitarization code A (demilitarization not required). However, live explosives have been discovered in range residue with an assigned demilitarization code A as it was not known that explosive items were commingled with the residue. Further, since miscoding of items occurs, we believe it would be prudent from a public safety aspect to code all AEDA residue G, requiring the items to be demilitarized to the point of ensuring that it is rendered inert before sale to the public.

Summary

Monetary considerations played a primary role in choosing alternatives to in-house collection and DRMO disposal of AEDA residue. The value of AEDA residue offset some of the costs of the contracts awarded to collect AEDA residue downrange. The recycling centers earned or planned to earn money from the sale of expended brass residue with the money going to environmental improvements or an installation's nonappropriated fund activities, such as the morale, welfare, and recreation accounts. Appropriate guidance must be promulgated to ensure that liability and safety considerations are given sufficient emphasis when considering options such as disposing of AEDA residue through contractors and recycling centers.

Contract Safety and Oversight Provisions. Inconsistent and inadequate AEDA contracts resulted in disparate levels of safety and oversight from installation to installation. Many contracts did not have appropriate controls over the removal and disposal of explosives. Those contracts could have resulted in live AEDA reaching the public because of unsafe contractor methods of work or through inadequate Government oversight.

Direct Sale and QRP. The inherent danger of range residue, including expended small arms brass, mandates strong controls over those items. All range residue should be considered potentially live AEDA and required to be certified as inert by qualified personnel before it is sold to the public. Instructions need to be clarified to require that expended small arms brass sold directly to the public must be crushed or shredded and residue washed or burned to remove hazardous material before the sale. Without those strong controls, DoD Components are at risk of selling live AEDA residue to the public even though they are in full compliance with applicable regulations.

Reporting AEDA in Unsecured Areas Having Access to the Public. Unless there is a safety mishap or criminal activity is suspected, the discovery of live AEDA in the public may not be sufficiently investigated by or reported to the command responsible for allowing the AEDA to reach the public. Accountable responsibility for live AEDA found in public is seldom determined. When live AEDA is discovered in public or any unauthorized area, the incident should be reported to a central command that can ensure a thorough investigation to preclude live AEDA from reaching the public in the same manner again.

Demilitarization of Range Residue. Demilitarization policies and procedures do not sufficiently cover safety precautions because AEDA residue is presently coded A, no demilitarization required, when live AEDA has been found commingled with scrap. Because demilitarization instructions do not require destruction of all AEDA residue, and human error will occur, live AEDA will continue to reach the public unless demilitarization regulations are strengthened to address safety as well as security issues by requiring that all AEDA residue be coded G.

Management Comments on the Finding

Air Force Comments. Although not requested to comment, the Air Force agreed with the finding, stating that in anticipation of new DoD guidance, the Air Force Logistics staff will review and comply with all DoD standards pertaining to disposal of AEDA. The Air Force also stated that its major commands and field operating agencies reviewed procedures and are verifying compliance with delivering inert demilitarized munitions to DRMO for disposal.

Recommendations, Management Comments, and Evaluation Response

Revised Recommendation. As a result of management comments, we revised draft report Recommendation C.1. by eliminating the Joint Logistics Commanders as part of the joint responsibility for establishing a subgroup to implement corrective action.

C.1. We recommend that the Under Secretary of Defense for Acquisition and Technology establish a subgroup of the integrated process team to develop standards for qualified bidders lists for contractors in the disposal of ammunition, explosives, and other dangerous articles residue, and develop preaward survey criteria for all sales contracts of range residue.

Under Secretary of Defense for Acquisition and Technology Comments. The Under Secretary partially concurred with the recommendation, stating that an ad hoc group exists and formalizing the ad hoc group may duplicate the charters of existing formal groups. Therefore, the ad hoc group will explore the utilization of existing formal groups in pursuing the recommended objectives. The specific changes will be addressed on a case-by-case basis. The projected completion date is December 1997.

Evaluation Response. Although the Under Secretary partially concurred, we consider the comments responsive. No additional comments are required.

Joint Logistics Commanders Comments. The Joint Logistics Commanders concurred with the finding relative to the adequacy of DoD guidance for AEDA disposal contracts. However, they disagreed with the dual assignment for corrective action. They stated that they are prepared to assist in improving the consistency and adequacy of AEDA contracts as recommended, but that the Under Secretary of Defense for Acquisition and Technology should lead the effort.

Evaluation Response. We agree with the Joint Logistics Commanders. As a result, we revised and redirected Recommendation C.1. solely to the Under Secretary of Defense for Acquisition and Technology.

C.2. We recommend that the Director, Defense Procurement revise the Defense Federal Acquisition Regulation Supplement to incorporate uniform and specific guidance to contracting officers on what requirements

documents shall be used to obtain contractor compliance with DoD-wide policies, procedures, and standards for the disposal and sale of ammunition, explosives, and other dangerous articles residue. As a minimum, DoD needs uniform contract provisions that specify contract qualifications and training, methods of work for range clearance, site quality control and assurance plans, and site specific safety and health plans.

Deputy Under Secretary of Defense for Acquisition and Technology Comments. The Under Secretary partially concurred with the recommendation, stating that the Defense Acquisition Regulations Council will be asked to open a new DFARS case to consider the recommendations to expand the general DFARS guidance on what to consider when contracting for disposal. It stated that specific changes requested would be addressed on a case-by-case basis in the requirements documentation. The projected completion date is December 1997.

Evaluation Response. Although the Under Secretary partially concurred, we consider the comments responsive. However, we believe that if specific changes are addressed on a case-by-case basis, the intent of the recommendation to standardize and establish minimum requirements for both government and contractor performance on disposal contracts will be compromised. No additional comments are required.

C.3. We recommend that the Deputy Under Secretary of Defense (Environmental Security):

a. Clarify DoD regulations covering direct sales programs and the qualified recycling programs to ensure that expended small arms brass and any other types of expended ammunition, explosives, and other dangerous articles are crushed or shredded and the residue burned (flashed) before the residue is sold, and that all residue from firing ranges is treated as live ammunition, explosives, and other dangerous articles until rendered inert and properly certified.

b. Develop DoD-wide policies and procedures and implementing regulations governing the reporting, investigation, and coordination of ammunition, explosives, and other dangerous articles found in unsecured areas having access to the public. The Deputy Under Secretary should receive and review synopses of the reports semiannually for identification of systemic problems.

Deputy Under Secretary of Defense (Environmental Security) Comments. The Deputy Under Secretary concurred with the recommendation. However, the Deputy Under Secretary believes that the recommendation was unnecessary because Recommendation A.1. in this report suggested that the Under Secretary of Defense for Acquisition and Technology and the Joint Logistics Commanders establish DoD-wide policy and procedures on how AEDA is to be rendered inert. The Deputy Under Secretary agreed that direct sales programs, QRP, and the reporting, investigation, and coordination of AEDA incidents should follow any DoD-wide policies and procedures established under Recommendation A.1.

C.4. We recommend that the Commander, Fort Lewis, take immediate action to assess the risk of exposure to live ammunition, explosives and other dangerous articles for base recycling center personnel, base residential areas, and the public.

As a minimum, procedures that require the certification of range residue as inert before turn-in to the servicing Defense Reutilization and Marketing Offices, recycling centers, and before permitting the range residue to be taken to the landfill should be implemented.

Army Comments. The Army Forces Command directed all its installations, including Fort Lewis, to immediately cease disposal operations and perform risk assessments. Operations will not resume until Army Forces Command installation commanders are satisfied that operations are in accordance with regulatory requirements.

C.5. We recommend that the Deputy Under Secretary of Defense (Logistics) revise DoD Manual 4160.21-M-1, "Defense Demilitarization Manual," to:

a. Define all range residue as ammunition, explosives, and other dangerous articles until it is rendered inert and properly certified.

b. Require that all ammunition, explosives, and other dangerous articles residue be assigned a demilitarization code of G to ensure that it is rendered inert and properly certified before turn-in to the Defense Reutilization and Marketing Office, an ammunition supply point, or a military installation recycling center.

Under Secretary of Defense for Acquisition and Technology Comments. The Under Secretary partially concurred with the recommendation, stating that policy revisions are already underway for both the disposal and demilitarization

manuals. However, the Under Secretary believes that those manuals are not the appropriate avenue for all munitions policy. The projected completion date is December 1997.

Evaluation Response. Although the Under Secretary partially concurred, we consider the comments responsive. No additional comments are required. Our citation of specific manuals to be revised was not meant to restrict policy revisions in the area of munitions disposal. DoD Manual 4160.21-M-1 provides a DoD-wide definition for AEDA and provides DoD-wide guidance for assigning demilitarization codes.

Part II - Additional Information

Appendix A. Evaluation Process

Scope

We reviewed the disposal process for AEDA residue as accomplished by DoD installations. We focused our efforts on that portion of the disposal process beginning with the turn-in of expended AEDA residue, and ending with its sale to the general public. We reviewed training requirements for disposing of AEDA residue; incident reports from April 1, 1996, through March 31, 1997, related to AEDA disposal; and range cleanup, storage and physical security practices for expended AEDA. We also reviewed AEDA residue disposal functions that had been outsourced, as well as those functions performed using organic resources. Specifically, we reviewed 8 contracts for cleanup of AEDA residue from firing ranges. We interviewed personnel from the Assistant Deputy Under Secretary of Defense (Environmental Security) and other DoD organizations involved in AEDA management and disposal. We also visited 16 judgmentally-selected continental United States military installations, including 2 ammunition depots, with AEDA-related responsibilities. We also reviewed 16 DRMOs servicing the military installations reviewed. Our review included turn-in and sales documentation representing AEDA-related transactions that occurred between April 1, 1996, and March 31, 1997.

Methodology

To evaluate the safety of the disposal process for AEDA residue, we reviewed existing and proposed policies and procedures issued at all DoD command levels. Additionally, we reviewed the practices that installations used for disposing of expended AEDA. We specifically,

o conducted entrance briefings to identify individuals and organizations (ASPs, base recycling points, contracting directorates, DRMOs, environmental and safety offices, explosive ordnance detachments, logistics and range operations personnel, etc.) involved in the AEDA disposal process.

o interviewed the individuals and organizations involved in the AEDA residue disposal process to discuss their specific responsibilities. We obtained related documentation (ammunition issue, briefing packages, correspondence,

incident reports, letters of authorization, local policies and procedures, memoranda of understanding, and turn-in documents, etc.), toured the AEDA disposal facilities, and flowcharted the AEDA residue disposal practices.

o selected samples of DD Forms 1348-1 from the last half of FY 1996 and the first half of FY 1997 representing turn-ins of expended AEDA to DRMOs and recycling centers. We evaluated the process by which the material was inspected and certified as inert and reviewed associated personnel training requirements and practices.

o obtained and reviewed contract documentation, interviewed contractor personnel, and evaluated the effectiveness of contract administration where disposal-related functions, such as ammunition supply operations and range cleanup, had been outsourced.

o collected quantitative data (weight and sales value), obtained situation reports, and reviewed demilitarization codes at DRMOs for AEDA disposals during the last half of FY 1996 and the first half of FY 1997.

We were accompanied at selected military installations by quality assurance specialists (ammunition surveillance) from the U.S. Army Defense Ammunition Center, and an equipment specialist (ordnance) from the U.S. Army Industrial Operations Command. We coordinated our audit approach and results with the specialists.

Use of Computer-Processed Data. We did not use computer-processed data in performing the evaluation.

Evaluation Type, Dates and Standards. This program evaluation was performed from March through May 1997 in accordance with standards issued and implemented by the Inspector General, DoD. Accordingly, we included tests of management controls deemed appropriate.

Contacts During the Evaluation. We visited or contacted individuals and organizations within the DoD. Further details are available on request.

Management Control Program

DoD Directive 5010.38, "Management Control Program," August 26, 1996, requires DoD organizations to implement a comprehensive system of management controls that provides reasonable assurance that programs are operating as intended and to evaluate the adequacy of the controls.

Scope of Review of Management Controls. We reviewed the adequacy of management controls to ensure that expended AEDA is safely disposed. We evaluated applicable policies and procedures at all DoD organizational levels to determine their adequacy and sufficiency. We also evaluated actual disposal practices at selected military installations to determine whether existing management controls over the collection, turn-in, inspection, certification of inertness, storage, physical security, and sale of expended AEDA were in place and functioning as intended.

Adequacy of Management Controls. We identified material management control weaknesses for AEDA as defined by DoD Directive 5010.38. Controls over the collection, turn-in, inspection, certification, storage, physical security and sale of expended AEDA as inert needed to be strengthened and more closely scrutinized. Controls were not in place to ensure that expended AEDA that was turned in to recycling centers was inert. Also, controls over the administration of contracts involving AEDA disposal functions were inadequate. The recommendations in this report, if implemented, will improve AEDA turn-in and disposal procedures. A copy of the report will be provided to the senior official responsible for management controls in the Office of the Secretary of Defense, the Military Departments, and the Defense Logistics Agency.

Adequacy of Management's Self-Evaluation. We did not perform a detailed review of the self-evaluation portion of the management control program as it related to AEDA disposal because such a review was not within the scope of the request for evaluation. We did note, however, that the DoD did not identify munitions disposal as a material management control weakness in its FY 1996 Annual Statement of Assurance.

Appendix B. Summary of Prior Coverage

In the last 5 years, the Inspector General, DoD, and the Office of the Secretary of Defense issued the following reports on the management of munitions list items, direct sales programs, and the disposal of expended AEDA.

Inspector General, DoD

Inspector General, DoD, Report No. 97-134, "Disposal of Munitions List Items in the Possession of Defense Contractors," April 22, 1997, states that improvements were needed in the identification and disposal of munitions list items in the possession of contractors. DoD and contractor personnel generally did not identify whether items used by contractors were munitions list items. As a result, when the property was no longer needed, the Defense Contract Management Command directed contractors to sell it, without knowing whether any of it required strict controls to keep it from unauthorized recipients. Additionally, the Defense Contract Management Command did not adequately monitor the disposal of items that DoD personnel identified as munitions list items. As a result, the items were sold without application of the required trade security and demilitarization procedures.

The report recommended that the Defense Logistics Agency, form a working group to establish policies for identifying and controlling munitions list items acquired by contractors, but not assigned national stock numbers, and modify the existing demilitarization training program to provide clear instruction on the identification and control of munitions list items in the possession of contractors. The report also recommended that the Director, Defense Procurement, implement a change to the DFARS that requires contractors to provide assistance in identifying munitions list items early in the acquisition cycle. The report also recommended that the Defense Contract Management Command emphasize to contractors the requirement to furnish national stock numbers for items on inventory schedules, when numbers are available, and use automated processes to identify items with national stock numbers. The Defense Logistics Agency and the Defense Contract Management Command concurred with the recommendations addressed to them. The Director, Defense Procurement, initially nonconcurred with the recommendation to revise the DFARS, subsequently, the Director stated that the wording changes recommended by the Inspector General, DoD, would be considered along with other comments on the proposed DFARS coverage.

Inspector General, DoD, Report No. 97-087, "Direct Sales of Recyclable Material," February 4, 1997, states that DoD installations generally complied with existing policy regarding the conduct of direct sales. However, improved guidance was needed to ensure that financial records were accurate and sales were properly conducted, installation officials did not consistently identify the reimbursable costs for recycling programs and did not consistently treat cost avoidances, and officials at some installations had not considered or attempted outsourcing of recycling functions. The report recommended that the Deputy Under Secretary of Defense (Environmental Security) issue guidance in the Combined Services QRP guide to periodically reconcile sales and financial records, establish written procedures for the conduct of sales, and clearly define the treatment of costs and cost avoidances. The report also recommended that the Deputy Under Secretary of Defense modify applicable guidance to require that outsourcing be considered when direct sales authority for recyclable materials is granted. The Deputy Under Secretary of Defense concurred and stated that the recommended additions would be included in the Combined Services QRP guide, scheduled for issuance by the end of FY 1997.

Inspector General, DoD, "Review of Policies and Procedures Guiding the Cleanup of Ordnance on DoD Lands," November 22, 1994, which states that expended ordnance and explosive waste cleanup requirements and guidance developed by DoD and the Military Departments were incomplete, vague, and inconsistent. DoD ordnance cleanup requirements and responsibilities were not clearly defined, related DoD policy and program management were inadequate, and current and planned technology did not provide for expeditious cleanup. The report recommended that DoD develop concise policy and guidance addressing the management and cleanup of expended ordnance and explosive waste, to include the development of cleanup standards based on a risk assessment model; clarify the roles of the safety and environmental functions in the cleanup process; develop a consistent funding strategy for expended ordnance and explosive waste cleanup that addresses both current and long-term needs; strengthen base closure and realignment land transfer documents; and expand and strengthen the ordnance cleanup technology research and development program. The report recommendations were discretionary; and management comments were neither requested nor received.

Office of the Secretary of Defense

Office of the Under Secretary of Defense for Acquisition and Technology Report, "Unexploded Ordnance Clearance: A Coordinated Approach to Requirements and Technology Development," March 25, 1997. The report

responded to direction from the House National Security Committee to submit a plan that defined research and development priorities, program management, and cooperative activities for technology applicable to area ordnance clearance. The report also responds to General Accounting Office concerns about the lack of a Government-wide strategy or organization to leverage various technology development efforts to discuss area ordnance clearance. The review identified the need to continue emphasis within DoD to ensure oversight and coordination of technology developments supporting unexploded ordnance clearance and to preclude duplication. In response to this need, DoD reported that it plans to establish an unexploded ordnance center of excellence to integrate DoD research, development, and acquisition strategies for unexploded ordnance technology. The center will include a small core of Joint Service personnel in a Joint Unexploded Ordnance Coordination Office to coordinate activities involving unexploded ordnance clearance and to exchange information on related technologies with academia, industry, other Government agencies, and international partners. The coordination office will maintain a comprehensive data base to provide detailed information to users inside and outside the Government.

Appendix C. Other Matters of Interest

This appendix includes the following AEDA related subjects.

- Secretary of Defense Directed Review of AEDA Controls
- Need for Emerging Technology for Range Cleanup
- Adequacy of Controls Over Demilitarization of AEDA
- Incidents of Live AEDA Sold to the Public Increasing

Secretary of Defense Directed Review of AEDA Controls. In March 1997, the Secretary of Defense directed the Military Departments and the Defense Logistics Agency to review and report on their current procedures and contractual arrangements to ensure that appropriate controls were in place to prevent the unintentional transfer of explosive material outside DoD. The review was directed as a result of the incident in Fontana, California, in which a civilian contractor employee was killed, and two others were injured by live ordnance that was contained in scrap metal presumably purchased from DoD. The Army reported that departmental regulations were adequate to prevent such incidents if the regulations are followed. As a result of the review, the Army Vice Chief of Staff directed commanders at all levels to place renewed emphasis on full compliance with policies and procedures for disposing of expended AEDA and review command-level guidance to ensure that appropriate controls over the disposal process are in place. The Navy responded that six organizations were not in compliance with turn-in and demilitarization requirements for expended AEDA. As a result, the Chief of Naval Operations directed the organizations to suspend the processing of expended AEDA until compliance is achieved. The Air Force reported that the Chief of Staff directed the commanders of all major commands and field operating agencies to review procedures and to verify compliance for disposal of expended AEDA. Additionally, the Air Force reviewed applicable training curricula to verify that the proper demilitarization and disposal guidance is being provided to munitions specialists. The Defense Logistics Agency reported that current procedures and contractual arrangements related to the demilitarization and disposal of expended AEDA were adequate but needed to be consolidated and strengthened. Additionally, the Defense Logistics Agency stated that applicable DoD policy should be standardized, and oversight and training should be enhanced.

Need for and Emerging Technology for Range Cleanup. The concentration and diversity of expended ordnance and explosive waste on DoD lands has increased as a result of the development of new weapon systems and the training

necessary to maintain readiness. Unless it posed a direct safety hazard or it was necessary for test evaluation, most expended ordnance and explosive waste has not been removed from training or test ranges. As a result, a massive buildup of expended ordnance and explosive waste has accumulated on DoD ranges. The buildup is not only a safety concern for DoD but also an environmental concern. For example, during May 1997, for the first time, military training was suspended for environmental and public health reasons by a top environmental official who upheld a ban on shooting practice on a military reservation. DoD has approximately 9 million acres of active and inactive impact ranges. Generally, the extent of expended ordnance and explosive waste present on those lands is unknown. However, the cost associated with the clean up of ranges can be significant. To illustrate, the Nellis Air Force Base range complex has accumulated 20,000 tons of contaminated range residue over several years. Because of range residue contamination, the costs associated with removing the contaminated material has left Nellis with an expensive cleanup cost of approximately $6.3 million.

Emerging Technology for Range Cleanup. In 1993, Luke Air Force Base faced a major mission change when the state of Arizona required Luke Air Force Base to close all open ordnance landfills. Further, changes in DoD safety guidelines prohibited burial of munitions. Both changes effectively mandated that Luke Air Force Base remove and recycle all munitions scrap from its range. Because of the massive amount of ordnance on the range at Luke, and the safety hazards associated with certifying the ordnance as nonexplosive in 1994, Luke Air Force Base began searching for alternative technologies. In October 1996, Luke Air Force Base awarded a contract to J.P.J. Munitions Group, which owned and operated a mechanical metal shredder. The shredder was used for the crushing and removal of over 3,500 tons of stockpiled bombs on the Luke range. The J.P.J. Munitions Group developed a portable mechanical metal shredder that crushes, effectively demilitarizing, practice BDU-33 bombs. Luke Air Force Base was prepared to pay for the service, but the contractor crushed the metal and safely removed it from the range in exchange for title to the crushed product, paying the Government 8 percent of the profits. Marketability of the product was excellent. Major U.S. automobile manufacturers purchased the crushed product for use in making automobile engine blocks. Most importantly, no one was injured, although 75 of the BDU-33 bombs exploded inside the crusher during processing. The explosions occurred even though all 75 bombs that exploded had gone through two levels of inspection that had certified them to be free of explosive material.

In May 1997, we interviewed a representative from J.P.J. Munitions Group. During the interview, we learned that the shredder appeared to be an effective tool to demilitarize the BDU-33 practice bomb, but may not totally remove the energetic material residue leftover after the demilitarization process. Because

some of the energetic material could remain in the bomb fragments after the demilitarization process and eventually injure someone, we believe that the shredder by itself does not provide the degree of assurance necessary to certify that the by-product is free of explosive residue. However, the shredder does represent a good first step in demilitarization technology that could be linked with other technology designed to provide a higher degree of assurance that the energetic material is removed from BDU-33 bombs.

Other Emerging Technology in the Disposal of AEDA. In May 1997, we investigated technology used to remove energetic material at the Naval Explosive Ordnance Technical Division, Indian Head, Maryland. We learned that the United States Army Environmental Center (the Environmental Center), Environmental Technology Division, Muscle Shoals, Alabama, accomplished extensive work on hot-gas decontamination technology that is designed to remove the energetic material from ordnance. The hot-gas decontamination process removes energetic material to a 99.99-percent safe level by the use of heat and pressure. The Environmental Center has a transportable hot-gas decontamination system that can be transported easily from site to site.

Linkage of a transportable energetic material removal process with an effective transportable mechanized demilitarization process could provide DoD a safe and potentially economic solution to remove the massive amounts of range residue that has accumulated on its ranges over the years. Because of the large buildup of AEDA on active DoD ranges, and the subjective, often flawed, decision process for certifying AEDA free of explosive material, DoD should partner with industry in developing technology that enables a higher degree of assurance that AEDA is nonexplosive before it is sold to the public.

Adequacy of Controls Over Demilitarization of AEDA. On April 18, 1997, the Chief of Naval Operations suspended the Naval Air Warfare Center China Lake range from turning AEDA in to the DRMO for sale because Naval Air Warfare Center China Lake had not properly demilitarized the AEDA in accordance with DoD Manual 4160.21-M-1. The Chief of Naval Operations also suspended five other Navy installations, outside the scope of the evaluation, for noncompliance with DoD Manual 4160.21-M-1.

While at Nellis Air Force Base, we reviewed approximately 3,000 BDU-33 practice bombs that were removed from the Nellis range and sold to a local recycler, Smart Brother's Recycling, Pahrump, Nevada. The bombs were suspected of being improperly demilitarized by a Nellis Air Force Base contractor, and potentially still explosive when they were sold to Smart Brother's. We augmented our team with an EOD technician from Nellis Air Force Base to determine whether the bombs were still explosive. The technician could not determine whether the bombs were nonexplosive, because

the bombs were inappropriately demilitarized. As a result, Nellis Air Force Base recovered the bombs and took them back to its range for destruction. We reviewed documentation that Nellis officials signed certifying that the 3,000 BDU-33 bombs sold to Smart Brother's were explosive free.

Incidents of Live AEDA Sold to the Public Increasing. From FY 1995 through mid-April of FY 1997, the DRMS had reported 62 incidents of AEDA discovered in excess property turned in by DoD generators. Of the 62 incidents, 3 involved bombs; 8 involved explosives; 4 involved range residue; 37 involved live ammunition; 8 were categorized as miscellaneous as a result of the attempted turn-in of a practice hand grenade, tracer round, dummy 152 mm bomb or expended rocket launcher; and 2 incidents were still under investigation. Of the 62 incidents, 30 were from the Army, 4 were from the Marine Corps, 5 were from the Navy, 6 were from the Air Force, and 6 were from the Defense Logistics Agency. There were 11 incidents that could not be identified to a generator. In addition, the incidents of live AEDA sold to the public had increased from 9 in FY 1995 to 26 during FY 1996 to 27 incidents through mid-April of FY 1997.

Appendix D. Analysis of AEDA Disposal Contracts

Of the 16 military installations reviewed, 7 contracted for services that included range clearance and handling of unexploded ordnance from firing ranges. We performed an analysis of the adequacy of contract provisions in four areas, qualifications and training; method of work; site quality control plans; and site specific safety and health plans. Qualifications and training provisions were determined adequate based on subjective judgments of required training and the government's ability to verify that training occurred. Methods of work provisions were judged based on the specificity of range clearance tasks to be performed. Quality control plans were considered adequate if they were site specific and required the contracting officer's approval. Adequate contract provisions do not guarantee adequate quality control plans exist for the specific contract discussed. Safety and health plan provisions were considered adequate if they were site specific and required approval by the contracting officer or his designated representative. The following is a summary of the contracts at each installation.

Fort Lewis, Washington. Delivery order 2075 of the U.S. Army Corps of Engineers, Seattle District contract DACA87-94-1008, is for target and facilities construction at Fort Lewis. Subcontract 2075/282/002 provides preconstruction subsurface clearance of unexploded ordnance and surface clearance of suspect unexploded ordnance incidental to the construction project on the firing ranges. The Center of Expertise for Ordnance and Explosives located in the U.S. Army Engineering and Support Center at Huntsville, Alabama, was the technical lead for the unexploded ordnance portion of the contract and was the final approval authority for the unexploded ordnance work plan. The contract defines unexploded ordnance personnel as U.S. citizens who have graduated from the U.S. Army Bomb Disposal School, Aberdeen, Maryland, or the U.S. Naval EOD School, Indian Head, Maryland, and graduates of the EOD Assistant Course at Redstone, Alabama, or Eglin Air Force Base, Florida, with more than 3 years EOD experience. The contract does not address verification of contractor personnel training but is considered adequate because completion of the required training is verifiable. The unexploded ordnance work plan contains the methods of work of site personnel in performance of unexploded ordnance operations, the site quality control plan, and the site specific safety and health plan. The procedures outlined for contractor personnel for unexploded ordnance operations are specific, well planned, and safe. The site quality control plan and the site specific safety and health plan are also specific, well planned, and keep safety as a top priority. The work plan can serve as a model

for future contracts involving the handling and movement of ammunition and explosives. However, the contract does not involve removing residue and explosives from the range.

Fort Riley, Kansas. Contract DAKF19-94-B-0001 includes line items for the operation of the base ASP. The contract contains line item c.5.11.3 residue turn-in, which states, "The Contractor shall visually inspect 100 percent of Class V (ammunition and explosives) residue with the aid of unit personnel making the turn-in. The contractor shall report any live, blank, or dummy Class V discovered during this 100 percent visual inspection to the Quality Assurance Specialists (Ammunition Surveillance)." There is a requirement that any contractor personnel handling ammunition and explosives will attend a special technical ammunition course offered at Fort Riley. This is considered an adequate qualification and training provision because it is verifiable. The method of work provision is considered not applicable because their contract does not contain range clearance tasks. The information in this contract is incomplete, but it does not appear that there are any contract provisions for a site quality control plan to ensure contract deliverables meet contract requirements or a site specific safety and health plan.

Fort Sill, Oklahoma. Contract DABT39-92-C-3029 is for base operations (Department of Logistics) including the operation of the base ASP. The contract contains line item c5.4.11.14 turn-in of ammunitions and components, which states, "the Contractor shall perform a 100 percent verification that the unit has properly segregated serviceable and unserviceable ammunition, live rounds, unfired primers, explosives, and other dangerous material from inert residue." The information on this contract is incomplete, but it does not appear that there are any contract provisions for required qualifications and training, and verification of training for contract personnel. The method of work provision is considered not applicable because this contract does not contain range clearance tasks. There are provisions for a quality assurance surveillance plan, but the criteria listed does not include contractor performance related to the turn-in of ammunitions and components so the provision is considered inadequate. There are no provisions for the development of a site specific safety and health plan to ensure that the contractor provides all personnel, including subcontractors and visitors, with a safe working environment during range clearance activities.

Yuma Proving Grounds, Arizona. Contract DAAD01-94-C-0008 is for base operations support services including munitions storage operations. The contracting officer stated that the contractor is required to inspect turn-in AEDA and to certify the AEDA as nonexplosive, both of which the contractor is performing. However, there are no contract provisions covering those areas. Regarding qualifications, the contract states, "It is the responsibility of the

contractor to train personnel in ammunition safety and security procedures." We consider this an inadequate provision because all training documentation will be a product of the contractor and only verifiable through that contractor's records. The method of work provision is not applicable because this contract does not contain range clearance tasks. There are no contract provisions for a site quality control plan that addresses the handling of ammunition and explosives or provisions for a site specific safety and health plan.

Naval Air Warfare Center China Lake, California. Delivery order 30 of contract N60530-92-D-0022 is for target preparation, vehicles, and range clearance. The contract states that the contractor shall certify each EOD and range cleanup technician in writing, annually. We consider this an inadequate provision because it does not specify upon what qualifications the contractor will certify EOD personnel and there is no method available for the government to verify qualifications and training. The contract is not specific as to the methods of work of site personnel in performance of surface and subsurface unexploded ordnance location, identification, and disposal. We consider the method of work provision inadequate because it was not specific as to how the contractor would clear the range. The contract states that the contractor shall furnish a contractor quality control plan to the contracting officer for approval, which is considered an adequate provision. The contract also states that the contractor shall submit a comprehensive contract safety plan for contractor operations (General and EOD) to the contracting officer's representative for approval.

Holloman Air Force Base, New Mexico. Contract F29651-97-C0001 is for services necessary to perform maintenance, clearance, operation, and administration for McGregor, Oscura, and Red Rio Ranges at Holloman Air Force Base. The contract states that the contractor shall establish and maintain an ongoing training program to ensure that contractor personnel are current in their job knowledge, but this is considered inadequate because there is no way for the Government to verify the training occurred. The contract is not specific as to the methods of work of site personnel in performance of surface unexploded ordnance location, identification, and disposal so the method of work provision was considered inadequate. The contract requires that a quality control plan be approved by the contracting officer, which is considered an adequate provision. There is no requirement for a site specific safety and health plan and no additional safety requirements beyond standard contract clauses.

Nellis Air Force Base, Nevada. Contract F26600-96-C0021 is to perform decontamination and clearance of both live and inert ordnance; target build and rebuild; and the disposal of residue and debris at Leach Lake Tactics Range. For qualifications, the contract states that all contractor or subcontractor EOD personnel shall be graduates of the U.S. Naval EOD School, Indianhead or Eglin Air Force Base. Job histories for all contract EOD personnel must be

provided to the contracting officer no later than the post-award conference. This is an example of an excellent qualifications and training provision as it is specific and verifiable. The contract is not specific as to methods of work of site personnel in performance of surface unexploded ordnance location, identification, and disposal so the method of work provision is considered to be inadequate. The contract requires a quality control plan approved by the contracting officer and a quality assurance provision that the Government will employ 100 percent inspection of contractor work as it is completed, which is considered an adequate site quality control plan provision; however, the quality control evaluators usually only inspected completed work to ensure defined areas of the range were cleared of AEDA as stipulated in the contract. There is no quality assurance of contractor methods in performing range clearance duties; and no provisions for a site specific safety and health plan. The contract does state that the contractor shall be responsible for the safety of his employees in the performance of this contract.

Appendix E. Report Distribution

Office of the Secretary of Defense

Under Secretary of Defense for Acquisition and Technology
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  Deputy Under Secretary of Defense (Logistics)
  Director, Defense Procurement
  Director, Unexploded Ordnance Center of Excellence
  Director, Defense Logistics Studies Information Exchange
Under Secretary of Defense (Comptroller)
  Deputy Chief Financial Officer
  Deputy Comptroller (Program/Budget)
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Department of the Army

Commander, Army Materiel Command
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Senate Subcommittee on Defense, Committee on Appropriations
Senate Committee on Armed Services
Senate Committee on Governmental Affairs
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House Committee on Government Reform and Oversight
House Subcommittee on Government Management, Information, and Technology, Committee on Government Reform and Oversight
House Subcommittee on National Security, International Affairs, and Criminal Justice, Committee on Government Reform and Oversight
House Committee on National Security

Part III - Management Comments

Department of the Army Comments

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DEPARTMENT OF THE ARMY
OFFICE OF THE DEPUTY CHIEF OF STAFF FOR LOGISTICS
500 ARMY PENTAGON
WASHINGTON DC 20310-0500

DALO-AMA 29 Jul 97

MEMORANDUM THRU

DEPUTY CHIEF OF STAFF FOR LOGISTICS

~~DIRECTOR OF THE ARMY STAFF~~

ASSISTANT SECRETARY OF THE ARMY (INSTALLATIONS, LOGISTICS AND ENVIRONMENT)

FOR INSPECTOR GENERAL, DEPARTMENT OF DEFENSE (AUDITING)

SUBJECT: Evaluation of the Disposal of Munitions Items (Project No. 7LH-3008)--INFORMATION MEMORANDUM

1. This is in response to USAAA memorandum of 2 July 1997 (Tab A), which asked ODCSLOG to comment on subject draft report (Encl to Tab A).

2. We concur with the findings and recommendations applicable to DoD. The Army will provide personnel with the requisite expertise to participate in an integrated process team to improve policies and procedures to prevent live ammunition, explosives and other dangerous articles from being sold to the public. With regard to recommendation C.4., in May 1997 FORSCOM took immediate action by directing all installations to cease disposal operations until a risk assessment was performed.

3. Detailed comments to findings applicable to the Army are at Tab B.

2 Encls

WIMPY D. PYBUS
Director of Aviation,
Munitions and War Reserves

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DALO-AMA
SUBJECT: Evaluation of the Disposal of Munitions Items (Project No. 7LH-3008)—INFORMATION MEMORANDUM

Coordination:

ODCSOPS - Concur, Mr. Rekas/614-4991 (telephone)
DACS - Concur, Mr. Gibson/695-7291 (telephone)

Mr. Hawkins/697-4791

2

DODIG DRAFT REPORT - DATED JULY 1, 1997
PROJECT NO. 7LH3008
Evaluation of the Disposal of Munitions Items

RECOMMENDATION A.3.a: The DODIG recommended that the Military Departments conduct compliance staff reviews of organizations involved in the disposal of ammunition, explosives, and other dangerous (AEDA) articles to ensure that AEDA residue is segregated from other scrap material and the certification process is sound.

RESPONSE: Concur. Under the provision of AR 700-13, DA ODCSLOG periodically conducts reviews of all organizations with a mission for the receipt, storage, or issue of ammunition. We will ensure that the review team makes this a special item of interest for all future reviews.

RECOMMENDATION A.3.b: The DODIG recommended that the Military Departments assess the risk of public access to Military installations with firing ranges, and establish security measures such as fencing and using detection devices, alarms, lighting, patrols, guard, and signs commensurate with the risk as practicable.

RESPONSE: Concur. AR 385-63 governs the provisions of controlling access to firing ranges and employs the use of various methods to control access to the ranges commensurate with the risk. As a minimum, permanent signs are placed at no less than 200 meter intervals and in a way that will ensure that a person cannot enter the range without seeing at least one sign within a legible distance. The signs emphasize the danger connected with the range area and the handling of unexploded ammunition and prohibit trespassing or the removal of items under penalty of law. Safety professionals at the installation level periodically review compliance with the requirement and initiate corrective action when required.

RECOMMENDATION A.3.c: The DODIG recommended suspension of processing of expended AEDA residue turn-ins to DRMOs (when an unreasonable number of incidents at a subordinate organization have occurred) until full compliance is achieved and the Integrated Process Team (IPT) determines the number of incidents considered unreasonable based on impact and trend analyses.

RESPONSE: Concur. Recommend that this be one of the first issues addressed in the integrated process team's efforts to improve the policies and procedures to prevent live AEDA from being sold to the public. This will ensure that the different Service Components and installations are adhering to the same standard.

DODIG DRAFT REPORT - DATED JULY 1, 1997
PROJECT NO. 7LH3008
Evaluation of the Disposal of Munitions Items
(continued)

RECOMMENDATION C.4.: The DODIG recommended that the Commander, Fort Lewis, take immediate action to assess the risk of exposure to live ammunition, explosives and other dangerous articles for base recycling center personnel, base residential areas, and the public.

RESPONSE: Concur. Commander U.S. Army Forces Command (FORSCOM) directed all FORSCOM installations including Fort Lewis to immediately cease disposal operations and perform a risk assessment. Operations are not to resume until the installation commander is satisfied that operations are in accordance with regulatory requirements.

Department of the Navy Comments

DEPARTMENT OF THE NAVY
OFFICE OF THE ASSISTANT SECRETARY
(Research, Development and Acquisition)
WASHINGTON, D.C. 20350-1000

AUG 0 1 1997

MEMORANDUM FOR THE DEPARTMENT OF DEFENSE ASSISTANT INSPECTOR FOR AUDITING

Subj: DRAFT REPORT ON THE EVALUATION OF THE DISPOSAL OF MUNITIONS ITEMS (PROJECT NO. 7LH-3008)

Ref: (a) DODIG Memo of 1 July 1997

Encl: (1) DON Response to Draft Audit Report

I am responding to the draft audit report forwarded by reference (a) concerning the evaluation of the disposal of munitions items. The Department of the Navy response is provided at enclosure (1). We generally agree with the draft report findings and recommendations. As outlined in the enclosed comments, the Department has taken, or is planning to take specific actions to ensure adherence to the audit recommendations and findings.

M. P. Sullivan
RADM, SC, U.S. Navy
Principal Deputy

Copy to:
NAVINSGEN
FMO-311

Department of the Navy Response
to
DODIG Draft Report of July 1, 1997
on
Evaluation of the Disposal of Munitions Items

Finding A:

DoD controls for the disposal of ammunition, explosives, and other dangerous articles (AEDA) residue by the Military Departments were ineffective. This condition existed because DoD disposal policies and procedures for AEDA residue were inadequate, nonexistent in some areas, or not complied with in other areas, allowing the Military Departments to establish disparate practices – often out of environmental, monetary, or unique operational considerations – that did not ensure that AEDA residue was properly collected, rendered inert, and disposed of. As a result, the public was sold or has had access to either discarded live AEDA or AEDA residue that had not been properly certified as inert.

Recommendation A.3

We recommend that the Military Departments:

a. Conduct compliance staff reviews of organizations involved in the disposal of ammunition, explosives, and other dangerous residue to ensure that ammunition, explosives and other dangerous articles residue is segregated from other scrap material, and the certification process is sound.

b. Assess the risk of public access to military installations with firing ranges, and establish security measures, such as fencing and using detection devices; alarms; lighting; patrols; guards; and signs, commensurate with the risk, as practicable.

c. Suspend processing of expended ammunition, explosives, and other dangerous articles residue turn-ins to Defense Reutilization and Marketing Offices (when an unreasonable number of incidents at a subordinate organization have occurred) until full compliance is achieved and determine the reasonable number of incidents based on impact and trend analyses.

DON Position A.3.a:

Concur. The Chief of Naval Operations (CNO) issued a message to ordnance handling and storage facilities to conduct a review of demilitarization and scrap turn-in procedures and report on their compliance with those procedures. All units reported to be in compliance on June 15, 1997. Further, these activities were advised that the DoD Explosives Safety Board (DDESB) and Naval Ordnance Center Explosives Safety Inspections will address these issues as special interest items in the future.

DON Position A.3.b:

Nonconcur. We believe that the OP-5 provides sufficient guidance with respect to required security/safety measures. Further, OPNAVINST 5530.13, derived from DoD 5100.76-M of September 1992, provides additional direction on physical security.

DON Position A.3.c:

Concur. As a result of the CNO message referenced above, turn-ins were suspended at five naval air stations and at Naval Air Warfare Center, China Lake. Full compliance was achieved at all stations by 15 June 1997.

GENERAL COMMENTS

Page 2, para 2.
"The AEDA, as used in this report, consists of any explosive or chemical-based munitions such as small and large caliber ammunition, aerial bombs, grenades, mines, missiles, and rockets. The AEDA residue consists of fired cartridge cases, shell fragments, packing material, wooden boxes, metal cans, and fiber containers."

DON Comments:
The Navy definition of AEDA does not include packing materials, boxes, cans and containers, per NAVSEA OP-5. A distinction can be made between AEDA which was explosive filled and that which was used for packing/containing. AEDA which was explosive filled could more appropriately be called range residue. This will enable the process to be further defined so that packing materials are not afforded the same expensive "inerting" processes required of actual munitions items or scrap with explosive residue.

Recommendation C.1.
Recommend that the Under Secretary of Defense for Acquisition and Technology and the Joint Logistics Commanders establish a subgroup of the integrated process team to develop standards for qualified bidders lists for contractors in the disposal of AEDA residue, and develop preaward survey criteria for all sales contracts of range residue.

DON Comments:
The term "disposal" of AEDA equates to the "destruction" or "demilitarization (DEMIL)" of AEDA or UXO. AEDA or UXO, in and of themselves, are not eligible for sale through either a Qualified Recycling Program (QRP) or the Defense Reutilization Marketing Office (DMRO). Only AEDA residue (scrap) properly demilitarized and certified as safe and/or inert is eligible to be recycled by QRPs or sold by DRMOs. Scrap dealers, therefore, technically should not require special training or qualification to handle "scrap".

Department of the Air Force Comments

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON, D.C.

6 AUG 1997

MEMORANDUM FOR ASSISTANT INSPECTOR GENERAL FOR AUDITING, OFFICE OF THE INSPECTOR GENERAL, DEPARTMENT OF DEFENSE

FROM: AF/IL

SUBJECT: DoD(IG) Draft Evaluation of the Disposal of Munitions Items, DoD(IG) Project No. 7LH-3008

This is in reply to your memorandum requesting the Assistant Secretary of the Air Force (Financial Management and Comptroller) provide Air Force comments on the draft report. We concur with draft report findings. We realize current measures are inadequate. We recognize the need for urgency and will resolve any procedural, training, and enforcement shortcomings in our Air Force munitions disposal processes.

Finding A. Adequacy of DoD Controls for the Disposal of Ammunition, Explosives, and other Dangerous Articles (AEDA) Residue by the Military Departments. Concur. Air Force is participating in the DoD partnering effort with other Services to more clearly define DoD policy, and to standardize and enforce disposal processes.

Finding B. Adequacy of DoD Controls for AEDA Residue Disposal at the Defense Reutilization and Marketing Service. Concur. Air Force Supply Policy staff (AF/ILSP) has partnered with DLA in a review of turn-in accountability policies. Air Force Munitions, Missiles and Space Plans and Policy (ILMW) and Explosives Ordnance Disposal (ILEOR) have partnered with DUSD(L) in reviewing functional and technical aspects of turn-in procedures.

Finding C. Adequacy of DoD Guidance for AEDA Disposal Contracts, Qualified Recycling Programs, Reporting Incidents, and Demilitarization. Concur. Air Force Logistics staff will review, and comply with, all DoD standards pertaining to disposal of AEDA. Major commands and field operating agencies reviewed procedures and are verifying compliance with delivering inert demilitarized munitions items to DRMO for disposal. The AF has not experienced a recurring theme among six incidents occurring during the last three years that would warrant suspending processing of AEDA.

Our point of contact for this evaluation is Lt Col Fuzzell, Munitions, Missiles, and Space Plans and Policy Division (ILMW), Directorate of Maintenance, Room 4B259, phone 697-5760.

WILLIAM P. HALLIN
Lieutenant General, USAF
DCS/Installations & Logistics

Under Secretary of Defense for Acquisition and Technology Comments

OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON
WASHINGTON, DC 20301-3000

ACQUISITION AND TECHNOLOGY

08 AUG 1997

(L/MDM)

MEMORANDUM FOR DIRECTOR, LOGISTICS SUPPORT DIRECTORATE, OFFICE OF THE INSPECTOR GENERAL

SUBJECT: Evaluation of the Disposal of Munitions Items (Project No. 7LH-3008)

Our comments on the subject draft report are provided in response to your memorandum of July 1, 1997. Specific comments to applicable recommendations are contained in the attachment.

The logistics community is concerned about the recent munitions disposal incident that resulted in the subject draft report. Corrective actions that parallel those in the draft report are already underway. This office has initiated an ad hoc working group comprised of logistics and non-logistics representatives in the munitions disposal process. Working with the Defense Logistics Agency, we have initiated revisions to munitions disposal policies in the disposal and demilitarization manuals. In addition, we are participating in an internal Defense Logistics Agency review of munitions disposal currently underway which may result in additional policy and related revisions to the munitions disposal process. It should be noted that the DoD disposes of a substantial volume of munitions, and major incidents are rare. Nevertheless, we agree further refinements are necessary and are working toward that objective.

The recommendations in the draft report address overlapping functional areas of responsibility and regulations in the munitions disposal process, both within and outside of the logistics purview. The overlaps have made responding to specific recommendations difficult and have resulted in partial concurrences from this office.

Roy R. Willis
Acting Deputy Under Secretary
of Defense (Logistics)

Attachment

RECOMMENDATION A.1: We recommend that the Under Secretary of Defense for Acquisition and Technology and the Joint Logistics Commanders integrate their efforts in the ammunition, explosive, and dangerous articles disposal process by establishing an integrated process team to partner the DoD environmental, explosive ordinance disposal, demilitarization, munitions, safety, and training staffs to develop standard DoD-wide policy, procedures, and training that provide specific instructions on how and what ammunition, explosives, and other dangerous article residue is collected, rendered inert, accounted for, inspected and reinspected, accumulated and stored, certified, cleaned up, and physically secured.

RESPONSE: Partially concur. This office has already begun addressing corrective actions parallel to those in the draft report by initiating an ad hoc working group comprised of the various players in the munitions disposal process. This group has had several previous meetings and will be used as a platform for further initiatives. These initiatives include addressing policy and oversight fragmentation, the need for compliance emphasis, and the feasibility of a joint regulation. However, formalizing this ad hoc group as an integrated process team may duplicate the charters of existing formal groups. Therefore, the ad hoc group will explore utilization of existing formal groups to accomplish our objectives. The projected completion date is December 1997.

RECOMMENDATION B.1: We recommend that the Deputy Under Secretary of Defense (Logistics) revise the DoD Manuals 4160.21-M and 4160.21-M-1 to establish requirements to:

a. Obtain from generators of ammunition, explosives, and other dangerous articles residue a listing of the name, grade, rank and sample signature of each individual authorized to certify items as inert on the DD Forms 1348-1.

b. Segregate material generated from ammunition, explosives, and other dangerous articles from other scrap material in the Defense Reutilization and Marketing Office or any other storage areas.

c. Perform visual inspections to recognize potential ordnance safety hazards upon turn-in of material generated from ammunition, explosives, and other dangerous articles.

RESPONSE: Partially concur. Policy revisions are already underway for the disposal and demilitarization manuals which are the responsibility of this office. This includes revised policy on munitions disposal. However, these manuals are not the appropriate avenue for all munitions policy. This office is also

ATTACHMENT

participating in the internal Defense Logistics Agency review of munitions disposal that is currently underway. This initiative may result in additional policy and related revisions to the munitions disposal process. The projected completion date is December 1997.

RECOMMENDATION C.1: We recommend that the Under Secretary of Defense for Acquisition and Technology and the Joint Logistics Commanders establish a subgroup of the integrated process team to develop standards for qualified bidders lists for contractors in the disposal of ammunition, explosives, and other dangerous articles residue, and develop preaward survey criteria for all sales contracts of range residue.

RESPONSE: Partially concur. Formalizing this ad hoc group as an integrated process team and establishing a subgroup may duplicate the charters of existing formal groups. Therefore, the ad hoc group will explore utilization of existing formal groups in pursuing these objectives. In addition, the specific changes requested need to be addressed on a case-by-case basis. The projected completion date is December 1997.

RECOMMENDATION C.2: We recommend that the Director, Defense Procurement revise the Defense Federal Acquisition Regulation Supplement to incorporate uniform and specific guidance to contracting officers on what requirements documents shall be used to obtain contractor compliance with DoD-wide policies, procedures, and standards for the disposal and sale of ammunition, explosives, and other dangerous articles. As a minimum, DoD needs uniform contract provisions that specify contract qualifications and training, methods of work for range clearance, site quality control and assurance plans, and site specific safety and health plans.

RESPONSE: Partially concur. The Director of the Defense Acquisition Regulations Council will be asked to open a new Defense Federal Acquisition Regulation Supplement case to consider these recommendations to expand the general Defense Federal Acquisition Regulation Supplement guidance on what to consider when contracting for disposal, but the specific changes requested need to be addressed on a case-by-case basis in the requirements documentation. The projected completion date is December 1997.

RECOMMENDATION C.5: We recommend that the Deputy Under Secretary of Defense (Logistics) revise DoD Manual 4160.21-M-1, "Defense Demilitarization Manual", to:

a. Define all range residue as ammunition, explosives, and other dangerous articles until it is rendered inert and properly certified.

b. Require that all ammunition, explosives, and other dangerous articles residue be assigned a demilitarization code of G to ensure that it is rendered inert and properly certified before turn-in to the Defense reutilization and Marketing Office, an ammunition supply point, or a military installation recycling center.

RESPONSE: Partially concur. Policy revisions are already underway for the disposal and demilitarization manuals under the responsibility of this office. However, these manuals are not the appropriate avenue for all munitions policy. The projected completion date is December 1997.

Deputy Under Secretary of Defense (Environmental Security) Comments

OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON
WASHINGTON DC 20301-3000

ACQUISITION AND TECHNOLOGY

31 JUL 1997

MEMORANDUM FOR DoD INSPECTOR GENERAL, ATTENTION: DIRECTOR, LOGISTICS SUPPORT

SUBJECT: Evaluation of the Disposal of Munitions Items (Project No. 7LH-3008)

The subject report was reviewed as requested. In general, we concur with your recommendations for Environmental Security action. Specific comments and recommended changes are discussed at the attachment.

The point of contact is Ms. Lydia E. Sanchez, Safety/Environmental Engineer with the DoD Explosives Safety Board. Ms. Sanchez may be contacted at (703) 325-1373 or electronic mail address sanchezly@ddesb.acq.osd.mil.

Sherri W. Goodman
Deputy Under Secretary of Defense
(Environmental Security)

Attachment
as stated

Environmental Security *Defending Our Future*

Final Report Reference

DoDIG Project No. 7LH-3008
Draft Report, "Evaluation of the Disposal of Munitions Items"
Dated July 1, 1997

DUSD(ES) COMMENTS

The following comments and recommendations are provided for your consideration and incorporation in the final report, as appropriate.

1. General.

a. Recommend that a copy of this report be provided to the Defense Criminal Investigative Service for information and a determination of whether criminal or other enforcement investigations are necessary.

b. The term "unauthorized area" is used throughout the report. Recommend that a definition or explanation of the term be included in the Evaluation Background. — Pages 43 and 45 revised

2. Executive Summary and Part I, Evaluation Background: The evaluation of the disposal of munitions items was requested by the Office of the Deputy Under Secretary of Defense (Environmental Security) rather than by the Secretary of Defense. Request that you make this correction in the final report. — Pages i, 2 and 52 revised

3. Specific comments.

a. Page 2, Definitions. Recommend that you clarify the terms "chemical-based munitions" in the AEDA definition and "active chemicals" in the definition of Inert. The clarification should indicate that these terms refer to chemical or nerve agent fillers rather than the more common reference to laboratory chemicals. — Page 2 revised

Reason: To avoid confusion within the public. Once this report becomes public, the general public and regulatory agencies could misinterpret the use of the word "chemical" and conclude that toxic chemical weapon material may have been released by DoD to the public.

b. Page 4, Other Groups.

(1) Second bullet: The DoD Explosives Safety Board (DDESB) was established by Congressional mandate, under 10 USC 172. The Chairman of the DDESB reports to the Deputy Under Secretary of Defense (Environmental Security). The other Board members are independent representatives of the four Military Services and report to the Secretary of their respective Service. — Page 3 revised

Final Report Reference

Page 4 revised

(2) Third bullet, last sentence: The correct term is "formerly *used* Defense sites" (versus *owned*).

c. Page 19, Recommendation A.1.a: Develop a corrective action to implement the recommendations in the Inspector General, DoD, Report, "Review of Policies and Procedures Guiding the Cleanup of Ordnance on DoD Lands," November 22, 1994.

Comment: This review also was conducted at the request of DUSD(ES). Several actions have been or are in the process of being implemented that achieve the recommendations in the November 1994 report. In addition to Environmental Security, DoD ammunition, safety, and legal communities participated in the development of the actions discussed below.

(1) Military Munitions Rule: We established an integrated project team (IPT) lead by the DoD Ordnance Executive Environmental Steering Committee (OEESC) to work with the U. S. Environmental Protection Agency (EPA) in the development of the Munitions Rule. The Munitions Rule was promulgated final on February 12, 1997. This rule establishes the regulatory definition of when military munitions become waste subject to the hazardous waste management regulations under the Resource Conservation and Recovery Act (RCRA).

(2) DoD Range Rule: We have drafted a Federal rule (the Range Rule) that will establish the process to determine the response actions at military ranges that are closed, are transferring outside of DoD control (e.g., Base Closure properties) or already have been transferred (e.g., formerly used Defense sites). The Range Rule process will involve the public and the environmental regulatory agencies in the decision-making process for response action at the sites subject to the rule. Currently, the Range Rule is undergoing review by the Office of Management and Budget and is expected to be published in the Federal Register for public review and comment in early Fall 1997. A funding policy for the Range Rule is being developed.

(3) Range Rule Risk Assessment Methodology (R3M): The R3M is being developed in consultation with EPA. The methodology will consider and incorporate input and comments from the general public, academia, industry, other Federal agencies, and State environmental regulatory agencies. The R3M will be a tool for use by decision-makers to determine which response action is appropriate at a site that contains ammunition or explosives.

(4) DoD Instruction for Unexploded Ordnance (UXO) Safety on Ranges: This Instruction is undergoing final review for concurrence within DoD and is expected to be issued final before the end of this calendar year. It addresses control of explosives

Final Report Reference

hazards and response actions related to UXO and other ammunition and explosives contamination from active and inactive ranges.

d. Page 20, Recommendation A.2: [Rephrased to be concise: That Environmental Security partner with the DoD Unexploded Ordnance Center of Excellence and to evaluate the cost effectiveness of regional facilities for cleansing of AEDA residue.] CONCUR.

(1) Recommend that you add the offices of the Director, Test Systems Engineering and Evaluation and the Deputy Under Secretary of Defense (Readiness) to the partnering effort.

(2) An integrated process team (IPT) already exists that addresses ordnance related environmental and safety issues and concerns. The IPT is the Ordnance Executive Environmental Steering Committee (OEESC), which is a committee of the Defense Environmental Security Council (DESC). Bothe the OEESC and the DESC include membership from the offices necessary to address the issues presented in this report. We will request the OEESC to address the cost effectiveness study discussed in your recommendation.

e. Page 35, third paragraph - The second sentence correctly states that DoD guidance governing direct sales does not clearly articulate the requirement for destruction of expended brass and certification of the firing range residue as inert before the sale of the AEDA residue. We propose that DoDI 4715.4 (F)(2)(c)(3)9f)1 be revised to state, "Prior to public sale, expended brass and mixed metals gleaned from firing range cleanup shall be certified inert by appropriate authority, and expended brass shall be crushed, shredded, or otherwise destroyed."

f. Page 35, last paragraph - The second sentence incorrectly states that "recycling centers" are only authorized to sell directly brass residue. DoDI 4715.4 permits them to sell directly "firing range expended brass (and) mixed metals gleaned from firing range cleanup that do not require demilitarization." (See comment directly above.)

Page 36 revised

g. Page 37, third paragraph - DoD 4715.4 and the Combined Services Interim Guidance for Direct Sales require that expended brass must be crushed, shredded, or otherwise destroyed *prior to public sale*.

h. Page 44, Recommendation for Environmental Security:

(1) Recommendation C.3.a - This recommendation would require DUSD(ES) to "clarify DoD regulations covering direct sales programs and the QRPs to ensure that expended small arms brass and any other types of expended AEDA are crushed or shredded and the residue burned (flashed)..." We suggest that this recommendation is unnecessary as Recommendation A.1 (p. 19) suggests that USD (A&T) and the JLC establish DoD-wide policy and procedures on how AEDA is to be rendered inert. We agree that direct sales programs and QRPs should follow any DoD-wide policies and procedures established under Recommendation A.1.

Attachment

Joint Logistics Commanders Comments

DEPARTMENT OF THE ARMY
HEADQUARTERS US ARMY MATERIEL COMMAND
5001 EISENHOWER AVE., ALEXANDRIA, VA 22333-0001

DEPARTMENT OF THE NAVY
DEPUTY CHIEF OF NAVAL OPERATIONS (LOGISTICS)
WASHINGTON, DC 20350-2000

DEPARTMENT OF THE NAVY
HEADQUARTERS US MARINE CORPS
WASHINGTON, DC 20380-0001

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE MATERIEL COMMAND
WRIGHT-PATTERSON AFB, OHIO 45433-5001

DEFENSE LOGISTICS AGENCY
8725 JOHN J. KINGMAN ROAD
FT. BELVOIR, VA 22060-6221

JOINT LOGISTICS COMMANDERS

JOINT SECRETARIAT

MEMORANDUM FOR DIRECTOR, LOGISTICS SUPPORT DIRECTORATE
DEPARTMENT OF DEFENSE INSPECTOR GENERAL
400 ARMY NAVY DRIVE, ARLINGTON, VIRGINIA
22202-2884

SUBJECT: Evaluation of the Disposal of Munitions Items (Project No. 7LH-3008)

1. Reference DoD Inspector General Draft Evaluation Report (Project No. 7LH-3008), 1 July 1997, subject as above.

2. The Joint Logistics Commanders are identified in referenced report as participating in corrective actions on Recommendations A.1 and C.1. Accordingly, our comments are restricted to those two recommendations and associated findings.

a. Recommendation A.1. "We recommend that the Under Secretary of Defense for Acquisition and Technology and the Joint Logistics Commanders integrate their efforts in the ammunition, explosive, and other dangerous articles disposal process by establishing an integrated process team to partner the DoD environmental, explosive ordnance disposal, demilitarization, munitions, safety, and training staffs to develop standard DoD-wide policy, procedures, and training that provide specific instructions on how and what ammunition, explosives, and other dangerous article residue is collected, rendered inert, accounted for, inspected and reinspected, accumulated and stored, certified, cleaned up, and physically secured. As a minimum, (four subordinate recommendations listed)..."

Response: Concur with Finding A which faults DoD controls for the disposal of AEDA residue as ineffective. In particular, two DoD Manuals are cited as providing inadequate instructions on the collection and disposal process. We disagree with the wording of Recommendation A.1. which jointly assigns corrective action to the Under

Final Report Reference

Secretary of Defense (Acquisition and Technology) and the JLC. Rather than co-assign responsibility for corrective action as stated, the recommendation should be directed to the senior DoD element with proper authority to direct development of DoD-wide policies and procedures and applicable DoD-wide accountability requirements. The description on page 3 of the draft report shows the USD(A&T) "...is the principal staff assistant and advisor to the Secretary of Defense for all matters relating to the acquisition and disposal of munitions." Therefore, the lead assignment for corrective action should start with the USD(A&T) with assistance provided by other organizations like the JLC and the U.S. Army Corps of Engineers, Ordnance and Explosives Center for Expertise and Design. The JLC, with its existing infrastructure and expertise in the munitions area, notably the Joint Ordnance Commanders Group, may augment the effort by invitation of the USD(A&T).

Revised and redirected

Suggested rewording of recommendation A.1. follows: The Under Secretary of Defense (Acquisition & Technology) develop standard DoD-wide policy, procedures, and training that provide specific instructions on how and what ammunition, explosives, and other dangerous article residue is collected, rendered inert, accounted for, inspected and reinspected, accumulated and stored, certified, cleaned up, and physically secured. Further, recommend the USD(A&T) establish an integrated process team to partner DoD environmental, explosive ordnance disposal, demilitarization, munitions, safety, and training staffs to accomplish the above actions.

b. Recommendation C.1. "We recommend that the Under Secretary of Defense for Acquisition and Technology and the Joint Logistics Commanders establish a subgroup of the integrated process team to develop standards for qualified bidders lists for contractors in the disposal of ammunition, explosives, and other dangerous articles residue, and develop preaward survey criteria for all sales contracts of range residue."

Revised and redirected

Response: Concur with Finding C relative to the adequacy of DoD guidance for AEDA disposal contracts. Again, we disagree with the dual assignment for corrective action to both the USD(A&T) and the JLC. With the USD(A&T) leading the integrated process team described in paragraph 2a above, the JLC is prepared to assist in improving the consistency and adequacy of AEDA contracts as recommended. Accordingly, we suggest deletion of the JLC from Recommendation C.1, allowing the USD(A&T) to direct establishment of a representative body to develop standards and preaward survey criteria.

3. General Comments:

a. The Joint Ordnance Commanders Group can represent the wholesale, retail, and RDT&E munitions communities, under the purview of the JLC, in those actions discussed above.

b. The proposed integrated process team would require an extremely comprehensive effort evaluating both policy and execution much like the Wholesale Ammunition Stockpile Program Study prepared by the JOCG in 1993 and 1994. Such a

cross functional effort will require a firm commitment of both personnel and funds from the Services and the Office of the Secretary of Defense (OSD).

4. This response has been coordinated among the JLC Joint Secretariat members.

Gregory P. McIntosh

GREGORY P. MCINTOSH
AMC Member
Joint Secretariat

8 Aug 97

DATE

Defense Reutilization and Marketing Service Comments

DEFENSE LOGISTICS AGENCY
HEADQUARTERS
8725 JOHN J. KINGMAN ROAD, SUITE 2533
FT. BELVOIR, VIRGINIA 22060-6221

AUG 0 1 1997

IN REPLY REFER TO DDAI

MEMORANDUM FOR THE DIRECTOR, LOGISTICS SUPPORT DIRECTORATE, DEPARTMENT OF DEFENSE

SUBJECT: Draft Report on the Evaluation of the Disposal of Munitions Items, 7LH-3008

Enclosed is our response to your request of 1 July 1997. Enclosure 1 are comments to the narrative of the subject report. Enclosure 2 are comments for each applicable finding and recommendation. Should you have any question, our Point of Contact is Elaine Parker, 767-6264.

Encl

for JEFFREY GOLDSTEIN
Chief (Acting), Internal Review

cc:
MMBCA
MMLC
DRMS-Q

Federal Recycling Program Printed on Recycled Paper

Final Report Reference

DEFENSE LOGISTICS AGENCY
DEFENSE REUTILIZATION AND MARKETING SERVICE
74 WASHINGTON AVE N STE 6
BATTLE CREEK MI 49017-3092

JUL 28 1997

DRMS-D

MEMORANDUM FOR DLA DDAI

SUBJECT: Evaluation of the Disposal of Munitions Items (Project No. 7LH-3008)

Specific comments to the narrative portion of the subject report are as follows:

a. Executive Summary, Evaluation Results: Concur in part with the statement as currently written. DRMS does not knowingly receive nor dispose of uncertified AEDA. It is the responsibility of the generator to ensure no live AEDA is turned in to the servicing DRMO.

b. Executive Summary, Summary of Recommendations (pg. ii): Concur in part. DRMS does not advocate the physical acceptance of certified AEDA material except for small arms and artillery cartridge cases. Further, the recommendation for the DUSD (E and S) should be rewritten to prohibit military installation qualified recycling programs to dispose of AEDA/Range Residue other than mutilated small arms cartridge cases.

c. Evaluation Background (pg. 2): Third sentence should be clarified. The material was generated by the National Training Center (NTC) Ft. Irwin, CA and was certified as inert. The DRMO was selling certified inert material. Page 2 revised

d. Evaluation Results (pg. 3): Last sentence, DRMS currently has 157 DRMOs vice 200. Page 3 revised

e. Finding A, Collecting and Clearing AEDA Residue (pg. 7): DRMS is of the position that we be designated as the sole disposal agent for the disposal of AEDA/Range Residue. With the development of revised DoD and DRMS policy guidance in place, and proposed control mechanisms, we are the best qualified organization to ensure the material is properly disposed of.

Federal Recycling Program Printed on Recycled Paper

JUL 2 8 1997 2

f. Finding A, Rendering AEDA Residue Inert (pg. 9): Detailed DoD guidance for rendering AEDA material free from energetic material is definitely necessary. Consideration should be given to the centralized processing of this material, taking advantage of current technologies. DRMS is exploring additional methodologies in an attempt to provide additional services to the generators of this material

g. Finding A, Inspection and Reinspection of AEDA Residue (pg. 11): DRMS is totally dependent upon the inspection provided by the generating activity. Further emphasis should be placed in the report for the development of quality inspection standards before an inert certificate is signed. When DRMS provides a sales service for this material, inert certification procedures will be required to be provided by the generator for the material.

h. Finding A, Turn-in of AEDA (pg. 17): DRMS should be designated as the sole disposal agent for the disposal of inert AEDA material and DoD policy guidance should be updated to mandate this.

i. Finding C, Sales Contract of Range Residue (pg. 34): DRMS does not support maintaining a data base of qualified individuals if organizations, such as a QRP, are authorized to dispose of AEDA/Range Residue material. If it becomes necessary for definitive DoD evaluation criteria to be developed to qualify bidders, this furthers the justification for DRMS to be the sole disposal agent for this material.

j. Management Control Program (pg. 50): DRMS does not believe our AEDA operation warrants a Material Weakness designation for DRMS. It does require our continuing attention and it will continue to be included as a management objective in our FY98 Management Control Plan. The successful resolution of this problem must involve the Services and DLA. As such, it should be considered a Material Weakness candidate for those levels with DoD.

In addition, attached are our comments for each applicable finding and recommendation.

DRMS continues to give high priority to AEDA problems and have taken several actions to facilitate this initiative. Effective March 24, 1997, DRMS temporarily suspended all receipts and release of range residue which

JUL 28 1997

could have potentially contained AEDA. On April 4, 1997 a training day was conducted where each DRMO reviewed AEDA policies and procedures and ensured a current list of individuals authorized to sign inert certificates was on file. DRMOs certified to DRMS that they were in compliance with policies and procedures concerning range residue/AEDA. In addition, DRMOs certified to DRMS that they were in compliance with policies and procedures concerning range residue/AEDA. DRMS notifies Unit Commanders of all improper AEDA turn-ins, asks for corrective actions, and suspends units from turn-ins that continue to violate policy.

DRMS' Program Manager for External Audits is Mrs. Nancy Olson-Butler. For further information she may be reached at DSN 932-7433.

ROBERT E. MANSFIELD, JR.
Colonel, USAF
Commander

Attachment

cc: DLA MML

AUG 0 1 1997

SUBJECT: Evaluation of the Disposal of Munitions Items, 7LH-3008

FINDING A: Adequacy of DoD Controls for the Disposal of AEDA Residue by the Military Departments

DLA COMMENTS: Concur that comprehensive DoD policy on ADEA is necessary. Current DoD manuals address disposal and demilitarization only and are not the appropriate vehicle for overall AEDA policy. For clarification purposes, recommend A.3.C be changed from, "when an unreasonable amount of incidents have occurred," to a specific number of occurrences.

ACTION OFFICER: Jack W. Blackway, MMLC, (703)767-1539
REVIEW/APPROVAL: D. P. Keller, RADM, SC, USN, Exec. Dir. Logistics Management
COORDINATION: Elaine Parker, DDAI, 767-6264

DLA APPROVAL:

(SIGNED)
A. C. [illegible]SLER
Deputy Director
(Corporate Administration)

Enc 12

AUG 0 1 19

SUBJECT: Evaluation of the Disposal of Munitions Items, 7LH-3008

FINDING B: Adequacy of DoD Controls for AEDA Residue Disposal at the Defense Reutilization and Marketing Service

DLA COMMENTS: Partially concur with overall finding (see details for Recommended Corrective Actions B.1. and B.2.). Changes suggested in the overall finding have been, in part, incorporated into a formal change to DoD regulation, including material segregation and certifier identification. The recommendation should be further expanded to require two signatures for inert certification. This change has been forwarded to the DoD Components for review, comments and concurrence and will be incorporated in DoD 4160.21-M, Defense Reutilization and Marketing Manual) to be issued no later than 15 August 1997. Implementation of all provisions by the DRMS will occur subsequent to this publication. With these changes imminent, incorporation as a management control weakness is not deemed necessary.

RECOMMENDATION B.1 : Partially Concur.

a. This recommendation should be further expanded to require two signatures for inert certification. The printed name and signature is included in the revised AEDA/Range Residue guidance which is currently in staffing with the military services. In addition, change must address the penalties for false certification. Safety programs, to be effective, must have a history of enforcement.

b. In order for DRMS to effectively provide a sales service for this material it must be properly segregated. This recommendation should be expanded to include a requirement that an organization such as the U.S. Army Corps of Engineers develop a detailed standardized statement of work for a commercial entity to accomplish any required segregation of this type of material.

c. Tentative plan is to train at least one individual at each DRMO that provides support to a range activity. Training will be strictly of a general identification nature. The scope of this recommendation should be expanded to require the development of procedures to ensure that quality inspections of AEDA material are conducted before an inert certificate is signed. The term visual inspection is to vague and could lead to the certification of large accumulations rather than individual items. The validity of the certificate must be based on strong quality standards. This will be addressed as an action item of the joint DLA/DRMS AEDA Working Group, initial meeting scheduled for August 1997.

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REVIEW/APPROVAL: D. P. Keller, RADM, SC, USN, Exec. Dir., Logistics Management
COORDINATION: Elaine Parker, DDAI, 767-6264

DLA APPROVAL:

SUBJECT: Evaluation of the Disposal of Munitions Items, 7LH-3008

RECOMMENDATION B.2.a.1: Concur. Full implementation of this recommendation is partially dependent upon updating of DoD policy as stipulated in Recommendation B.1.a. DRMS currently requires the DRMOs to maintain a listing of qualified individuals authorized to sign inert certifications. These listings are to be updated annually or as changes occur. Revised guidance will require both the printed name and the sample signature. Compliance with the existing requirement to have a listing of qualified individuals is included as an element of the DRMO self certification process and is part of the items which are reviewed during the quality inspection process.

RECOMMENDATION B.2.a.2: Partially Concur. DRMS physical acceptance of AEDA material scrap is to be limited to only expended cartridge and artillery cases. DRMS does not support the wholesale acceptance of AEDA/Range Residue, such as practice bombs, expended artillery shells, rockets, etc. until the certification process is improved. DRMS advocates this material remain with the generator and that DRMS be designated as the sole disposal agent for its disposal under the auspices of well defined DoD policy.

RECOMMENDATION B.2.b: Partially Concur. DRMS has directed DRMOs to cease accepting either accountability or physical custody of Range Residue material, except for expended small arms cartridge cases and artillery cases. The need for segregation should be limited to material which is currently on site. **ECD: 1 Oct 97**

RECOMMENDATION B.2.c: Partially Concur. DRMS employees currently accomplish visual inspection in an attempt to identify suspect AEDA items that have been inappropriately turned in to the DRMO. To enhance this effort further, sources of AEDA recognition training are being identified in order that this training can be provided to DRMO employees. DRMS's efforts must be limited to these types of visual inspection, as our property disposal specialists are not AEDA experts nor can they be expected to be. **ECD: 31 Dec 97**

RECOMMENDATION B.2.d: Concur. DRMS is currently in the process of identifying potential sources for this training. Our objective is to improve the existing and required visual inspection being accomplished by DRMO personnel in the identification of the unauthorized turn-in of AEDA material. "Acceptance training" has been provided to all DRMOs during an AEDA stand-down period in April 1997. Coverage of acceptance procedures will be strengthened in DRMS's ABC's of DEMIL training. **ECD: Expected 2nd Qtr FY98**

AUG 0 1 1997

PAGE 2
SUBJECT: Evaluation of the Disposal of Munition Items, 7LH-3008

RECOMMENDATION B.2.e: Concur. DRMS has begun a Command-wide process review to assess the adequacy of internal controls in the DEMIL program, to include AEDA processing. The review is being conducted by DRMS-JM. In addition, DRMS plans to conduct more frequent on-site compliance and process reviews in the near future. DRMS-USD plans to have the scope defined, and a protocol and schedule developed by **1 Sep 97.**

ACTION OFFICER: Bob Mrva, DRMS-USD, (DSN) 932-7194
REVIEW/APPROVAL: R. E. Mansfield, Jr., Col, USAF, Commander, DRMS
COORDINATION: Elaine Parker, DDAI, 767-6264

DLA APPROVAL:

(SIGNED)
A. C. [illegible]SLER
Deputy Director
(Corporate Administration)

AUG 0 1 [illegible]

SUBJECT: Evaluation of the Disposal of Munitions Items, 7LH-3008

FINDING C: Adequacy of DoD Controls for AEDA Disposal Contracts, Qualified Recycling Programs, Reporting Incidents and Demilitarization

DLA COMMENTS: Partially concur with overall finding. Non-concur that DFARS change /addition is needed for range residue sales. DFARS applies to the acquisition process, not disposal. Non-concur that demilitarization policies should cover safety precautions for AEDA residue. The Defense Demilitarization Manual, DoD 4160.21-M-1, is not the appropriate vehicle for this direction.

RECOMMENDATION C.1: Partially Concur. Implementation of Recommendation C.3.a would negate the requirement to develop standards for qualified individuals. If all energetic material is removed /neutralized, etc. prior to disposition, the resulting residue can be processed as normal material. Therefore, detailed pre-award survey criteria would also not be necessary. Proposed DoD and DRMS guidance for the processing of AEDA/Range Residue includes a requirement that a Memorandum of Understanding be developed to define responsibilities and requirement that a post-award conference, with the purchaser, be held for hazard recognition and actions to be taken if suspected live ordnance is found.

RECOMMENDATION C.2: Concur

RECOMMENDATION C.3.a: Concur. An intensive program should be initiated to determine technologies and capabilities to process this material on site to further insure no live ordnance material leaves DoD control Modern technologies must be utilized to provide the highest degree of assurance that the material is safe to handle and doesn't present a danger to the general public.

RECOMMENDATION C.3.b: Concur. DoD standardized procedures for reporting AEDA incidents is necessary if sound corrective actions are to be taken.

RECOMMENDATION C.4: Concur.

RECOMMENDATION C.5.a: Concur. The material should not be considered inert until it is processed IAW the recommendation contained in C.3.a. Material which is not processed in line with the C.3.a recommendation should be classified as Explosives Contaminated Property (ECP) and disposed of accordingly.

PAGE 2 (Continued) AUG 0 1 1997
SUBJECT: Evaluation of the Disposal of Munitions Items, 7LH-3008

RECOMMENDATION C.5.b: Partially Concur. Recommendation C.5.a will be incorporated in DoD 4160.21-M, Defense Reutilization and Marketing Manual (rather than the Demilitarization Manual) to be issued no later than 15 August 1997, and will include language that all range residue will be considered as AEDA until rendered and certified inert and should not be disposed of by military installation recycling centers. DRMS should be considered as the sole disposal agent for the disposition of these items. The nature of the property requires strict conformance and control during the disposition process.

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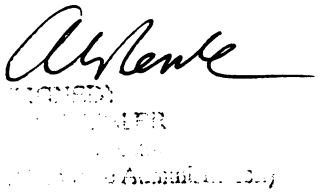
REVIEW/APPROVAL: R. E. Mansfield, Jr., Col, USAF, Commander, DRMS
COORDINATION: Elaine Parker, DDAI, 767-6264

DLA APPROVAL:



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