U.S. ARMY ASSISTANT CHIEF OF STAFF INSTALLATION MANAGEMENT (ACSIM)
(Preparing Activity)

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This is the initial publication of the Qualified Recycling Program Handbook
FOREWORD

HANDBOOKS are living documents and will be periodically reviewed, updated, and made available to users as part of the Service’s responsibility for providing technical criteria for operating recycling programs, with special emphasis on the establishment, implementation, and oversight of Qualified Recycling Programs (QRPs). In instances where statutory, regulatory, Executive Order, or Department of Defense (DoD) policy requirements exist, the reference is cited. It is also important to check state or host nation laws and regulations that may be applicable to Army recycling activities and adapt as necessary.

Technical content of this HANDBOOK is the responsibility of the ACSIM. Recommended changes with supporting rationale should be sent to Department of the Army, Office of the Assistant Chief of Staff for Installation Management, Operations Directorate, Facilities Policy Division (DAIM-ODF), 600 Army Pentagon, Washington, D.C. 20310-0600.

This HANDBOOK is effective upon issuance and is distributed only in electronic media.

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EXECUTIVE SUMMARY

Recycling is an essential part of the federal government's overall plan for reducing the amount of waste the nation generates. It turns materials that would otherwise become waste into valuable resources and generates a host of environmental, financial, and social benefits. Materials such as glass, metal, plastics, and paper are collected and sent to facilities that can process them into new materials or products. This process redirects millions of tons of waste away from landfills and incinerators and helps reduce deforestation, resource consumption and may impact greenhouse gas emissions.

The Army has embraced recycling as an integral component of its core mission of training and equipping soldiers. In accordance with 10 U.S.C. 2577 as implemented through the Department of Defense (DoD) and Army policies, such as DoD Instruction (DoDI) 4715.4, Executive Order (EO) 13514, and AR 420-1, all installations shall have or participate in a recycling program. The primary reasons are:

a. Collection, removal, and disposal of solid wastes are a governmental service to help maintain good order and an elevated standard of public health.
b. Recycling conserves resources, prevents emissions of greenhouse gases and water pollutants, saves energy, supplies industry with valuable materials, and reduces the need for new landfills and incinerators.
c. Recycling is economically advantageous to the Army and DoD. Recyclable materials can be sold, often for substantial amounts. In addition, recycling avoids many costs associated with solid waste disposal.

The purpose of this Handbook is to provide guidance for setting up and operating recycling programs. This document will outline the steps necessary to determine whether to establish a Qualified Recycling Program (QRP) or non-QRP recycling program, describe the roles and responsibilities of various installation staffs and other agencies in QRP operations, as well as discuss the following:

a. Personnel, equipment and facilities required;
b. Determining what to recycle and the marketplace in which to sell them;
c. Financial management, contracting and recordkeeping; and
d. Training requirements and sources.

The appendices contain frequently asked questions, sample economic analysis worksheets for determining the cost-effectiveness of various options under consideration, uniform resource locators (URLs) of World Wide Web sites that provide case studies of innovative solid waste and recycling programs, and other useful reference materials.

A QRP is a special kind of recycling program established by an installation in accordance with specific statutory, regulatory, and DoD requirements to collect and sell directly qualified or authorized recyclable scrap materials and retain the sales proceeds for use as prescribed in law and regulations. QRPs may also sell qualified or authorized recyclable scrap materials indirectly through a DLA Disposition Services local office, formerly called a Defense Reutilization and Marketing Office (DRMO).
Under 10 U.S.C. 2577 and consistent with DoD 7000.14-R, DoD Financial Management Regulation, Volume 11A, a QRP shall use sales proceeds from recyclables for only three purposes, which are, in priority order:

a. “…to cover the costs of operations, maintenance, and overhead for processing recyclable materials at the installation (including the cost of any equipment purchased for recycling purposes);”

b. “…and if a balance remains, then:

c. not more than 50% of that balance may be used at the installation for projects for pollution abatement, energy conservation, and occupational safety and health activities. A project may not be carried out under the preceding sentence for

d. an amount greater than 50% of the amount established by law as the maximum amount for a minor construction project;”

e. “…the remaining balance available to a military installation may be transferred to the non-appropriated morale and welfare account of the installation to be used for any morale or welfare activity.”

QRPs are no-year funds, and installations may maintain a maximum balance of $2,000,000 in the QRP account. If the balance available to the installation at the end of the fiscal year exceeds the $2,000,000 ceiling, the excess funds shall be turned over to the U.S Treasury as miscellaneous receipts.

A QRP offers installations the means to execute a cost-effective recycling program. If a detailed economic analysis has determined that a QRP would be cost-prohibitive, 40 CFR 246.200-1 still requires recycling of high-grade office paper at facilities with more than 100 office workers; cardboard for facilities generating more than 10 tons cardboard/month; and newsprint for facilities with more than 500 families in residence. These items shall be recycled regardless of the processing and handling costs. Army qualified recyclable materials DO NOT include scrap generated from DoD Working Capital Fund or Army Working Capital Fund (AWCF) activities, such as ammunition and tank rebuild plants.

Through its programs, such as the QRP, the Army has made progress in recycling as shown in table ES-1 and figure ES-2.
### Integrated Non-Hazardous Solid Waste (SW) Management Data

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<tr>
<td>Solid Waste (w/o C&amp;D) Diverted (R) tons</td>
<td>480,846</td>
<td>446,868</td>
<td>387,488</td>
<td>422,544</td>
<td>415,295</td>
</tr>
<tr>
<td>Solid Waste (w/o C&amp;D) Disposed (L) tons</td>
<td>920,400</td>
<td>598,342</td>
<td>592,444</td>
<td>581,163</td>
<td>622,691</td>
</tr>
<tr>
<td>Total Solid Waste (w/o C&amp;D) Generated (R+L)</td>
<td>1,401,246</td>
<td>1,045,210</td>
<td>979,932</td>
<td>1,003,707</td>
<td>1,038,616</td>
</tr>
<tr>
<td>Solid Waste (w/o C&amp;D) Diversion Rate ([R/(R+L)]\times 100)</td>
<td>34.3%</td>
<td>42.8%</td>
<td>39.5%</td>
<td>42.1%</td>
<td>40.0%</td>
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| Tons to Pounds Conversion | 2,802,492,000 | 2,090,420,000 | 1,959,864,000 | 2,007,414,000 | 2,077,232,000 |
| Installations Population (P) | 1,337,118 | 1,268,813 | 1,307,135 | 1,300,382 | 1,566,327 |
| Per Capita Generation SW w/o C&D (R+L)/P | 5.7 | 4.5 | 4.1 | 4.2 | 3.6 |

| C&D Debris Diverted (CDR) tons | 492,463 | 924,787 | 1,461,457 | 890,586 | 943,551 |
| C&D Debris Disposed (CDL) tons | 246,822 | 356,582 | 387,862 | 358,359 | 342,126 |
| Total C&D Debris Generated (CDR+CDL) | 739,285 | 1,281,369 | 1,849,319 | 1,248,945 | 1,285,678 |

| Total Generated SW and C&D | 2,140,531 | 2,326,579 | 2,829,251 | 2,252,652 | 2,324,290 |
| Total tons diverted SW and C&D | 973,309 | 1,371,655 | 1,848,945 | 1,313,130 | 1,358,846 |
| Overall Diversion Rate, SW and C&D \([(R+CDR)/(R+L+CDR+CDL)]\times 100\) | 45.5% | 59.0% | 65.4% | 58.3% | 58.5% |

| Potential Cost (PC) $K* | $129,882 | $156,346 | $182,087 | $143,958 | $155,209 |
| Actual Cost (AC) $K* | $72,137 | $81,991 | $77,108 | $47,836 | $62,745 |
| Diversion proceeds (gross) $K | $16,285 | $20,920 | $24,413 | $43,466 | $27,143 |
| Economic Benefit of SW Diversion (PC-AC) $K* | $57,745 | $74,355 | $104,979 | $96,122 | $92,464 |

Source: SWARWeb Database
Figure ES-2. Army Solid Waste Diverted
CHAPTER 1  LEGISLATIVE BACKGROUND

1.1 Objective.

The purpose of this handbook is to help installations establish or improve recycling programs that meet legal and policy requirements, operate efficiently, and are cost-effective.

1.2 Policy.

The general rule of law reflected in the Federal Property Management Regulation is that when U.S. government property is sold, the proceeds must be returned to the U.S. Treasury. There are statutory exemptions to this general rule, the most notable is the exemption at 10 U.S.C. 2577 for DoD qualified recycling programs, better known as QRPs. Under this exemption, DoD recycling programs that operate as QRPs may retain the proceeds when they sell authorized recyclable materials; however, there are limitations to the use of those proceeds. This handbook applies to Outside of the Continental United States (OCONUS) installations where it does not conflict with Status of Forces Agreements.

1.3 Laws and Executive Orders.

Various public laws and regulations have been enacted over the years to minimize waste by maximizing recycling. The requirements for QRPs within DoD Components are based on statutes, regulations, executive orders, DoD and Army policies. The Resource Conservation and Recovery Act (RCRA) and a number of Executive Orders have been issued with the same directive: focus federal efforts on recycling and waste prevention.

1.3.1 United States Code.

Title 42, United States Code, section 6901, The Resources Conservation and Recovery Act (RCRA)

Title 42, United States Code, section 6901, The Resources Conservation and Recovery Act (RCRA) includes provisions that:

a. Require the development of specifications for recycled materials to promote their reuse in replacing virgin materials.

b. Promote a preference for recovered materials.

c. Require a green procurement program for U.S. Environmental Protection Agency (EPA) (recycled) guideline items. For more information see the following websites:

(2) The Federal Facilities Environmental Stewardship and Compliance Assistance Center (http://www.fedcenter.gov/programs/buygreen/)

d. Require Army installations to follow state policy regarding recycling goals and landfill bans on certain materials including common yard waste and/or tires. See paragraph 1.3.6 for the URLs of waste management websites for the states, the District of Columbia, and U.S. territories.

**Title 10 United States Code Section 2577 “Disposal of Recyclable Materials”**

*Title 10 United States Code Section 2577, Disposal of Recyclable Materials,* defines the provisions that form the basis for QRPs.

“(a)(1) The Secretary of Defense shall prescribe regulations to provide for the sale of recyclable materials held by a military department or defense agency and for the operation of recycling programs at military installations. Such regulations shall include procedures for the designation by the secretary of a military department (or by the Secretary of Defense with respect to facilities of a defense agency) of military installations that have established a qualified recycling program for the purposes of subsection (b)(2).

(a)(2) Any sale of recyclable materials by the Secretary of Defense or secretary of a military department shall be in accordance with the procedures in sections 541-555 of Title 40 for the sale of surplus property.

(b)(1) Proceeds from the sale of recyclable materials at an installation shall be credited to funds available for operation and maintenance at that installation in amounts sufficient to cover the costs of operations, maintenance, and overhead for processing recyclable materials at the installation (including the cost of any equipment purchased for recycling purposes).

(b)(2) If after such funds are credited, and a balance remains available to a military installation, and such installation has a qualified recycling program (as determined by the secretary of the military department concerned or the Secretary of Defense), not more than 50% of that balance may be used at the installation for projects for pollution abatement, energy conservation, and occupational safety and health activities. A project may not be carried under the preceding sentence for an amount greater than 50% of the amount established by law as the maximum amount for a minor construction project.
(b)(3) The remaining balance available to a military installation may be transferred to the non-appropriated morale and welfare account of the installation to be used for any morale or welfare activity.

(c) If the balance available to a military installation under this section at the end of any fiscal year (FY) is in excess of $2,000,000, the amount of that excess shall be covered into the Treasury as miscellaneous receipts."

1.3.2 Federal Regulations. 32 CFR Part 172, “Disposition of Proceeds from DoD Sales of Surplus Property”

32 CFR Part 172, Disposition of Proceeds from DoD Sales of Surplus Property regulates the DoD sale of surplus property, including recyclables. The disposition of proceeds is per 10 USC 2577. If the requirements in 32 CFR Part 172 are not followed, all cash and cash equivalents resulting from the sale of recyclables must be deposited directly into the U.S. Treasury.

1.3.3 Executive Order.

On 5 October 2009, the President issued Executive Order (EO) 13514, “Federal Leadership in Environmental, Energy, and Economic Performance” which rescinded and revoked Executive Order (EO) 13423, “Strengthening Federal Environmental, Energy, and Transportation Management” EO 13101, “Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition”. This EO states that each executive agency shall:

a. Minimize the generation of waste and pollutants through source reduction.
b. Divert at least 50% of non-hazardous solid waste, excluding construction and demolition debris, by the end of fiscal year 2015.
c. Divert at least 50% of construction and demolition materials and debris by the end of fiscal year 2015.
d. Reducing printing paper use and acquiring uncoated printing and writing paper containing at least 30% post-consumer fiber.
e. Increase diversion of compostable and organic material from the waste stream.
1.3.4 Department of Defense Guidance.

DoDI 4715.4, Pollution Prevention contains DoD’s policy for QRPs. The pollution prevention (P2) instruction requires DoD Components to establish procedures that ensure, where cost-effective, all installations have, or participate in, a QRP. It also requires Military Departments to ensure that government owned contractor operated (GOCO) facilities and other types of contracts are modified where cost-effective to include recycling programs. The instruction:

a. Provides that QRP procedures address recyclable and other QRP materials, and controls that will ensure 32 CFR Part 172.2(b)(3) excluded materials\(^1\) are not sold through a QRP.

b. Authorizes installations to directly sell recyclable and other QRP materials, or to consign them to DRMO for sale. OCONUS QRPs are severely restricted in what may be sold directly, and must consult with their servicing DRMS/DRMO. DoDI 4715.4 also ensures that the distribution of recycling proceeds is consistent with 10 U.S.C. 2577.

c. Requires establishment of QRP accounting and control systems for management and audit information, materials and sales, cost, and expenditure tracking.

d. Requires that installations operate, or participate in, a composting program, if practicable.


a. An installation non-hazardous solid waste diversion goal (without construction and demolition (C&D) waste) of 40% by 2010.

b. An installation C&D waste diversion goal of 50% by 2010.

1.3.5 Army Policy.

AR 420-1, “Army Facilities Management”

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\(^1\) Excluded materials include: (1) precious metal-bearing scrap and items that may be used again for their original purposes or functions without special processing; (2) ships, planes, or weapons that must undergo demilitarization before sale; and (3) scrap generated from DoD industrial fund (IF) operations.
AR 420-1, paragraph 23-11 addresses solid waste reduction, resource recovery, re-use, recycling, and composting practices to include the following:

- Requirements for an installation Integrated Solid Waste Management plan.
- Elements of and requirements for establishing an installation QRP.
- Army diversion requirements for construction and demolition waste.
- Authorization for QRP direct sales.
- Financial accounting and proceeds disbursement procedures.

**HQDA Memorandum, “Sustainable Management of Waste in Military Construction, Renovation, and Demolition Activities”**

Memorandum, HQDA, DAIM-ZA, 11 Jul 2006, subject: Sustainable Management of Waste in Military Construction, Renovation, and Demolition Activities, states that:

- All military construction, renovation and demolition projects carried out under the Military Construction (MILCON) Army, MILCON Army Reserves, MILCON National Guard Bureau, Army Family Housing Construction, Facilities Reduction, and Installation Operation and Maintenance programs shall include contract performance requirements for a 50% minimum diversion of construction and demolition (C&D) waste (by weight) from landfill disposal.

- Construction, renovation, and demolition projects funded by other than the above programs are not subject to this policy; however, those projects may not use installation C&D waste facilities and services unless they are compliant with this policy.

**HQDA, Memorandum, “Army Integrated (Non-Hazardous) Solid Waste Management Policy”**

1.3.6 State Policies.

Table 1-1 provides a list of solid waste management websites for states, the District of Columbia, and U.S. territories. Overseas commands should consult their local authorities.

Table 1-1. State Waste Management Program Website Links

<table>
<thead>
<tr>
<th>State</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama (AL)</td>
<td><a href="http://www.adem.state.al.us/LandDivision/LandDivisionPP.htm">http://www.adem.state.al.us/LandDivision/LandDivisionPP.htm</a></td>
</tr>
<tr>
<td>Alaska (AK)</td>
<td><a href="http://www.dec.state.ak.us/eh/sw/">http://www.dec.state.ak.us/eh/sw/</a></td>
</tr>
<tr>
<td>Arizona (AZ)</td>
<td><a href="http://www.azdeq.gov/environment/waste/index.html">http://www.azdeq.gov/environment/waste/index.html</a></td>
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<tr>
<td>Arkansas (AR)</td>
<td><a href="http://www.adeq.state.ar.us/solwaste/">http://www.adeq.state.ar.us/solwaste/</a></td>
</tr>
<tr>
<td>California (CA)</td>
<td><a href="http://www.ciwmb.ca.gov/">http://www.ciwmb.ca.gov/</a></td>
</tr>
<tr>
<td>Colorado (CO)</td>
<td><a href="http://www.cdphe.state.co.us/hm/">http://www.cdphe.state.co.us/hm/</a></td>
</tr>
<tr>
<td>Connecticut (CT)</td>
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<td>Delaware (DE)</td>
<td><a href="http://www.awm.delaware.gov/SHWMB/Pages/SHWMB.aspx">http://www.awm.delaware.gov/SHWMB/Pages/SHWMB.aspx</a></td>
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<tr>
<td>Florida (FL)</td>
<td><a href="http://www.dep.state.fl.us/waste/">http://www.dep.state.fl.us/waste/</a></td>
</tr>
<tr>
<td>Georgia (GA)</td>
<td><a href="http://www.dca.state.ga.us/development/EnvironmentalManagement/programs/waste">http://www.dca.state.ga.us/development/EnvironmentalManagement/programs/waste</a> manage.asp</td>
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<td>Hawaii (HI)</td>
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</tr>
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<td>Idaho (ID)</td>
<td><a href="http://www.iowadnr.gov/waste/index.html">http://www.iowadnr.gov/waste/index.html</a></td>
</tr>
<tr>
<td>Illinois (IL)</td>
<td><a href="http://www.epa.state.il.us/land/waste-mgmt/">http://www.epa.state.il.us/land/waste-mgmt/</a></td>
</tr>
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<td>Indiana (IN)</td>
<td><a href="http://www.in.gov/idem/6317.htm">http://www.in.gov/idem/6317.htm</a></td>
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<td>Iowa (IA)</td>
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<td>Michigan (MI)</td>
<td><a href="http://www.michigan.gov/deq/0,1607,7-135-3312---.00.html">http://www.michigan.gov/deq/0,1607,7-135-3312---.00.html</a></td>
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<td>Minnesota (MN)</td>
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<td>Mississippi (MS)</td>
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<td>Nebraska (NE)</td>
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<td>Nevada (NV)</td>
<td><a href="http://hdep.nv.gov/BWM/bwm01.htm">http://hdep.nv.gov/BWM/bwm01.htm</a></td>
</tr>
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<td>New Jersey (NJ)</td>
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<td>New Mexico (NM)</td>
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<td>New York (NY)</td>
<td><a href="http://www.dec.ny.gov/chemical/292.html">http://www.dec.ny.gov/chemical/292.html</a></td>
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CHAPTER 2  RECYCLING PROGRAM OVERVIEW

2.1 Purpose and Goals.

2.1.1 Purpose.
The purpose of the Army Recycling Program is to prevent pollution, reduce waste, and conserve natural resources. The program goal is to divert material destined for incineration or landfill disposal by reducing, reusing, and recycling. Where a QRP is not cost-effective, new or existing recycling programs should consider expanding or integrating with a regional recycling system encompassing other military installations or civilian community recycling programs.

2.1.2 Goals.
Many installations have incorporated the policy and guidance in chapter 1 as the basis for a rigorous goal-setting process, vetted by garrison and senior commanders, to establish long term 25-year sustainability goals. For example, several installations have established goals to eliminate solid waste with a 100% diversion rate by 2027. Additional installation sustainability goals can be viewed at www.sustainability.army.mil.

2.2 Qualified Recycling Programs (QRP).

2.2.1 Background.
DoDI 4715.4 defines QRPs as, "Organized operations that require concerted efforts to divert or recover scrap or waste, as well as efforts to identify, segregate, and maintain the integrity of the recyclable materials in order to maintain or enhance their marketability...." The QRP must adhere to a control process providing accountability for all materials processed through program operations and for all funds received or expended in its operation. 32 CFR Part 172 and this Handbook also define QRPs. Although DoD policy permits the establishment of more than one QRP on an installation under certain circumstances, Army policy is that there will only be a single QRP on an installation. Installation QRPs must serve all host and tenant organizations occupying space, including leased space, on the installation. Contracts covering GOCO facilities should include in the scope of work provision for the contractor to participate in the installation recycling program or QRP, if one exists.

2.2.2 Sales Proceeds from a QRP.
As stated earlier, all personal property purchased by the federal government with Appropriated Funds (APF) is considered government property, even when discarded as excess. This surplus property must be disposed of properly.

Most waste results from the disposal of surplus items that were originally purchased with APF.
The proceeds resulting from the sale of such surplus material purchased with appropriated funds must be returned to the U.S. Treasury, unless a specific statutory exception, such as 10 U.S.C. 2577, applies.

Congress enacted 10 U.S.C. 2577 partly to provide an exception from the general rule regarding disposition of sales proceeds generated from the disposal of surplus items. If the surplus items meet the definition of qualified recycling materials, the QRP receives the proceeds. Detailed guidance on what can and what cannot be included in determining the cost of operating a QRP are provided in chapter 4.

To take advantage of the opportunity provided in 10 U.S.C. 2577, installations must establish a QRP, which must be operated in accordance with DoDI 4715.4. DoD installations might find it economical to operate a non-QRP that sells its recyclable materials through a DRMO as long as sales proceeds, less the costs of recycling, are returned to the U.S. Treasury.

For DoD to retain the privilege provided in 10 U.S.C. 2577 regarding the retention of sales proceeds, the commanders and QRP managers must operate QRPs strictly in accordance with applicable laws and regulations.

2.3 Recycling Outside a QRP.

Where it has been determined that establishing and operating a QRP would not be cost-effective, an installation may still need a recycling program to meet DoD, Army, and local/state solid waste reduction regulations. Some items may be considered “regulated items” and required by federal, state, or local regulations to be recycled. For example, 40 CFR 246.200-1 requires recycling of high-grade office paper at facilities with more than 100 office workers; cardboard for facilities generating more than 10 tons cardboard/month; and newsprint for facilities with more than 500 families in residence. These items shall be recycled regardless of the processing and handling costs.
Collection of recyclables could be made an integral part of a custodial service or a solid waste collection and disposal contract whereby the recyclable material is segregated at a material recovery facility or at the landfill site. Contracting offices should be advised to include in the terms and conditions for these contracts provision for a reduction in price as a result of the sale of the recyclables.

Installation tenant activities such as the Army, Air Force Exchange Service (AAFES), and the Defense Commissary Agency (DeCA) may operate their own recycling programs outside the QRP or the installation recycling program. If there is a QRP at the installation, and these activities choose not to operate independent recycling programs, they must dispose of their QRP-qualified recyclable materials through the installation QRP.

The only exception would be that material that is otherwise restricted by law or regulation. To resolve uncertainties concerning the status of material from a tenant organization, contact the IMCOM Region or Headquarters, Department of the Army (HQDA) point of contact (POC) for guidance.

2.4 Working Capital Fund Recycling.

See chapter 9 for Army Working Capital Fund (AWCF) recycling information.
2.5 Recycling And Solid Waste Management.

Given a little resourcefulness in obtaining information and creative ingenuity for waste minimization and recycling, there is no limit to meaningful recycling opportunities. Within DoD, the Army has made considerable progress in the use of on-site recycling and integrated waste management programs, and has become the federal government’s flagship for recycling. The Army continues to maximize its efforts and demonstrate commitment to enhance the management of integrated waste streams.

Integrated Solid Waste Management (ISWM) is a methodical approach to the management of solid waste that addresses and incorporates source reduction, reuse, recycling, composting, energy recovery and landfiling or incineration in an effort to conserve and recover resources as well as dispose of solid waste in a manner that is protective to both human health and the environment.

ISWM combines all tools available in a program to tailor the process to each specific installation. An effective ISWM program will respond to waste characteristics and provide flexibility to cope with the ever-changing regulatory and market environments.

Planners at the federal, state, and local levels, and in the private sector, consider a hierarchy of methods for an ISWM program: source reducing, recycling and composting, incinerating, and landfilling (figure 2-1). An installation’s ISWM program may include any combination of these four methods. Source reduction and waste reduction prevents the problems associated with disposal and is the most favorable waste management tool. Reuse and recycling diverts wastes from incinerators and landfills, and provides for the reuse of resources. Incinerating waste is next in the hierarchy. It reduces volume and can recover energy. Landfilling is the least preferred waste management method since landfills are very costly to locate, operate and maintain.

Figure 2-1. Illustration of Simplified Solid Waste Management Hierarchy.
This Handbook only addresses recycling. Solid waste collection, disposal, and resource recovery programs shall be implemented in a cost-effective manner, and periodically reviewed to ensure continuing cost effective operations. Alternative methods of processing solid waste must be considered in the establishment of local programs, and implemented singly or in combination if beneficial. Installations should integrate cost-effective waste reduction and recycling programs into their solid waste management strategy. Installations should ensure that all aspects of the programs meet 40 CFR 243, “Guidelines for the Storage and Collection of Residential, Commercial, and Institutional Solid Waste”, as well as other DoD, federal, state, and local requirements.

It is necessary for commanding officers, environmental officers, public works officers, contracting officers, supply managers, recycling and solid waste managers, and policymakers to embrace a business approach in order to have an effective ISWM program. The intent of this Handbook is to remove boundaries, establish goals that are achievable, and invoke an attitude of excellence in “closing the recycling circle.”

2.6 Solid Waste Annual Reporting, Web-based (SWARWeb).

The Solid Waste Annual Reporting, Web-based (SWARWeb) started as a computer-based program designed to track information regarding the collection, generation, disposal, and recycling of solid waste titled Solid Waste Annual Reporting System (SWARS). It assists managers in keeping track of costs and diversion rates. SWARS is also used to assess compliance with DoD MOM reporting requirements, other DoD policies, and RCRA solid waste regulations. Since 2003, the program has operated as a DoD-hosted, web-based platform at which time it was named SWARWeb. This transformation eliminated the problem of older hardware, incompatible versions of software, and file corruption.

After January 2006, SWARWeb became an Army-managed and operated system. QRP managers or other installation personnel assigned to maintain the installation solid waste and recycling data should request a SWARWeb User ID, using Army Knowledge Online (AKO) authentication, and going online to: https://www.us.army.mil/suite/page/550262. Training information is also available on the Web site.
Table 2-1. Accessing SWARWeb

<table>
<thead>
<tr>
<th>Accessing SWARWeb Using AKO and the Installation Management Application Resource Center</th>
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</thead>
<tbody>
<tr>
<td><strong>Step 1.</strong> Enter the following URL in your web browser: <a href="https://www.us.army.mil/suite/page/550262">https://www.us.army.mil/suite/page/550262</a></td>
</tr>
<tr>
<td><strong>Step 2.</strong> Enter your Army Knowledge Online (AKO) username and password or use CAC to access the IMARC site. <em>(The first time, you will be asked to register for an IMARC account.)</em></td>
</tr>
<tr>
<td><strong>Step 3.</strong> On the IMARC home page, click on the SWARWeb link located in the IMARC Navigation pane on the right side of the screen, under <strong>IMARC Applications.</strong></td>
</tr>
<tr>
<td><strong>Step 4.</strong> On the SWARWeb home page, click on the SWARWeb link located under the <strong>SWARWeb Module</strong> banner, on the left side of the screen. <em>(The first time you login to SWARWeb, you will be asked to register for a SWARWeb access account. Your access level and authority to read/write/submit must be endorsed by your functional supervisor and approved by the designated POC for your Command, ASCC, or DRU.)</em></td>
</tr>
<tr>
<td><strong>Step 5.</strong> Enter your SWARWeb username and password.</td>
</tr>
<tr>
<td><strong>Step 6.</strong> Click on the box next to &quot;Remember My Login Information For This Application&quot; - this will register your SWARWeb username and password for single sign on.</td>
</tr>
</tbody>
</table>

**Personnel Without an AKO Account**

- **Step 1.** If you do not currently have an Army Knowledge Online account, you can request one. To request an AKO account, use the following URL: [https://www.us.army.mil](https://www.us.army.mil) and click on the "Register for AKO" link.
  - a. Department of the Army Civilians (DACs) can request an account directly.
  - b. Non-DAC users will require a Department of the Army point of contact to sponsor their account - please contact your Service representative to the DoD Combined Services Solid Waste and Recycling Work Group to endorse your AKO request for an Army sponsor.
- **Step 2.** Please provide the AKO username to the IMCOM-IT Helpdesk.

If you have any questions please contact the IMARC Helpdesk: APGR-IMCOM-ITHelpdesk@conus.army.mil (703) 588-0482
2.7 Education, Training, and Computer Support.

Effective training for both recycling program personnel and installation staff is critical to sustaining DoD efforts to protect the environment. QRP proceeds can be used to cover costs for courses, conferences, training, and equipment for recycling personnel. QRP proceeds can also be used for educating installation personnel, promoting the QRP, and purchasing computer equipment and software to facilitate the installation solid waste management program’s adherence to the DoD MOM, SWARWeb, and auditing requirements for the QRP. See appendix G for more detailed information on training.

2.8 Awards.

2.8.1 Army Awards.

The Army is committed to improving recycling programs and its role as an environmental steward. The Army sponsors several award programs that recognize and promote aspects of environmental stewardship and sustainability. Information about these programs are provided below. The U.S. Army Environmental Command implements the Secretary of the Army Environmental Awards program and supports Army competition in the Secretary of Defense Environmental Awards program. Additional information on the Army Awards can be found at http://aec.army.mil/usaec/newsroom/awards00.html

2.8.2 Closing the Circle.

The White House Task Force on Waste Prevention and Recycling, through its “Closing the Circle” awards competition, recognizes federal employees and facilities for efforts resulting in significant contributions to, or impacts on, improving the environment. Overseen by the Office of the Federal Environmental Executive (OFEE), the awards focus on waste prevention, recycling, green purchasing activities, environmental management, green/sustainable buildings, and reduced fuel usage under EO 13423. Additional information on the “Closing the Circle” awards can be found at http://www.fedcenter.gov/.
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CHAPTER 3  RECYCLING ROLES AND RESPONSIBILITIES

3.1 Purpose.

This Handbook is intended to assist installations and tenant activities in their pollution prevention and solid waste management efforts by describing efficient and cost-effective recycling programs and waste reduction practices. Waste minimization and recycling efforts are inherently site-specific, but a number of generic approaches and techniques have proven especially worthwhile to implement. This Handbook summarizes these approaches and techniques to aid the development or enhancement of recycling and waste reduction initiatives. An effort has been made to use generally accepted terms; however, some terms may have different meanings within DoD, the Army, and the functional area. Appendix A contains definitions of terms as they are used in this Handbook.

3.2 Policy.

As referenced in DoDI 4715.4, the Army as a DoD Component must comply with applicable federal, state, interstate, regional, and local environmental laws, regulations, and standards in the United States, and with relevant EOs. The Army is required to emphasize P2 in all phases of acquisition, operations, maintenance, support, and ultimate disposal of equipment and materials over a system’s life cycle. The Army should promote P2 through public and private partnerships and develop, demonstrate, and implement innovative P2 technologies and business practices.

3.3 Responsibilities.

Organizational responsibilities are detailed below and outlined in figure 3-1.

3.3.1 Department of Defense.

The DoD establishes policy and guidance for the disposal of defense surplus materials. The DoD must comply with all statutes and EOs concerning solid waste reduction and recycling. DoDI 4715.4 directs heads of the DoD Components to establish recycling programs and procedures that authorize installation commanders to directly sell recyclables and “other qualified recycling program materials.” DoDI 4715.4 also authorizes installation commanders to consign recyclables and other QRP materials to the Defense Reutilization and Marketing Service2 (DRMS) for sale.

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2 Renamed DLA Disposition Services, effective 19 Jul 2010.
3.3.2 Military Departments and Defense Agencies.

The Military Departments and Defense Agencies and their organizations implement DoD integrated solid waste management policy. These organizations are also responsible for instituting oversight mechanisms for ensuring that installations establish recycling programs in accordance with 10 U.S.C. 2577 and DoDI 4715.4.
Figure 3-1. QRP Organizational Chart
3.3.2.1 Commands and Army Staff.

The Assistant Secretary of the Army (Installation and Environment) is responsible for policy development, program oversight, and coordination of the management of Army installations worldwide.

The Assistant Chief of Staff for Installation Management (ACSIM) exercises primary Army Staff responsibility for providing policy guidance, program management, and administrative oversight for the Army’s solid waste management program.

Army Commands (ACOMs), Army Service Component Commands (ASCCs), and Direct Reporting Units (DRUs) have the responsibilities for installations to execute the solid waste and recycling program to support mission readiness; enable the well-being of soldiers, civilians, and family members; improve infrastructure; and preserve the environment. In accordance with DoDI 4715.4, para 6.2.3.3.6, ACOMs, ASCCs and DRUs are delegated the authority for direct sales of recyclables within their commands and shall ensure that all applicable laws and regulations are followed. This authority may be re-delegated to the sub-command and installation-level as required to ensure operational efficiency, while maintaining effective management control.

The U.S. Army Corps of Engineers (USACE) and U.S. Army Public Health Command (USAPHC) provide a variety of technical support services including solid waste and recycling consultations as well as development of integrated solid waste management plans and solid waste characterization studies.

3.3.2.2 IMCOM Region Public Works (PW), Operations and Maintenance (O&M).

Regional O&M provide oversight of installation programs, grant authority for direct sales (See sections 5.5 and 7.2.1), review funding requirements and forward to HQ for final approval, review and recommend SWARWeb submissions for HQ approval, disseminate information to installations about new technologies, installation success stories, and developments in State level policy and coordination.

3.3.2.3 Garrison Commanders.

Commanders establish a QRP in accordance with References, designate a QRP manager, and complete the following:

a. Make QRPs available to all tenant organizations and tenant contractors.

b. Structure the program for a variety of recyclables with emphasis on total waste stream reduction.

c. Ensure QRPs comply with all applicable public laws, EOs, DoD and Army policies and regulations, as well as state and local requirements.

d. Encourage and support the expansion of existing recycling programs to take on new commodities.

e. Encourage new and innovative methods of recycling both existing and new recyclables.
f. Establish management controls to correct program weaknesses and comply with major command/major claimant oversight.
g. Establish an annual incentives and awards program for enhancements to recycling programs.
h. Encourage participation in partnership programs with other Services, other DoD activities, federal agencies, municipalities, and community organizations.
i. Encourage regional plans to improve cost-effective recycling programs.
j. Investigate complaints and, if appropriate, initiate investigative activities.
k. Ensure that proceeds from the QRP are used in accordance with 10 U.S.C. 2577.
l. Review the proposed actions of the recycling/QRP committee.
m. Act as chairperson or designate a chairperson for the committee.

n. Designate a trained individual (other than the QRP manager, if possible, to establish separation of duties) to conduct, through a warranted contracting officer, local sales and award term and/or spot sales contracts.
o. Communicate metrics to all tenant organization.

3.3.2.2.1 Resource Management Office (RMO).

The installation RMO controls the flow of funds and:

a. Establishes the QRP account.
b. Receives the sale proceeds and mails a copy of the cash collection voucher to DFAS.
c. Conducts an annual audit of the QRP Budget Clearing Account **F3875 “Proceeds of Sales, Recyclable Materials” to ensure the recycling revenue is used in accordance with 10 USC 2577.
d. Ensures that projects considered for local funding with recycling proceeds are also not included in the normal military construction program.
e. Maintains all program and audit records and makes them available for audit and inspection.
f. Returns the balance of funds in excess of $2,000,000 to the U.S. Treasury at the end of the fiscal year.

3.3.2.2.2 Director of Contracting (DOC).

The DOC supports the recycling program by these activities:

a. Solicits, awards, and administers acquisition and sales contracts that support the QRP operations.
b. Includes provisions that support green procurement and recycling programs in construction and demolition contracts, including those for renovations and remodeling.
c. Reviews existing activity solid waste collection and handling contracts for modification to specifically outline recycling and QRP participation and reporting requirements for solid waste management data.
d. Ensures that future contract awards also require participation in the QRP, where cost effective.

3.3.2.2.3 Director of Public Works (DPW).

The DPW (or QRP managers at locations where DPWs are not established) is the functional manager for integrated solid waste management and does the following:

a. Plans collection, transportation, storing, and processing of recyclable materials.

b. Champions the inclusion of provisions for green procurement and recycling in construction and demolition (including renovations and remodeling) contracts.

c. As directed by the DOC, administers contracts that support the QRP.

d. Develops contracts in support of the QRP.

e. Reports solid waste management data, including QRP data and tenant recycling data, to HQDA using SWARWeb.

f. Acquires solid waste and recycling equipment.

g. Supervises QRP operations including:
   (1) Ensuring recycling revenues are used in accordance with 10 USC 2577 and maintaining required accounting records and supporting documentation for all proceeds received from the sale of recyclable materials and for disbursement of funds for authorized purposes.
   (2) Properly screening “Other QRP Program Materials” through an informal process or coordinate with the local DRMO prior to sale. (See appendix B.)
   (3) Ensuring excluded materials are not sold through the QRP. Consult with DRMO on questionable items.
   (4) Tracking and maintaining records of recyclable weights and dollar amounts of transactions, including SWARWeb reporting IAW with paragraph 8.8.
   (5) Procuring equipment for operating the QRP.
   (6) Performing personnel management functions for QRP employees.
   (7) Ensuring proper training of QRP employees.
   (8) Developing QRP Standard Operating Procedures (SOPs) to include safety procedures.
   (9) Maintaining an active education and promotion program.
   (10) Monitoring participation in the QRP.
   (11) Maintaining a list of contacts from each building or activity to assist in coordinating the QRP.
   (12) Addressing customer complaints.
   (13) Performing annual program reviews including cost-benefit analyses.
   (14) Advising the commander on the status of the QRP.

h. Designate agent to provide report of all Construction & Demolition (C&D) debris reused, recycled, and disposed of by quarter and by material type and weight for the bi-annual SWARS report for the recycling program.

3.3.2.2.4 QRP Manager.
a. Tracks sales records of qualified scrap by direct sales. Ensures direct sales records shall contain item description, sale price, sale date, payment date, weight of scrap sold, list of bidders and winning bidder.

b. Authorizes the expense records for operating and overhead costs. Ensures that QRP records on operating costs shall include purchase of equipment, maintenance, program operation and expansion, labor costs, training, publicity, and overhead for processing recyclable materials.

c. Ensures the accurate recording of incomes and expenditures. This data shall be used to calculate the annual QRP profit or loss using the following equation: Income – Expenses = Profit or Loss.

d. Develops records of cost avoidance. Ensures that cost avoidance shall be estimated by determining the weight or volume of the material diverted from the waste stream, and calculating the labor, prorated hauling costs, maintenance costs, landfill tipping fee, and any other disposal charges that would have been incurred in the absence of waste prevention/recycling.

e. Retains records of profit distributions to MWR, Pollution Abatement, Energy Conservation, Occupational Health, or Safety projects.

f. Identifies, processes, markets, and sells all qualified recyclable materials, except those that the manager determines are required by regulation to be recycled through other means.

g. Properly screens “Other QRP Materials” through an informal process.

h. Ensures excluded materials are not sold through the QRP.

i. Assists in the implementation of recycling programs within each Partner in Excellence, Division, Directorate, and post facility. Maintains contacts with other organization’s Recycling Coordinators to ensure compliance with QRP procedures.

j. Manages the overall Fort Anywhere QRP to ensure the continuation and expansion of an aggressive program that will guarantee that Fort Anywhere receives full benefit from the accumulation and sale of all qualified recyclable materials.

k. Designates a trained individual (besides the QRP manager) to conduct local sales (term and spot sales) and award contracts.

l. Requires the designated non-appropriated fund (NAF) contracting sales officer to sign all documents requiring signature for the federal government.

m. Performs contract administrative actions.

n. Establishes and operates an aggressive safety and training program to ensure a quality workplace for program employees.
o. Designates a trained individual(s) (besides the QRP manager) to act as Safety, Environmental Compliance, and Training Officer(s) for the QRP.

p. Establishes a QRP SOP.

3.3.2.2.5 Environmental Management Office.

The Environmental Management Office supports the installation as follows:

a. Ensures that all solid waste operations comply with pertinent environmental requirements (i.e., EPAS).
b. Serves as liaison with regulatory officials on solid waste issues.
c. Assists in promoting sustainable recycling and the QRP through education of installation personnel about the benefits of recycling.
d. Advising about advances in recycling methods and technologies.

3.3.2.2.6 Safety Office.

The Safety Office ensures that all recycling operations comply with pertinent safety requirements.

3.3.2.2.7 Tenant Activities and Contractors.

In accordance with DoDI 4715.4, tenant activities and contractors (where cost effective) residing on DoD properties shall participate in the installation’s QRP. AAFES’ Post Exchanges and DeCA commissaries are permitted to sell their recyclables outside the QRP and retain the proceeds, or they must participate in the installation QRP. Tenant activities and contractors must provide solid waste management data, as appropriate for input into SWARWeb (See paragraph 8.8), to the host installation for summary reporting.

3.3.3 Defense Logistics Agency (DLA).

DLA establishes policy for the DRMO to dispose of DoD surplus property.

3.3.3.1 Defense Reutilization and Marketing Service (DRMS).

DRMS exercises operational supervision of DRMOs worldwide, and maintains and controls the consolidated DoD bidders list.

3.3.3.2 Defense Reutilization and Marketing Offices (DRMOs).

DRMOs provide the following support:

a. Accept qualified recyclable materials and reimburse to QRPs the proceeds from their sale. DRMS is authorized to deduct the processing costs from the sales proceeds. At the discretion of the Director, DRMS, 100% of the sales proceeds are currently being returned to QRPs. QRP managers should check with their
local DRMO prior to consignment of materials for sale for the current reimbursement policy.

b. Report recyclable material sales data to the appropriate host installation, as requested for inclusion in the bi-annual SWARS report.

c. Serve as the DoD focal point for inquiries pertaining to the sale of recyclable property.

d. Dispose of hazardous property as delegated by DLA.

e. Inspect and classify government property, verify identity and quantity, determine disposal condition code, and process recyclables for disposal.

f. Make the final determinations on disposition of property if processed through DRMOs.

g. Assist QRP managers by explaining turn-in procedures, and training installation QRP personnel in recycling scrap segregation practices consistent with this Handbook.

3.3.4 Defense Finance and Accounting Service (DFAS).

DFAS processes financial documents and vouchers forwarded from the DRMS or the DoD Components. The proceeds are deposited into the installation QRP account as directed in accordance with 10 U.S.C. 2577 and 32 CFR 172. DFAS world-wide Customer Service Phone Numbers are at this hyperlink:

http://www.dfas.mil/contractorpay/electroniccommerce.html
CHAPTER 4 SETTING UP AND STARTING A QRP

4.1 Introduction.

All Army (Active, Guard, and Reserve Component) activities and installations are required to recycle. Activities and installations shall have a local recycling program or participate in a regional program (for more information on regional QRPs, see paragraph 4.5); where cost effective activities and installations should establish a QRP in order to retain the proceeds from the sale of recyclable materials. Army policy dictates that only one QRP be established per installation. This chapter will help installations start a QRP or refine an existing program. If a QRP is in place, the QRP manager should carefully review this chapter to ensure compliance with all applicable rules and regulations. If a QRP does not exist, this chapter will make it easier to establish an efficient and cost-effective QRP.

4.2 Reasons for a QRP.

The following are reasons an installation or activity should establish a QRP:

a. To comply with federal, state, and local environmental laws and regulations.
b. To comply with Army policy and guidance.
c. To receive proceeds from the sale of recyclable materials.
d. To avoid solid waste disposal costs by diverting recyclables from the waste stream.
e. To reduce the amount of wastes going into landfills.
f. To secure sustainable operations into the future by conserving resources.

4.3 Steps to Setting up a QRP.

4.3.1 Designate a QRP Manager.

Garrison commanders (GC) have overall responsibility for establishing and operating a QRP. The GCs are also responsible for developing and endorsing a formal recycling policy/regulation that will drive the program implementation. The GC designates the QRP manager who understands solid waste management and recycling. If not otherwise prohibited by statute or regulations, non-federal employees, such as at Army National Guard facilities, may also be designated as the QRP manager. A good QRP requires a leader who has accountability, authority, and responsibility for its success. The QRP manager will oversee the entire QRP operation: be responsible for the budget, account for all costs incurred and revenues obtained, and manage the equipment and employees. Ideally, this QRP manager is an advocate who will follow the QRP’s development from start up to successful operation. The QRP manager should also:

a. Have a good understanding of the recycling industry and the DRMS/DRMO role.
b. Have a working knowledge of recycling equipment and safety measures.
c. Have knowledge and training in contract administration.
d. Know and understand what can and cannot be recycled by a QRP.
e. Have training on MPPEH (Material Potentially Presenting an Explosive Hazard), to ensure improper materials are not sold when recycling fired brass and gleanings from firing ranges when installation operations include MPPEH.
f. Have a working knowledge of processes and wastes generated on the installation.

4.3.2 Establish a QRP Oversight Committee (QOC)

The GC should establish a QOC that consists of the QRP manager, the installation executive officer, and a representative from installation organizations including the RMO, DOC, DPW, Directorate of Logistics (DOL), Environmental Management, Staff Judge Advocate (SJA), Safety Office, Public Affairs (PAO), Supply, Directorate Of Morale, Welfare, and Recreation (DMWR), Family Housing, DRMO, tenant activity representatives, and the fire department. Committee members establish program objectives to maximize recycling of materials and minimize solid waste disposal. The primary objective of the committee is to advise the GC on program decisions, such as recycling program changes, facility improvements, and equipment purchases, as well as excess recycling fund disbursements.

4.3.3 Establish Management Controls.

A management control system must provide assurance that the program meets its goals and properly account for government resources. The management control process should emphasize prevention of waste, fraud, and mismanagement, and the timely correction of management control weaknesses. Management controls should be integrated into daily management practices.

Several techniques to employ in the management control program are listed below. See Army Internal Controls Guidance (AR 11-2) for additional information.
4.3.3.1 Installation Recycling Regulation.

Publish an installation recycling regulation. See paragraph B-2 for a sample.

4.3.3.2 Physical Access.

Ensure that access to the recycling center or solid waste landfill is controlled and securable to prevent unauthorized persons from removing valuable materials or being injured.

4.3.3.3 Job Descriptions.

Descriptions of duties that reflect the principle of separation of duties should be established for QRP employees, installation finance or resource management personnel, and contracting officers. To ensuring that QRP processes operate as intended and that resources are safeguarded from fraud, waste, and misuse; the person responsible for selling the recyclable materials should not be the same person responsible for receiving, recording, and depositing the funds received from the sales. However, if local circumstances prevent such separation from being established within the QRP, then management must establish and use appropriate oversight mechanisms from elsewhere on the installation to ensure that individuals do not misuse or abuse their assigned authority. See paragraph B-4.

4.3.3.4 Financial Transactions.

All QRP transactions shall be on a non-cash basis.

4.3.3.5 Internal Audits.

QRPs shall conduct internal self-audits annually and have one external audit performed for every three internal audits. Audits will review files related to the QRP with emphasis on financial records and the costs and profits of the recycling sales program, as well as the cost avoidance resulting from recycling/waste prevention. Results of these audits must be briefed to the GC where the QRP is operated.

4.3.4 Obtain Access to the Army Tracking System SWARWeb.

The Solid Waste Annual Report, Web-based (SWARWeb) is the official Army system for collecting solid waste and recycling information, such as material quantities, estimated costs, and cost avoidance. The QRP will provide recycling information and data to the installation SWARWeb POC. The SWARWeb is accessible via the Installation Management Application Resource Center (IMARC) portal at https://www.us.army.mil/suite/page/550262.

User ID requests from installations are subject to approval by HQDA. See paragraph 8.8 for more information.
4.3.5 Delegation of Direct Sales Authority.

Installations and QRPs operating on GOCO that have been granted authority to do so by their chain of command may sell recyclable materials acquired with appropriated funds through direct sales. Otherwise, recyclable materials must be sold through DRMO.

DODI 4715.4 gives each Service the authority to grant installation commanders direct sales authority. The interim direct sales authority provided by HQDA, ACSIM memorandum dated 25 February 1997, Subject: Combined Services Interim Guidance for Direct Sales of Recyclables, is permanently delegated to ACOMs, ASCCs, and DRUs and may be re-delegated to the sub-command and installation-level as required to ensure operational efficiency, while maintaining effective management control. See chapter 7 for additional information concerning direct sales and sales through the DRMO.

4.3.6 Notify the Local DRMO by Memorandum that a QRP Has Been Established.

Notify the local DRMO by memorandum that a QRP and a **F3875 Suspense Account for depositing “Proceeds of Sales, Recyclable Materials” has been established. A sample memorandum is provided in appendix B-1. The proceeds from the sale of qualified recyclable material will be deposited into the suspense account. The memorandum to DRMO must mention how the QRP and DRMO will work together to properly handle materials. Topics should include procedures for notifying and redirecting materials that accidentally end up at the wrong place, such as usable or reusable items, items purchased with APF, or Munitions List Items turned in to the QRP by mistake that DRMO must process. Similarly, authorized QRP items, such as aluminum cans or fired brass that should be processed and sold by the QRP, may be inadvertently sent to the DRMO. In the latter case, the DRMO chief should inform the QRP manager of these items, so the revenue from their sale can be properly credited to the QRP suspense account.

4.3.7 Write an Installation QRP Standard Operating Procedure (SOP).

The QRP SOP should cover the following:

a. Designation of the QRP manager and duties of other installation staff offices that will support recycling.
b. Types of materials to be handled by the QRP and how they will be recycled.
c. Specific implementation procedures of the QRP.
d. The mechanism for tracking and maintaining records of the types and amounts of materials handled by the QRP.
e. The mechanism for tracking and maintaining accounting records of funds received and disbursed for the QRP.
f. Payment/transfer of operating expenses associated with the QRP.
g. Distribution of amounts remaining in the installation recycling account for authorized purposes.
h. When DRMO is used instead of the option for direct sales, provide turn-in procedures using DD Form 1348-1A, Disposal Turn-In Document (DTID).
i. Establishing and communicating a baseline for each waste stream.
j. Integration into Installation EMS and ISWMP/IWMP.
k. Managing new requirements for contractors.
l. Contractor/tenant reporting requirements.

Once an installation has completed the above steps (4.3.1 through 4.3.6), the recycling program is established and qualified to receive recycling sales proceeds. See appendix B-3 for a sample SOP.

4.4 Getting The QRP Started.

After the decision has been made to set up a QRP and steps are taken to establish one, there are other tasks facing the QRP manager and/or committee. First, create a recycling plan (including a feasibility study and waste stream analysis) to determine the overall program structure. The recycling plan should be part of an existing ISWM plan (for ISWM plan guidelines see DUSA (I&E) memo, subject: DOD Integrated (Non-Hazardous) Solid Waste Management Policy, dated 01 Feb 2008). Guidelines for conducting the feasibility study and waste stream analysis portions of the recycling plan are located in appendix C. The committee should review the recycling plan annually to incorporate current management strategies for reducing waste streams, reusing generated waste, and recycling waste that is not reusable.

A waste stream analysis allows the QRP manager and committee to make intelligent choices for program start up and allocation of resources by helping designate those qualified materials to disposal through a QRP rather than through a solid waste disposal contract. Initiate the assessment to identify recyclables, recognizing the potential value of recycling waste to meet both the current DoD MOM for solid waste and recycling, which calls for reduction of waste generation and increased diversion (municipal solid waste diversion of 50% and construction/demolition debris diversion of 50% by 2015). Following this assessment, identify available resources and potential markets, along with facility, equipment, and vehicle requirements.

In addition, conduct an economic analysis to determine the processing costs and revenue associated with each recyclable material identified in the waste stream assessment. A sample economic analysis is found in appendix D. On the basis of the feasibility study data, develop a program start up strategy and obtain organizational support for the identified initiatives. Finally, promote the QRP and gain community support. Items appropriate for recycling through a QRP are characterized in table 4-1 along with non-QRP recyclables.
Table 4-1. QRP Recyclables (Part I)/Non-recyclables (Part II)

<table>
<thead>
<tr>
<th>Materials That Can be Recycled Through QRP (Part I)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Typical recyclable materials found in the municipal solid waste stream (glass, plastic, aluminum, newspaper, etc.)</td>
</tr>
<tr>
<td>b. Scrap metal (except from Army Working Capital Fund (AWCF) activities unless they choose not to recycle on their own per paragraph 4.5.11).</td>
</tr>
<tr>
<td>c. Expended small arm firing range brass (up to and inclusive of .50 cal or 12.7mm) and gleanings made unusable for military firing (e.g., crushed, shredded, annealed, or otherwise rendered unusable as originally intended prior to recycling in accordance with DUSD(ES) Memorandum)</td>
</tr>
<tr>
<td>d. Storage and beverage containers (metal, glass, and plastic)</td>
</tr>
<tr>
<td>e. Office paper (high quality, bond, computer, mixed, telephone books, and Federal Registers) and supplies, including ink/toner cartridges, if they are not used to reduce the price of replacements</td>
</tr>
<tr>
<td>f. Commissary and Exchange Store recyclable wastes (cardboard, etc.); if the commissary or exchange does not have a recycling program, it must turn these items in to the QRP (unless otherwise excluded by law)</td>
</tr>
<tr>
<td>g. Scrap wood and lumber, including crates and pallets (unless restricted by reuse rules)</td>
</tr>
<tr>
<td>h. Rags and textile wastes which have not been contaminated with hazardous material or hazardous waste</td>
</tr>
<tr>
<td>i. Automotive and light truck-type tires</td>
</tr>
<tr>
<td>j. Used motor oil</td>
</tr>
<tr>
<td>k. Food wastes from dining facilities</td>
</tr>
<tr>
<td>l. Office-type furniture that is broken or too costly to repair</td>
</tr>
<tr>
<td>m. Ammunition cans, if not reused by the government as ammunition cans, but must be rendered inert by a technically qualified individual</td>
</tr>
<tr>
<td>n. Donated privately-owned personal property</td>
</tr>
</tbody>
</table>
Materials That Cannot be Recycled Through QRP (Part II)

- Government material furnished to a contractor
- Precious metal-bearing scrap
- Scrap metal generated from AWCF activity
- Items that must be demilitarized at any time during its life cycle, except for small arm brass and firing range gleanings, as noted above (excludes items with demilitarization Codes A & B)
- Hazardous material and waste, except ethylene glycol based antifreeze, used oil, and batteries
- Commissary store wastes (food, scraps, bone, fats, trims, meats)
- Materials that can be reused by the government for their original purpose without special processing
- Economically repairable items (e.g., used vehicles, vehicle or machine parts)
- Unopened containers of oil, paints, or solvents
- Fuels (uncontaminated and contaminated)
- Munitions List Items (MLI) or Commerce Control List Item (CCLI)
- Printed circuit boards containing hazardous materials
- Items required to be mutilated prior to sale or release to the public
- Ammunition cans, if reused by the government as ammunition cans
- Drugs, biologicals, and controlled substances
- Nitrate based film
- Electronic components

4.4.1 Conduct Waste Stream Characterization and Recycling Potential Assessment.

4.4.1.1 Waste Characterization.

The basis for all solid waste management decision-making is a characterization of the wastes generated. The characterization involves identifying each element of the waste stream, identifying the primary sources of each element, and measuring the amounts generated for each. This may be accomplished through in-house recordkeeping or by a contractor or Army support agency study. Estimates of waste generation can be made using data from generator interviews, solid waste removal/disposal records, recycling and composting data, disposal facility records, turn-in documents, records from the environmental office and DRMO, and interviews with key personnel. More accurate data can be obtained by performing a field waste characterization study (dumpster dive) in which wastes are sorted and weighed at the site of generation. Generation rates should be measured in units of weight (pounds or tons) rather than volume (cubic yards). A sample conversion table is found in appendix E.
4.4.1.2 Methods for Measuring or Estimating Waste Generation Rates.

4.4.1.2.1 Direct Measurement.

A field waste characterization study will provide relatively accurate data on solid waste and recyclables generation rates. It involves direct measurement of waste generation and should follow a systematic, standardized approach such as the ASTM D5231 – 92 (2008) Standard Test Method for Determination of the Composition of Unprocessed Municipal Solid Waste. Factors that must be considered in the study are seasonal and climatic variations, large influx or exodus of families and soldiers, and changes in recycling efforts.

4.4.1.2.2 Estimating.

Recyclables generation can be estimated based on existing data for typical municipal waste stream breakdowns. Pie charts of typical waste composition for various cities as well as a national average are easily found on the internet. These typical waste compositions examples may not apply well at installations with missions that render the waste stream to be unlike a municipality and may not capture all of the potential recyclables unique to a particular Army installation, to include office buildings, industrial operations, commercial/retail activities, and hotel/motel type accommodations. Data may also be obtained from other Army installations that have performed direct measurement solid waste characterization studies. This may provide more detailed data for the different types of activities found on an Army installation. Estimating methods assume that usable solid waste collection and disposal data are available. A method of measuring total solid waste generation is weighing refuse collection vehicles as they enter and leave the installation. Unfortunately, most installations do not have truck scales. Collection vehicles are typically weighed at disposal sites; however, a given load may include wastes from sources other than the installation. Therefore, waste hauler records may not accurately reflect an installation's generation rate. Many installations measure solid wastes by converting container volumes to weights. While this may be one of the easiest methods, drawbacks include the inability to accurately estimate the container fullness and the fact that different waste types have different volume/weight ratios. Total weight data do not provide any characterization data. These factors, if not properly accounted for, reduce the accuracy of using this conversion process to obtain the data.

4.4.1.2.3 Impact of collection/container decisions.

The following items should be kept in mind when establishing collection points:

a. Curbside recycling generates more recyclables than drop-off centers, but may be more costly.

b. Small desk-side collection containers for office paper (with a larger box for consolidation in the office) generate more white paper for recycling than a single large box at the end of each hall.
c. A dumpster or trailer reserved for cardboard in a convenient location outside a loading dock will generate more cardboard than a single dumpster for all recyclable materials.

### 4.4.1.3 Assessing Recycling Potential.

Table 4-2 provides a sample of a recycling potential assessment table that can be used to project (during planning) and document (during operation) the generation rates, recoverable amounts, salable amounts, quantities for other disposal, and the final amounts that would end up in a landfill.

<table>
<thead>
<tr>
<th>Total Amount Generated (Tons)</th>
<th>Amount Recyclable/Divertable (Tons)</th>
<th>Amount Salable as Recyclable (Tons)</th>
<th>Amount Diverted by Other Means (Reused, Composted, Recycled by others)</th>
<th>Landfill Amount (Tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newspaper</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrugated Cardboard</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Non-Ferrous Metals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ferrous Metals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aluminum</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brass</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Glass</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food Waste (table scraps)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wood</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organic Materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plastic</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Construction &amp; Demolition</td>
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</tr>
</tbody>
</table>

Another source of data to assist in tracking would be previous solid waste studies. The “Amount Recyclable/Divertible” usually depends on the current or intended recycling structure. Make estimates from the best available data to estimate the maximum amount of material that can be recycled based on current resources and supporting infrastructure. Adjustments can always be made later.
The “Amount Salable as Recyclable” is generally based on existing markets for the materials. For example, the paper from magazines is recyclable. However, the market for magazines may be so small the QRP may need to pay to have someone take them. If this is the case, magazines should not be in this column, but placed in the “Amount Diverted by Other Means” or “Landfill Amount” columns.

“Diverted by Other Means” denotes any method of disposal other than “Salable as Recyclable” that does not include landfill disposal (e.g., reusable, composting, and recyclable materials that are not salable). The last column is “Landfill Amount”. It covers all waste that is disposed of in any landfill, whether on or off base.

4.4.2 Determine Markets.

Deciding what materials a QRP should recycle is based on whether there is a good market for those materials. Try to find, or even create, markets that include local, regional, national, or international buyers. Markets tend to be cyclical and unpredictable, so they need to be monitored and studied periodically. The greater the number of markets identified and watched, the greater the chances the QRP will be successful. Industry usually refers to the recycling market as the post-consumer materials market. Weighing the pros and cons of chasing the highest spot market price against fostering long-term relationships is important, as well as establishing formal contracts with reliable, established buyers.

Lists of buyers are found in trade publications and the phone book, on the Internet, and are available at the local DRMO, as well as in many industry manuals. Sometimes the best sources of information about potential buyers are neighboring military installations that may be selling the same materials. See appendix F for recommended Web sites for recycling.

There are three general types of buyers of recyclable materials: brokers, processors, and manufacturers. The first and most common is the broker. A broker purchases particular materials and sells them to processors, mills, and/or end users. Brokers tend to accumulate the material and then sell it to the mills and end users with a guarantee that the material meets certain specifications. Many mills and end users prefer buying their materials through brokers because of the guarantee of quantity and quality they need. Brokers can be a good option, even if they pay less than mills and end users.

Processors and mills smelt or convert the raw recyclable material into a form (bars, ingots, pellets, or fibers) that a manufacturer can use to produce new products. Many will buy directly from a large and reliable recycling program, but there are fewer processors and mills than brokers. There may be a mill for newsprint, but not one for metals, in any particular area or within reasonable transporting distance.

End users are the manufacturers that use the converted material. Some end users also have mills, such as newsprint plants that buy newspapers, de-ink them, and reuse the fibers to make blank newprint to sell to newspaper printing companies. Contact end users to determine if they purchase recyclable materials. If they do not, ask for a list of
places where they obtain the materials that they use. This list may provide brokers, processors, or mills that may be interested in purchasing recyclables.

Remember, the ability to sell recyclable materials improves with higher quantities, higher quality, and closeness of buyers. Buyers are most interested in a steady supply of material they can use immediately. A truckload of fresh, dry newsprint without coated inserts is usually salable. Small quantities, wet, or contaminated newsprint may not be salable. Contaminated newsprint may even have negative value, meaning the installation would have to pay to have it recycled. The prospective buyer’s exact requirements (bundling, weight, and acceptable contamination levels) need to be determined for each type of recyclable material identified as salable.

See paragraph 7.3.1 for application of Federal or state speculative accumulation rules.

4.4.3 Select Management Options for Operating the QRP.

While the installation is ultimately responsible for managing the QRP, this does not mean that the installation must operate the program. Like other services or utilities managed by the installation, recycling may be performed through in-house resources, agreements with other entities, tenants, or contracts with the private sector. The program may be integrated into a solid waste collection process, operated separately by appropriated entities, or contractor-operated in full or in part by a private firm. Start by asking some very basic questions to make this determination.

a. Does it make sense to have a QRP when a larger installation in the nearby area is already running a successful program, regardless of whether it is a sister service? For information on regionalization, refer to paragraph 4.6.

b. Do you need a QRP if you are a small administrative organization or reserve center that is near an installation that has a successful program?

c. Are there many small local municipalities in the area that do not have a recycling program but think the installation is running a successful QRP?

d. Would it make sound business practice for two or three military installations or federal buildings within a relatively small geographical area to pool together specific recyclable items because none of them alone generates marketable quantities?

e. Would it be sensible for three installations within the same local area to each buy a cardboard baler when none of them generates enough cardboard to use the baler 100% of the time?

f. Which would be more cost effective – in-house or contracted operation (use table 4-3)?

 g. Do we have the in-house resources, facilities, and funds for equipment to operate a QRP?

The best option for operating a QRP may be determined the same way an A-76 commercial activities study is conducted. Policy on how to evaluate the outsourcing of commercial activities is stated in DoD Directive 4100.15. Specific requirements regarding these evaluations vary according to the size of the program and whether
employees are paid using APF or Non-Appropriated Funds (NAF). Compare the cost of outsourcing with the cost of in-house performance to determine which provides the best value for the government. Consider price and other factors, such as quality and performance, and document the basis for the program option selected. It is also good business practice to re-assess the program structure as market conditions and organizational costs change.

For QRPs that have direct sales authority, determine which materials will be sold through DRMO and which the QRP will sell. Re-evaluate the factors that influenced this decision whenever there is a major program change.

Under the constraints addressed in paragraph 7.2.1.2, the DRMO will determine marketability of certain materials as required. It is in the interests of the QRP team to work closely with DRMO to determine qualification and marketability of materials turned in by the installation for recycling. Guidelines on how to conduct a recycling feasibility study to determine if materials qualify are found in appendix D.

4.4.4 Identify Equipment.

Markets are a major factor in determining equipment needs; however, equipment can be one of the most costly components of a recycling program. Carefully determine what equipment the QRP actually needs. In some cases, the proceeds received for recyclable materials are not worth the investment in equipment to process the materials. Equipment found in the largest recycling centers includes:

a. **Balers.** Various types exist for different materials. Size equipment to fit your needs. Materials such as newspapers, cardboard, and plastics are often baled to maximize the amount that can be hauled in a single load (compressed and bundled material is easier to stack, and takes up less room). If a QRP can afford only a few pieces of equipment, one should be a baler. It will pay for itself by reducing storage space and transportation costs.

b. **Can Densifiers (Crushers).** As the name implies, these are used to crush both aluminum and steel cans to reduce their volume, making storage and transport more economical. See figure 4-2.

c. **Glass Crushers.** Like can crushers, these machines crush glass into small pieces (cullet).

d. **Pulverizers.** Another type of crusher, these machines reduce glass and minerals to grain size.

e. **Magnetic Separators.** These vary from small conveyors with built-in magnets to large electromagnets that are passed over or through a pile of mixed metal. Ferrous (magnetic) material will stick to it, and non-ferrous (non-magnetic) metals will not. Ferrous and non-ferrous metals have different markets and market values. Therefore, if large quantities of metals are processed, QRPs receive higher prices overall if the metals are separated.

Figure 4-2. Medal Can Densifier
f. **Wood Grinders/Tub Grinders/Chippers.** These machines shred large pieces of wood, such as branches, wood left over from construction or deconstruction, and wooden pallets, into various sizes of chips that can be used for mulch, packing material, and boiler fuel. Wood chippers can also be used to prepare wood chips for composting.

![Wood Chipper](image)

Figure 4-3. Wood Chipper

g. **Scales.** Industrial scales can be used to measure the weight of recyclables. Larger units can weigh trucks, before and after a load, to compute actual weight of recyclable materials.

h. **Stand-a-lone deformer or grinding mill.** Used to deform fired brass cartridges to prevent reloading/reuse.

i. **Forklift.** Used to lift, move, and load bales and pallets of recyclable materials.

j. **Composting equipment.** Aerators, buck loaders, compost screens, windrow turners, trammel screens, thermometers, drying oven, pH meters, and oxygen meters.

If the QRP handles unique materials or quantities, commanders should consider authorizing the non-routine use of specialized equipment (such as rough terrain forklifts, front-end loaders, etc.) from the public works office and/or military units.

4.4.5 **Equipment Funds.**

Procure equipment for the QRP through the appropriations normally available for equipment acquisition. Operation and maintenance funds may be available for purchasing or renting recycling equipment for the QRP. Acquisition of new or replacement equipment related only to recycling of solid and other waste are eligible to be funded by net proceeds received from the sale of qualified recyclable materials (i.e., net QRP proceeds). Start-up fund reimbursement is available from QRP proceeds in accordance with [10 U.S.C. 2577](#) within the same fiscal year.

Contact acquisition personnel, the installation engineer, or the logistics office to apply for these funds. Use the A106 form to identify equipment-funding needs. Plan ahead, as
these funds may not be available in the current fiscal year. The better the recycling plan, the better chances are for getting these funds.

Equipment for recycling, such as balers and shredders, available at a DoD installation or through the Government Services Administration (GSA), should be made available for use by all recycling programs on an installation. Sharing equipment reduces overall costs and makes better business sense. Construction of holding bins and sorting platforms or other recycling facility improvements are eligible to be funded by proceeds generated by recyclable sales. Non-QRP recycling equipment will be funded from Operation and Maintenance, Army (OMA) appropriations.

4.4.6 Sources of Labor.

The highest single cost in any business (including a recycling program) is labor. There are a number of ways to obtain labor for recycling operations. Potential personnel sources include: military, civilian, and contracted manpower; federal, state, county and military prisoners; physically and mentally challenged workers; and volunteers. Recycling managers must weigh various factors when deciding which labor force to use. Military and appropriated fund civilian employees are applied against the installation personnel document, but military manpower cannot be reimbursed from program revenues. Contracted labor does not count against an installation manning document but is generally more expensive. Prison labor is inexpensive, but it may not be always available and may require escorts. Use of disabled workers to operate potentially dangerous equipment may not always be appropriate. Consider federal and state grant programs, such as the Environmental Protection Agency (EPA) Jobs for Recycling. Volunteers, while usually enthusiastic, are not always available and may cause the program to incur unwanted liabilities. Prior to accepting voluntary services, check with the legal office to ensure compliance with 31 U.S.C. 1342 relating to limitations on the acceptance of voluntary services.

Only if the Directorate for Morale, Welfare and Recreation (DMWR) operates the QRP, can Non-Appropriated Fund (NAF) labor be used. The DPW may NOT contract with the DMWR for NAF labor.

Recycling programs may draw from military sources for labor under the following limited categories, if otherwise appropriate:

- a. Medical hold personnel,
- b. In-transit personnel,
- c. Legal hold personnel,
- d. Personnel awaiting separation, and
- e. Personnel not assigned to a permanent billet.

Under normal conditions, personnel assigned to permanent billets ordered into an activity to do specific tasks for a period of time (Tour of Duty) are not assigned to perform recycling tasks.
4.4.7  Training and Safety.

4.4.7.1  Training.

Training is essential to having a successful recycling program. Personnel need initial basic training to start operations and will later need continuous formalized training to develop technical and professional competence for long-term QRP operations.

Training needs, which vary with the level of responsibility of the individual, should include marketing, contracting, direct sales, financial management, operation of equipment (static and mobile), personal protective equipment (PPE) use, shock hazard, safe working habits, and good housekeeping. Descriptions of duties should be established for employees of the QRP.

Use the installation environmental, preventative medicine, fire, and safety departments to conduct required training and periodic safety inspections of recycling facilities and operations. Sources of training include the Air Force Institute of Technology (AFIT), Huntsville Corps of Engineers Professional Development Center, Solid Waste Association of North America (SWANA), and others (see appendix G for further information).

4.4.7.2  Safety.

The operation of a recycling center involves the use of heavy industrial equipment and the handling of large quantities of materials that could cause serious or fatal injury if proper caution is not exercised. Procedures must be established for the safe operation of the various types of equipment found at a recycling center and throughout the recycling process. Procedures must also be established for training in the use of PPE, protection against shock hazards, development of safe working habits, and good housekeeping. Refer to paragraph B-5 for a sample Safety SOP. It is recommended that installation environmental and safety departments are used to conduct periodic safety surveys of recycling facilities.
4.4.8 Estimate Startup Costs.

Five kinds of startup costs should be considered when developing a recycling plan:

a. **Initial Investment Costs.** Initial investment costs include the cost of new or rehabilitated facilities (e.g., buildings, sheds, and fenced or paved storage areas), equipment procurement (e.g., trucks, forklifts, balers, shredders, tub grinders, conveyors, and scales), utility hook-ups (e.g., water, sewer, telephone, and electric), management systems (e.g., administrative, operating instructions, financial records, and training), and public education and awareness programs.

b. **Recurring Operating Costs.** These include the cost of direct labor, transportation, utilities, supplies, maintenance, and repairs on buildings and equipment, public education campaigns, and training courses.

c. **Applied Overhead Costs.** These include the installation services billed by the finance, personnel, and contracting offices.

d. **Other Overhead Costs Not Billed to a QRP.** These are installation costs, such as fire services, road maintenance, ground maintenance, security, and basic infrastructure, not applicable to a QRP.

e. **Cost Avoidance or Savings.** These are expenses for the off-site costs of waste handling, hauling, and disposal that would have been incurred by the generating activity or installation in the absence of waste prevention and/or recycling. These savings can be estimated by determining the weight or volume of the material diverted from the waste stream and then calculating the labor, prorated hauling costs and maintenance costs, landfill tipping fee, and any other disposal charges that would have been incurred. Current policy does not permit reimbursement to QRP for avoidance costs, nor do the generating activities share in the economic benefits. However, retaining such data to make the case for setting up and operating a recycling program is required.

4.4.9 Develop Decision Matrix.

Prepare an economic analysis (Appendix D) and present it to the installation commander for review. Table 4-3 displays the options that should be included for consideration.
Table 4-3. Sample Decision Matrix.

<table>
<thead>
<tr>
<th>Option</th>
<th>Advantages</th>
<th>Disadvantages</th>
<th>Implementation Cost</th>
<th>Recurring Costs</th>
<th>Recurring Revenue/Savings</th>
<th>Payback Period</th>
<th>Cost Avoidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Outsource all QRP functions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Perform all QRP functions in-house</td>
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<tr>
<td>c. Perform QRP functions through inter-governmental agreements or partnering arrangements</td>
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<tr>
<td>d. Perform QRP functions through a combination of the above options</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

4.4.10 Brief the Installation Commander.

Once the QRP, including the economic analysis, is completed brief the installation commander on the plan before beginning operation.

4.5 Other Issues Prior To Start-Up.

In addition to the issues detailed above, the following topics also provide guidance for running a successful QRP.

4.5.1 Performance Measurement.

DoD memorandum, dated 1 Feb 08, subject: DoD Integrated (Non-Hazardous) Solid Waste Management Policy (see paragraph 1.3.5), has established installation diversion goals as performance metrics called Measures of Merit (MoMs) for solid waste and recycling at—

a. 50% by 2015 for non-hazardous solid waste without construction and demolition (C&D) waste.

b. 50% by 2015 for C&D waste.

Army memorandum, dated 15 Aug 08, subject: Army Integrated (Non-Hazardous) Solid Waste Management Policy (see paragraph 1.3.6), provides instructions for implementing the DoD goals.
Army memorandum, dated 11 Jul 06, subject: Sustainable Management of Waste in Military Construction, Renovation, and Demolition Activities (see paragraph 1.3.5), established and maintains a more stringent requirement for C&D by requiring that all current military construction, renovation, and demolition projects include contract performance requirements for a 50% minimum diversion of C&D waste, by weight, from landfill disposal.

The Economic Benefit of an Integrated Solid Waste Management (ISWM) Program is the cost avoided by diverting materials rather than disposing of them. A positive economic benefit means that the cost to dispose of the diverted material is greater than the cost to divert the material.

Calculations related to Economic Benefit of ISWM Programs are shown in figure 4-5 below.
Figure 4-5. Calculations Related to the Economic Benefit of ISWM Programs

CALCULATIONS RELATED TO ECONOMIC BENEFIT OF INTEGRATED SOLID WASTE MANAGEMENT PROGRAMS

1. In general—

Economic Benefit = PC – AC

Where:  
• PC is Potential Cost (sometimes called Potential Disposal Cost (PDC)). See note 1 below.  
• AC is Actual Cost (sometimes called Actual Disposal Cost (ADC)). See note 2 below.

2. When the collection and transportation costs for the diverted material are the same whether or not you divert the material, then—

Economic Benefit = \((Q_X \times F_Y) - C_X + P_X\)

Where:  
• \(Q_X\) is the diverted quantity.  
• \(F_Y\) is the disposal tipping/incineration fee for wastes.  
• \(C_X\) is the costs for diversion excluding collection and transportation costs.  
• \(P_X\) is the proceeds from diverted materials.

Notes:
1. Potential Cost (PC) is the estimated cost for disposal of all wastes/materials in the absence of diversion.
   \[PC = CT_{AE} + (Q_Y \times F_Y) + (Q_X \times F_Y)\]
   Where:  
   • \(CT_{AE}\) is the collection and transportation costs (i.e., the cost actually incurred to collect and transport the wastes plus the estimated costs that would be incurred if the diverted materials had been collected and transported for disposal as waste).  
   • \(Q_Y\) is the disposed quantity.  
   • \(Q_X\) is the diverted quantity.

2. Actual Cost (AC) is the cost to operate an integrated solid waste management program.
   \[AC = CT_{AA} + (Q_Y \times F_Y) + C_X - P_X\]
   Where:  
   • \(CT_{AA}\) is the collection and transportation costs (i.e., the cost actually incurred to collect and transport the wastes that were disposed plus the costs actually incurred to collect and transport the materials that were diverted).  
   • \(Q_Y\) is the disposed quantity.  
   • \(F_Y\) is the disposal tipping/incineration fee for the wastes.  
   • \(C_X\) is the costs for diversion excluding collection and transportation costs.  
   • \(P_X\) is the proceeds from diverted materials.
4.5.2 Recycling vs. QRP Recycling

The solid waste generated at a typical DoD installation is a mixture of items of varying “recyclable” value. Some items are of such low value that they cannot be cost effectively recycled. Even taking into account avoided landfill disposal costs and proceeds from the sale of such items, recycling would be too costly. Other items in the solid waste stream are of relatively high recyclable value. For such items, the sale proceeds alone cover all costs of recycling. Such items are the best candidates for recycling through a QRP.

Some items may be considered “regulated items” and required by federal, state, or local regulations to be recycled. For example, 40 CFR 246.200-1 requires recycling of high-grade office paper at facilities with more than 100 office workers; cardboard for facilities generating more than 10 tons cardboard/month; and newsprint for facilities with more than 500 families in residence. These items shall be recycled regardless of the processing and handling costs.

The reality of recycling is that most items fall into the first category—low value. With the exception of some extremely large quantity of material with maximum value requiring minimal, if any, processing and selling effort, QRPs cannot recover the costs of recycling. The value of QRPs is rolled into the entire program where items of high value provide sufficient revenue to compensate the processing costs for low value items. Most recycling decisions should be based on the overall effectiveness of the QRP and not on the economic value of each item processed, which in turn will help installations reach the MOM diversion rate.

In accordance with DoD 4160.21-M qualified recyclable materials turned in for recycling may be upgraded by the DRMO for reutilization, transfer, and donation programs. If this occurs, the QRP must adjust its records to reflect the “loss” of these materials. Any costs associated with their handling will not be charged to or recouped from the QRP.

Between those items that are clearly suitable for only landfilling or incineration, and those items suitable for recycling through a QRP, is a third set of items that may be handled through a QRP or may be recycled through a solid waste contract. The third set is characterized as follows:

a. Items that cannot be sold for an amount such that sale proceeds alone are sufficient to cover the cost of recycling through a QRP.

b. Items that can be recycled for less than the cost of disposal in a landfill that may provide a discount to a solid waste disposal contract.

c. Excluded materials as defined in DoDI 4715.4.
Installations may use APF to pay for recycling performed outside of the QRP. These funds are usually disbursed through the installation’s solid waste disposal budget. In making the decision to recycle an item outside of the QRP, installations must ensure that the cost of disposal through recycling is less than the cost of disposal through landfilling or incineration. The cost savings must be used to discount a solid waste disposal contract and to cover the costs of recycling those items.

It is also important to understand that the solid waste contract defines which materials will be disposed of under the contract. The QRP may not be able to recycle those materials for the length of the contract. However, no-cost modification changes can be made that would be determined on a case-by-case basis. It will be necessary to take an in-depth look at the market before making a final decision. On the positive side, if the market should dramatically change mid-year, the installation is only bound by the term of the disposal contract before changes can be made. Chapter 6 of this Handbook goes into greater detail of this process.

4.5.3 Construction and Demolition Debris and “Greenwaste”

Two items that represent a large portion of the solid waste disposal problem are Construction and Demolition (C&D) debris and “greenwaste,” or organic materials. Because of their large volume, disposal in a landfill can be very expensive. Also, when these items represent a large portion of the solid waste stream, the installation will probably have difficulty in meeting recycling and solid waste goals unless an effort is made to find a cost-effective method for diversion from disposal.

Army policy requires that a minimum of 50% of C&D wastes be diverted from the waste stream during the execution of construction, renovation, and maintenance and repair projects. In addition, contract specifications will include submission of a contractor’s C&D waste management plan. The installation staff offices responsible for recycling shall review the C&D waste management plan for installation-managed projects and participate in the review and approval of C&D waste management plans for projects being performed on the installation by others, such as the Corps of Engineers. Installations must document and monitor implementation of the plan. C&D should be managed as part of the installation’s overall integrated solid waste management plan. Some state and local jurisdictions have established regulations restricting the amount of solid waste that can be disposed of in municipal landfills. Some of these regulations set fines for exceeding disposal limits, and prohibit the disposal of some types of waste, such as C&D debris and organic materials. For these reasons, installations may have to establish separate programs outside of recycling programs or QRPs to manage C&D wastes.

4.5.4 Composting.

DoDI 4715.4 requires that each installation will, as practicable, operate a composting program or participate in a regional composting program. Composting programs are an important part of ISWM plans. Composting is a means to divert large portions of the waste stream from landfills. Composting can provide materials suitable for soil
conditioners, landscape mulch, backfill, resurface material for eroded areas, and landfill cover. General guidance on composting can be found on the EPA website at http://www.epa.gov/wastes/conserve/rrr/composting/index.htm.

Diversion of organic materials from landfills by means of composting will count toward meeting DoD’s solid waste and recycling goals.

4.5.5 Precious Metals.

Installations must participate in the DoD Precious Metals Recovery Program (PMRP) to the maximum extent practicable. Metals covered by the DoD Precious Metals Recovery Program and items containing any of the following elements must be turned over to a servicing DRMO:

a. Gold (Au)
b. Radium (Ra)
c. Silver (Ag)
d. Iridium (Ir)
e. Platinum (Pt)
f. Ruthenium (Ru)g. Palladium (Pd)
h. Osmium (Os)

Precious metals may be found in circuit boards in computers and weapon systems; dental x-ray machines; or submarine batteries.

4.5.6 Electronics.

Electronic equipment must be managed in compliance with environmental, health, and safety regulations. In addition, DoD generated electronics may also be subject to the requirements of programs designed to protect national security interests, such as demilitarization (DEMIL), Trade Security Control (TSC), and Flight Safety Critical Aircraft Parts (FSCAP). To meet these requirements, the DRMS developed and manages “de-manufacturing” contracts for DoD that specifically address the management, reuse, and recycling of electronic equipment. These contracts were designed to ensure compliance with all environmental and DoD regulations. Installations are encouraged to participate in the Federal Electronics Challenge (FEC). It is a voluntary program in which organizations commit to environmentally sound management of electronic equipment to include their ultimate reuse, recycling, or disposition. Reason: We should be encouraging participation in the FEC.

4.5.7 Lead Acid Batteries and Used Oil.

Lead acid batteries and used oil have specific recycling requirements (see paragraph 7.3.6, Closed-Loop Recycling). As a condition to recycling lead acid batteries and used oil, QRPs should establish controls similar to that DRMS utilizes in its hazardous sales program.
At a minimum, this program should consist of an environmental responsibility
determination, pre-award surveys of prospective buyers, and post-sale inspections to
ensure that hazardous property was recycled properly to minimize environmental
liabilities.

4.5.8 Expended Brass and Mixed Metals Gleaned from Firing Ranges\(^3\).
The gleaning of range residue, as defined by the DoDI 4715.4, was authorized to aid
QRPs by increasing revenues through direct sales of high quality expended brass, and
to stimulate a more aggressive range management program.

It does not allow sale of anything other than firing range scrap consisting of expended
brass and mixed metals gleaned from firing ranges. See paragraph 7.4 for definitions
and a general description of the sale of this material including exclusions.

4.5.9 Demilitarization.
Current DoD policy prohibits QRPs from selling items requiring demilitarization or scrap
resulting from demilitarization of an item(s). Items requiring demilitarization must be
turned in to DRMO. (See DoD 4160.21-M.)

4.5.10 Recycling Ammo Cans and Ammo Boxes.
In accordance with 32 CFR 172.2 items that may be used again for their original
purpose or function without special processing are not QRP-recyclable materials. Ammo
cans and boxes are defined as MPPEH and should be managed IAW DoDI 4140.62.
Ammo cans and boxes in scrap condition and not suitable for reuse as originally
intended are eligible for QRP recycling, but must be certified as INERT.

A training course has been designed to train Qualified Recycling Program (QRP)
personnel to recognize unsafe, and unauthorized material called Material Potentially
Presenting an Explosive Hazard (MPPEH) when recycling firing-range scrap consisting
of expended brass and mixed metals gleaned from firing ranges through direct sales.
For more information refer to appendix G, paragraph G2, Sources of Training.

4.5.11 Recyclables from Special Funding Categories.
Commissaries, Post Exchanges, AWCF, as well as industrial, commercial, and certain
support activities that operate under special funding categories may operate their own
recycling programs. If these organizations and activities choose not to recycle their
materials, they must turn their QRP-eligible items in to the QRP and not dispose of them
as solid wastes. In either case, the data on the amount of materials recycled separately
by these and any other tenant organizations must be turned in to the installation for

\(^3\) PL 111-118: “SEC. 8019. None of the funds available to the Department of Defense may be used to
demilitarize or dispose of M-1 Carbines, M-1 Garand rifles, M-14 rifles, .22 caliber rifles, .30 caliber rifles, or M-1911 pistols, or
to demilitarize or destroy small arms ammunition or ammunition components that are not otherwise prohibited from
commercial sale under Federal law, unless the small arms ammunition or ammunition components are certified by
the Secretary of the Army or designee as unserviceable or unsafe for further use.”
SWARWeb accounting, and to be counted toward meeting the MoM for landfill diversion.

4.6 Regional Recycling Or QRP Programs.

Under certain circumstances, two or more installations in the same geographical area may consider combining their efforts to form a regional program. Each installation may have its own separate recycling facility or the installations can share one or several recycling facilities that serve all the installations of the regional program. If QRPs are regionalized, each installation must have its own QRP budget clearing account to receive sales proceeds. If one QRP must be designated to receive the proceeds from the sales of the region’s recyclable material, they should be dispersed pro rata to the participating installations.

4.6.1 Why a Regional Recycling Program?

It may not make sense to have separate or duplicate recycling programs in the same region. The result is generally higher overhead costs and lower proceeds. These programs could benefit from regionalization or partnerships. DoD policy supports and encourages regional programs.

Explore all opportunities for mutual benefit through partnering and regionalization. Volume will influence, and in some cases create, markets.

Therefore, having a single contract for sale that encompasses several installations is strongly recommended. Inter-service agreements and memorandums of understanding are used to establish partnerships. Be sure to have the installation SJA/OGC review and approve all partnership agreements. One of these documents should be in place to formally establish partnerships with inter-service or other federal agencies.

4.6.2 Setting up a Regional QRP.

Set up a regional QRP following the steps outlined in paragraph 2.2 for a single installation, but modified to the regional situation. Members of the regional QRP would determine the choice of the “senior commander,” who would make the final decision on QRP matters.

4.6.3 Operating a Regional QRP.

Installations in an area that each have their own suspense accounts and recycling facilities can pool together a certain commodity that each on its own does not collect enough of to sell directly or through DRMO in order to create a sale, but combined would attract a buyer. If the recyclable material is turned into DRMO, the DD1348-1A should list the suspense account number and quantity contributed by each installation. After the sale, each installation QRP suspense account will be credited the proceeds based on the DD Form 1348-1A (DTID) information. If sold directly, each installation will have to keep a record of its contribution in order to be properly credited. If an installation
does not have good records of its quantities of recyclable materials contributed, then it risks the possibility of forfeiting its rightful sales proceeds.

4.7 Marketing The QRP.

4.7.1 Start Early.

Like any program, the QRP needs some advertising to help it take off and take hold. Publicize the QRP early and often. Start at least six months in advance of when it is planned to begin collecting recyclable materials.

Pick a date that coincides with other well-known celebrations if possible, such as America Recycles Day, Earth Day, Arbor Day, or Spring Cleanup Day. Start with articles in the installation newsletter describing the program: when it will start, what will be recycled, collection points, use of bins, frequency of collection, and what people will be expected to do in order to make the program a success. Emphasize the environmental benefits, conservation of resources, the importance of full participation, and improvements in quality-of-life that result from recycling.

4.7.2 Build Anticipation.

As the program start date nears, repeat news articles and expand publicity to other types of media—installation radio channel, cable news channel, bulletin boards, and flyers. An educational program should be instituted in nearby elementary schools to teach children the value of recycling and pollution prevention. Establish a “kick-off” day to inaugurate the recycling facility or transfer station. Make sure that the ceremony includes the installation commander, senior staff, and installation chaplain. If the program involves the surrounding community(s), elected officials (mayor, council, or selectman) should also be invited as distinguished guests or speakers.

4.7.3 Develop Community Ownership.

Community buy-in to a recycling program, well before the first collection bin is put out, is very important. When people in a community feel that they had something to do with the creation of a project or program, they will support and sustain it.

A publicity campaign to “GET THE WORD OUT!” begins months before the start of the recycling program (see figure 4-7). Contests can be run to name the recycling facility, pick an installation recycling motto, or pick a mascot. Pass out bumper stickers, balloons, and other novelty items to promote the program.
After the program is underway, match unit against unit to create a rewards program and encourage full participation in the recycling program. Suggested activities include:

a. Offer initiatives to outstanding recycling units, such as time off or special privileges;
b. Recognize outstanding recycling initiatives at town meetings and other installation gatherings;
c. Offer the local community the opportunity to contribute prizes to the QRP.
d. Publicize annual recycling rates and goals;
e. Host an annual "open house" at the recycling center;
f. Offer free composting classes through a local community or activities center; and
g. Construct a display booth for schools, fairs, America Recycles Day, and Earth Day.

4.7.4 Continually Publicize.

Continually publicize the program by reminding people of recycling goals and publicizing environmental projects being funded by the proceeds of the QRP.

Provide incentive and encouragement for participants and leadership by submitting your recycling program to DoD, federal, and state environmental award programs that recognize outstanding recycling achievements. These offer a great opportunity to demonstrate program successes.

4.8 QRP Final Thoughts.

When operating a QRP, three most important facts to remember are:

a. If something is recyclable, that does not mean it MUST be recycled, unless required by a federal or state law. Base business decisions on facts and analyses.
b. The labeling of a material for recycling does not constitute ownership by the QRP. This should be checked before the decision is made one way or the other.
c. The existence of recycling programs outside the QRP is not undesirable. However, only a QRP can use the net proceeds from the sale of recyclable materials for installation programs.
Expand publicity as program start date nears.

Conduct a contest to name the program.

Match unit against unit to encourage full participation.

Publicize the program before it begins

- What will be recycled?
- Where will it be collected?
- What do people need to do?
  - Train new personnel
  - Continue educating

- Use multiple types of media
- Establish education programs in schools
- Schedule a ceremony
- Include everyone (e.g., dependants and contractors)

Get the word out!

- Recognize and reward outstanding recycling units
- Have an annual open house
- Construct a display for local fairs and events
- Offer free composting classes

Continue to publicize the program and the environmental projects being funded by the proceeds of the QRP.

Figure 4-7. Key Methods for Publicizing a QRP
CHAPTER 5  OPERATING THE QRP

Once the program is established, equipment and labor are in place, and space is identified, the installation is ready to begin operating the QRP.

5.1 Solid Waste and Recyclables Collection.

The first concern is collecting the materials and transporting them to a recycling center or staging area. In the recycling plan, materials were identified for recycling through the QRP. The solid waste program manager has to choose the best way to collect the solid waste. There are many methods of collecting solid waste, including recyclables (non-QRP and QRP). The differences are usually the frequency of collection and the type of waste collected during each trip. Every approach has its advantages and disadvantages. The conventional approach, particularly when recycling is first started, is to schedule an additional collection for recyclables. The frequency and type of collections will have a substantial impact on the cost of operating the QRP. Consequently, the method of collecting recyclables should be frequently evaluated to ensure that the method selected is the most cost-effective. Table 5-1 below illustrates some of the collection variations.

Table 5-1. Methods for Collecting Solid Waste

<table>
<thead>
<tr>
<th>Type of Service</th>
<th>Truck 1&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Truck 2</th>
<th>Truck 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional approach</td>
<td>Mixed Solid Waste</td>
<td>Recyclables</td>
<td>Yard Waste</td>
</tr>
<tr>
<td>Modified conventional</td>
<td>Mixed Solid Waste</td>
<td>Recyclables</td>
<td>Organic Materials&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td>approach</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated Approach</td>
<td>Mixed Solid Waste</td>
<td>Recyclables</td>
<td>Organic Materials&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Recyclables</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>1</sup>May use a single truck with separate compartments for mixed solid wastes and recyclables, or commingle them in a single compartment and "bag" the recyclables for easier sorting at the recycling center.

<sup>2</sup>Organic materials should generally be placed in a separate compartment so they do not contaminate other recyclables.

5.2 Select The Most Efficient Method Of Collecting Recyclables.

Recyclables can be collected in a number of ways. Each installation is unique and may use different collection methods for different items. This has to be balanced with the need to consolidate the items and move them to the loading area. Enlist the building recycling coordinator, along with barracks and military family housing residents, to do as much of this as possible to reduce costs. Determine the best methods for collecting recyclables at the installation. Separation at the source is usually the most cost-effective means of collection and results in the highest quality product. Some suggestions for collection are shown in table 5-2.
Table 5-2. Examples of Possible Collection Methods.

<table>
<thead>
<tr>
<th>Areas</th>
<th>Individual Pickup</th>
<th>Multi-Location Drop-Off</th>
<th>Central Drop-Off</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing area</td>
<td>Curbside pickup</td>
<td>Neighborhood drop-off containers</td>
<td>QRP or other location drop-off center</td>
</tr>
<tr>
<td>Barracks (cans, paper, newsprint)</td>
<td>Room pickup</td>
<td>Floor or building bins</td>
<td>Central barrack area drop-off bins</td>
</tr>
<tr>
<td>Offices (paper)</td>
<td>Desk-side bins</td>
<td>Room bins</td>
<td>Floor bins</td>
</tr>
<tr>
<td>Offices (aluminum cans, newspapers)</td>
<td>Room bins</td>
<td>Room bins</td>
<td>Floor bins</td>
</tr>
<tr>
<td>Supply/warehouse</td>
<td>Dumpsters for cardboard outside each main door</td>
<td>Dumpster for cardboard near each building</td>
<td>Dumpster for cardboard near each building complex</td>
</tr>
<tr>
<td>Food service</td>
<td>Steel can bin for each kitchen food, compactors, and dehydrators</td>
<td>Bin for steel cans in each area</td>
<td>Single bin for steel cans</td>
</tr>
</tbody>
</table>

Based on the information in Table 5-2, consider the following factors in selecting the best collection method: (1) quality and quantity of recyclable waste in an area, and (2) degree of participation in recycling efforts in the area. Some have found that they get the most cans and bottles from a barracks if recycling bins are placed on each floor rather than having a central drop-off point. The best participation from the housing area occurs with curbside pickup. Ratings of highest, high, medium, low, and lowest are assigned to the quality and quantity of the recyclable materials, and to the amount of participation in recycling efforts in the area being evaluated as shown in Table 5-3.
Table 5-3. Quality, Quantity, and Participation Rates for a Housing Area Example

<table>
<thead>
<tr>
<th>Collection Method</th>
<th>Service Option</th>
<th>Estimated Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Quality</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quantity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Participation Rate</td>
</tr>
<tr>
<td>Individual pick-up</td>
<td>Curbside pick-up</td>
<td>Medium to high</td>
</tr>
<tr>
<td>Multi-location drop-off</td>
<td>Neighborhood drop-off</td>
<td></td>
</tr>
<tr>
<td></td>
<td>containers (compartments)</td>
<td></td>
</tr>
<tr>
<td>Central drop-off</td>
<td>Central drop-off</td>
<td>Highest</td>
</tr>
</tbody>
</table>

In the housing area sample above, curbside pickup produces high rates because it is easy to participate. If the installation commander makes recycling in housing areas mandatory, the QRP may be able to raise the participation rate to “highest.” Neighborhood drop-off bins and containers produce low participation because of the additional effort involved. A single, centrally located bin or container gets the lowest participation rate and the lowest quantity because it is inconvenient to deliver the recyclables.

The best solution is the one that obtains the best quality, the most quantity, and the highest participation rate at the most reasonable cost. This can only be determined locally, and is area or item specific.

5.3 Recyclable Delivery to QRP — Mixed or Separated.

Once a collection method has been selected the QRP needs to decide how the recyclable materials should be delivered to a recycling center or staging area. Recyclables from residential recycling programs can be picked up in a number of ways. The type of residential program used will determine what types of recyclable materials are received. Figure 5-1 is an example of curbside recycling with a single bin for recyclable materials and a trash can for household wastes. It can be commingled recyclables (generally, newspaper, glass, aluminum, and steel cans) or, to lower QRP processing costs, material that has already been segregated. As shown in table 5-4, a number of options are available. The option selected should have the least impact to QRP processing costs while being the most cost-efficient to the installation.
Table 5-4. Options for Pre-Pickup Sorting of Recyclables (Newspapers, Glass, Plastic, Aluminum, and Steel Cans)

<table>
<thead>
<tr>
<th>Sorting Methods</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commingled bag</td>
<td>All recyclables are put in specified colored bags (EXCEPT RED) for curbside pickup. Clear bags are preferred to check that contents are recyclables. Bags delivered to recycling center.</td>
</tr>
<tr>
<td>Commingled bin</td>
<td>Each type of recyclable is separated at the curb into the appropriate bin on the collection vehicle. Contents are dumped in trucks. Truck unloads at Materials Recovery Facility.</td>
</tr>
<tr>
<td>Separated newspaper, commingled other</td>
<td>Newspapers are separated from other items on the truck. Newspapers are off-loaded at one spot at the QRP; all other material is deposited at another spot.</td>
</tr>
<tr>
<td>Separated newspaper, glass, plastic, and commingled cans</td>
<td>Usually requires compartmentalized truck. Each type of recyclable is separated at the curb into the appropriate bin on the truck. Offloading into the designated sort holding area at the QRP is done by item.</td>
</tr>
</tbody>
</table>

Sample Waste Collection Costs are shown in Table 5-5, which compares the cost for disposal, delivery cost to the QRP, and QRP processing costs based on the waste collection method selected.

Table 5-5. Impact on QRP Costs for Different Waste Collection Methods.

<table>
<thead>
<tr>
<th>Curb Side Collection Method</th>
<th>Base Cost for Disposal</th>
<th>Base Cost to Deliver to QRP</th>
<th>QRP Cost to Process</th>
<th>Savings to Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commingled bag</td>
<td>$75</td>
<td>$25</td>
<td>$25</td>
<td>$25</td>
</tr>
<tr>
<td>Commingled bin</td>
<td>$75</td>
<td>$27</td>
<td>$18</td>
<td>$30</td>
</tr>
<tr>
<td>Separated newspaper, commingled other</td>
<td>$75</td>
<td>$29</td>
<td>$16</td>
<td>$30</td>
</tr>
<tr>
<td>Separated newspaper, glass, plastic, commingled cans</td>
<td>$75</td>
<td>$31</td>
<td>$12</td>
<td>$32</td>
</tr>
</tbody>
</table>

1 Dollar cost data is for illustration purposes only and represents notional costs per ton.

Cost of delivery and savings to the base are important factors in considering collection methods. Looking at Table 5-5, the commingled bag collection row shows the savings for the base at $25/ton. Using the same collection method, QRP processing costs are $25/ton. However, sales from those proceeds may only net $20 per ton and the QRP may not want to process those recyclables if it will not be cost-efficient. Decisions on a solid waste collection method should include the cost of delivery and savings to the base, but should not be based on these two factors alone.

Table 5-6 shows how the installation can maximize its disposal savings by diverting as much solid waste to the QRP as possible in a cost-efficient manner. All pickup methods should be evaluated before making a decision about collection methods.
Table 5-6. Typical Costs for Various Collection Methods.

<table>
<thead>
<tr>
<th>Material</th>
<th>Tons</th>
<th>Recyclables in One Bag (Commingled)</th>
<th>Newspapers in Bin</th>
<th>Newspaper and Cans in Bin</th>
<th>All Materials Delivered to QRP (Separated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newspaper</td>
<td>2</td>
<td>$150</td>
<td>$52(^1)</td>
<td>$58(^1)</td>
<td>$62(^1)</td>
</tr>
<tr>
<td>Glass</td>
<td>1</td>
<td>$75</td>
<td>$75</td>
<td>$75</td>
<td>$31(^2)</td>
</tr>
<tr>
<td>Plastic</td>
<td>1</td>
<td>$75</td>
<td>$75</td>
<td>$75</td>
<td>$31(^2)</td>
</tr>
<tr>
<td>Cans</td>
<td>1</td>
<td>$75</td>
<td>$75</td>
<td>$29(^2)</td>
<td>$31(^2)</td>
</tr>
<tr>
<td>Total cost to installation</td>
<td>5</td>
<td>$375</td>
<td>$277</td>
<td>$237</td>
<td>$155</td>
</tr>
</tbody>
</table>

\(^1\) Dollar cost data is for illustration purposes only and represents notional costs per ton.
\(^2\) Materials that go to the QRP recycling center; other materials are landfilled.

Table 5-6 shows the installation spends substantially less overall if solid waste is diverted to the QRP. If the QRP is eliminated, the installation disposal cost becomes $375 for the five tons.

If the installation delivers separated recyclables to the QRP, the installation would spend from $155 to $277 for five tons, depending upon the number of recyclables delivered to the QRP.

This method of analysis is the best way to determine savings to the installation through recycling. It should be used in most cases. The analysis verifies that a decision can be made that produces major savings to the installation while providing the lowest possible processing costs to the QRP. The analysis may vary based on local tipping fees, transportation, and labor costs.

5.4 Sorting Recyclables.

The following details the various methods for sorting recyclables.

5.4.1 Pre-Pick–Up Sorting.

Sorting recyclables at the source (i.e., housing, barracks, and offices) is usually the most cost-effective means of collection. Pre-pickup sorting reduces the processing costs of sorting at a QRP drop-off area. Start up costs for bins or bags, as well as resident acceptance and participation, need to be assessed. Options for pre-pickup sorting are listed in table 5-4.
5.4.2 Sorting at the QRP Drop-Off Area.

If sorting of recyclables (see figure 5-2) is handled at the QRP drop-off area, processing of the recyclables may be more costly. For example, if the “commingled bag” method is used, the cost to the QRP is greater than pre-pickup sorting. Bags require opening, dumping, hand picking of the contents, and sorting.

Sorting of recyclables at the Source may also result in the QRP receiving a better price.

For example, table 5-7 shows sorting of office paper (computer, white ledger, and mixed office).

![Figure 5-2. Sorting at the Recycling Center.](image)

For six tons of mixed office paper, the value is $480. However, as table 5-7 shows, the net increase is $380 for the same quantity of paper sorted into paper types.

Table 5-7. Sorting Office Paper – Positive Results

<table>
<thead>
<tr>
<th>Paper</th>
<th>Quantity (tons)</th>
<th>Value Per Ton</th>
<th>Total Value</th>
<th>Net Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed office</td>
<td>6</td>
<td>$80</td>
<td>$480</td>
<td>$0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Paper</th>
<th>Quantity (tons)</th>
<th>Value Per Ton</th>
<th>Total Value</th>
<th>Net Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer</td>
<td>1</td>
<td>$220</td>
<td>$220</td>
<td>$380 ($860-$480)</td>
</tr>
<tr>
<td>White ledger</td>
<td>3</td>
<td>$160</td>
<td>$480</td>
<td></td>
</tr>
<tr>
<td>Mixed office</td>
<td>2</td>
<td>$80</td>
<td>$160</td>
<td></td>
</tr>
</tbody>
</table>

1 Dollar cost data is for illustration purposes only and represents notional costs per ton.

In some cases, sorting recyclables may be more costly to a QRP than keeping the recyclables mixed. This occurs when the price of the recyclable does not vary whether mixed or sorted. Table 5-8 shows the value of separating glass into three types (clear, green, and brown).
Table 5-8. Sorting Glass – Negative Results\(^1\).

<table>
<thead>
<tr>
<th>Glass</th>
<th>Quantity (tons)</th>
<th>Value Per Ton</th>
<th>Total Value</th>
<th>Net Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed glass</td>
<td>6</td>
<td>$5</td>
<td>$30</td>
<td>$0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Glass</th>
<th>Quantity (tons)</th>
<th>Value Per Ton</th>
<th>Total Value</th>
<th>Net Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear</td>
<td>3.6</td>
<td>$35</td>
<td>$126</td>
<td>$143 ($173-$30)</td>
</tr>
<tr>
<td>Green</td>
<td>1.2</td>
<td>$14</td>
<td>$17</td>
<td></td>
</tr>
<tr>
<td>Brown</td>
<td>1.2</td>
<td>$25</td>
<td>$30</td>
<td></td>
</tr>
</tbody>
</table>

\(^1\) Dollar cost data is for illustration purposes only and represents notional costs per ton.

Sorting increases revenues. In the example above there is a definite advantage to sorting the glass; a gain of $143 was realized. However, if sorting costs are higher than the additional revenue generated by sorting, the best option would be to sell this as mixed glass. Selecting mixed or sorted recyclables depends on quantity, mixture, type of material, market values, and cost of sorting. The best method maximizes net proceeds.

5.4.3 Recyclables by Subcategory and Grade.

Some recyclables seem to have an unlimited number of subcategories, and each of the subcategories may have a separate grade that will affect the price received. The more information about a specific material the more likely profits will be maximized.

Paper is probably the best illustration of a recyclable having numerous subcategories. (See figure 5-3.) These include the basic groups of old newspapers (ONP), old corrugated cardboard (OCC), office paper, and heavier stock papers such as craft paper or manila tab cards. Within each basic group are subcategories that may, in turn, have different grades. The lower the class of paper, the lower the price ultimately paid.
Ultimately, the sorting method at pre-pickup and at drop-off areas is an important element that can greatly affect costs associated with the QRP and should be given careful consideration.

5.5 Sell Or Turn In Recyclables.

Recyclables materials can be sold either through the DRMO or through direct sales. The procedures to be used depend on the amount of proceeds anticipated from the sale and whether the installation has the staff, knowledge, and capability necessary for conducting the sales. For a brief overview of direct sales and sales through the DRMO, see chapter 7.

5.6 Contracting and Partnering.

If the installation chooses to operate the QRP through a partnering agreement or contract with a non-installation entity, the QRP would still the receive proceeds. Such contracts should be implemented using the APF or NAF contracting system.

5.7 Depositing Money Into The QRP Account.

Money from the proceeds of sales comes to the QRP from two main sources: DRMS following sales of turned-in material or from QRP direct sales to a buyer.

Typically, DRMS and DRMO processes proceed through the DFAS for deposit to the QRP account. They may also send the installation QRP a check. If a check is received from DRMS/DRMO, it must be submitted with a Funds Transfer Document to the finance office for deposit into the QRP account.

If a recycled materials buyer, through direct sales, pays with a check, it must be payable to the installation finance office. Checks must not be made payable to the QRP or to a NAF account. Again, the check with a Funds Transfer Document is submitted to the finance office for deposit into the QRP account.
5.8 Paying QRP Bills.

Ensure that QRP bills are paid from the QRP account using the local finance office and accounting procedures. Refer to chapter 6, QRP Finances; especially paragraph 6.6, “Who Pays for What?” If the proceeds from the QRP are insufficient to cover the costs of operations, the installation Operation and Maintenance (O&M) pays for the difference in cost.

5.9 Review And Renew The Recycling Plan.

Since the QRP operations will change along with variations in quantity of recyclables, price and marketability, or participation, reviewing the recycling plan on a regular basis is important. The decision to implement a QRP was based on that plan. Keeping good records will help when reviewing and renewing this document as the need arises. Integrate QRP decisions into the recycling plan to enhance the program.

5.10 Internal Controls.

Use the management control checklist and Environmental Program Assessment System (EPAS) described in paragraph 8.10 to provide reasonable assurance that the program meets its goals and properly accounts for government resources. Installation commanders and QRP managers should be alert to the possibility of fraud, corruption, and violation of environmental regulations. When there are suspicious situations, such as repeated complaints or discrepancies that cannot be reconciled, call audit, internal review, or criminal investigative personnel for assistance.
CHAPTER 6 QRP FINANCES

6.1 Start Up Funds.

“Seed” money for a QRP may come from the installation “M” account (Base Operations System (BASOPS) Engineering Support) funds, or a central fund under the direct control of the installation/garrison commander. According to recent OSD implementing guidance for 10 U.S.C. 2577 start up costs for new or renovated facilities, and improvements that are not directly related to QRP recycling, cannot be reimbursed from the QRP suspense account.

6.2 Paying To Promote The Recycling Program.

The QRP is responsible for paying the cost of advertising the program. The QRP may purchase T-shirts, baseball hats, and similar promotional items to help advertise the recycling program. The installation may elect to assist the QRP by donating base operating funds to offset some of the QRP advertising costs. The QRP advertising program may also be able to use the installation’s newspaper, television, the plan of the day, and other similar advertising means at no cost to the QRP. The QRP can also generate recycling awareness through certain MWR events such as fun runs, golf, softball, or tennis tournaments by donating T-shirts, baseball hats, and other items as prizes. The QRP committee decides how to allocate funds for advertising.

6.3 Paying For Collection And Transporting Of Recyclable Materials.

The installation, as part of its support mission, is responsible for refuse collection and disposal. Refuse collection, transportation, and disposal on or off the installation will be funded by installation O&M (BASOPS) funds. The installation is also fiscally responsible for segregated and non-segregated recyclable materials collected from the installation’s non-privatized housing areas. The installation receives O&M funds to collect refuse and scrap, regardless of whether its destination is the landfill or recycling center. However, if the cost of transportation to the recycling facility exceeds the cost of solid waste disposal, then QRP proceeds shall reimburse the difference to the O&M account.

6.4 Purchasing Recycling Equipment.

QRP proceeds shall be used for the purchase or lease and the maintenance and repair of recycling equipment used exclusively by the QRP (e.g., balers and forklifts). Acquisition of new or replacement equipment related only to QRP recycling of solid and other waste, and the construction of holding bins, sorting platforms or other recycling facility improvements, must be reimbursed from QRP proceeds. If sufficient QRP proceeds are not available within the same fiscal year to reimburse operational accounts to cover program costs, reimbursement cannot be made from the following year proceeds.
DRMS is another source of equipment. DRMS collects used equipment from military installations for redistribution and reuse. The cost of the equipment is not reimbursable by the QRP. Call DRMS at (616) 961-4245 or visit its Web site at https://www.drms.dla.mil/rtd03/index.shtml for information on available equipment.

6.5 Paying For Labor.

There are a number of ways to obtain labor for recycling operations. Potential personnel sources include military, civilian, and contracted manpower; federal, state, county, and military prisoners; physically and mentally challenged workers; and volunteers.

The QRP manager, whose costs must be fully paid by the QRP, has to weigh various factors when deciding which labor force to use:

a. Active duty military members working for the QRP do not have to be reimbursed for their labor, which reduces QRP operational costs.

b. APF and NAF civilian employees can both work for the QRP recycling program if the QRP is operated by Directorate of Morale, Welfare, And Recreation (DMWR), but their cost must be paid in full by the QRP.

c. The QRP can contract for civilian labor.

d. The cost of physically and mentally challenged workers and prison labor must be borne by the QRP. While prison labor is inexpensive, it may not always be available and may require security escorts.

e. Volunteers, while enthusiastic, are not always available, and may incur unwanted liabilities.

6.6 Who Pays For What?

Table 6-1 illustrates the financial responsibilities for the installation O&M accounts and for the QRP account. If the proceeds from the QRP are insufficient to cover the costs of operations, the installation O&M pays for the difference in costs.
Table 6-1. Who Pays for What?

<table>
<thead>
<tr>
<th>a. Installation Pays For:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Collection, transportation, and disposal of solid waste (disposal on or off the installation).</td>
</tr>
<tr>
<td>(2) Collecting recyclable materials from installation and housing areas and delivering to a central location (installation recycling facility or an off installation recycling facility).</td>
</tr>
<tr>
<td>(3) Compost operation on the installation.</td>
</tr>
<tr>
<td>(4) Landscaping. If landscaping is by contract, contractor takes waste to a composting facility on or off the installation.</td>
</tr>
<tr>
<td>(5) Janitorial contract that includes collecting recyclable items and depositing it to a central location.</td>
</tr>
<tr>
<td>(6) Cost of recycling that takes place outside the QRP.</td>
</tr>
<tr>
<td>(7) Cost of recycling construction and demolition debris.</td>
</tr>
<tr>
<td>(8) Collection containers (bins, totes, dumpsters, etc.) for municipal waste and recyclables.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>b. QRP Pays For³:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Applicable QRP facility, utility, and maintenance costs (determined locally). Also, leased transportation and maintenance equipment costs directly related to the QRP.</td>
</tr>
<tr>
<td>(2) Costs of performing direct sales.</td>
</tr>
<tr>
<td>(3) Personnel performing QRP tasks and managers’ salaries allocated to the QRP.</td>
</tr>
<tr>
<td>(4) Equipment purchased by QRP and used exclusively by the QRP⁴ (examples are balers and forklifts).</td>
</tr>
<tr>
<td>(5) Applied overhead costs.</td>
</tr>
<tr>
<td>(6) Education and awareness campaign.</td>
</tr>
<tr>
<td>(7) Awards and incentives.</td>
</tr>
</tbody>
</table>

¹APF shall be used to pay for the cost of pickup and delivery of recyclable items to the QRP. If costs to bring it to the QRP are higher than solid waste disposal costs, the QRP pays the difference.

²Recycling of C&D debris is required to meet the DoD MOM and Army policy. Recycling of C&D debris may be done in many innovative ways, such as: using recycling to offset the cost of the demolition contract, recycling through the QRP, and donation to the local community through DRMO.

³Costs the QRP pays for, or reimburses to the extent possible.

⁴QRP managers, before deciding to directly purchase equipment, should check Component programs, like Pollution Prevention or DRMO.

6.7 Allocating Proceeds After Expenses Have Been Paid.

6.7.1 Profit or Loss?

In accordance with 10 USC 2577, the proceeds collected by a QRP must first cover program costs. If any funds remain, they can be allocated for certain authorized projects and activities. The general equation for calculating profit or loss is:
6.7.2 Who Decides?
The QOC recommends to the GC how to allocate net profits. The GC is the final decision maker. The RMO shall ensure that projects considered for local funding with recycling proceeds are not already included in a normal military construction program.

6.7.3 Cost Avoidance.
Cost avoidance is the cost of off-site waste handling, hauling, and disposal that would have been incurred by the generating activity or installation in the absence of waste prevention and/or recycling. Cost avoidance shall be estimated by determining the weight or volume of the material diverted from the waste stream and calculating the labor, prorated hauling costs, maintenance costs, landfill tipping fee, and any other disposal charges that would have been incurred in the absence of waste prevention/recycling. QRPs shall not be reimbursed for cost avoidance, but cost avoidance shall be incorporated in calculations to determine the cost-effectiveness of QRPs.

Nevertheless, materials, which bring in less than the cost of collecting, sorting, and selling are usually less costly to recycle than to dispose of in landfills or incinerators. Since it makes good economic and environmental sense to recycle, installations are required by the MOM goal to recycle when it is less than or equal to the cost to landfill or incinerate.
CHAPTER 7 SELLING RECYCLABLES

7.1 Introduction.

A QRP may sell recyclable materials through a DRMO or, if the QRP is authorized to do so, the recyclables may be sold through direct sales. This chapter is divided into the following three paragraphs—

a. Paragraph 7.1 provides a general description of sales through the DRMO.
b. Paragraph 7.2 provides a general description of direct sales.
c. Paragraph 7.3 addresses the special case of the recycling of expended brass and range residue, and provides:
   (1) A general description of requirements for sale of expended brass and range residue.
   (2) A description of requirements specific to sales through a DRMO.
   (3) A description of requirements specific to direct sales.

7.2 DRMO Sales.

The recyclable material can be transported to the nearest DRMO yard for sale or it can be kept at the generating installation and brokered remotely through the DRMO; in either case, check with the DRMO chief for additional instructions. For recycling of expended brass and range residue, see paragraph 7.4.

7.2.1 Selling Recyclable Materials at the DRMO Yard.

Before transporting materials, contact the DRMO for additional specific instructions on filling out the proper forms and sorting the materials.

7.2.1.1 DD Form 1348-1A.

Prepare a DD Form 1348-1A (DTID) for each item or homogeneous lot of scrap (mixed scrap, especially plastics, may not sell) to record the recycled material turned into DRMO for proper credit to the QRP suspense account. Enter the correct account and station code, identify the appropriate program, and list material code, weight, and date of turn-in. Items turned into the DRMO by a QRP must have the appropriate account code to ensure payment is made to the installation budget clearing account. Failing to provide accurate information will result in profits being deposited to the general account of the Treasury, not to the installation. For more information, refer to DoD 4160.21-M, chapter 4, and paragraph B-8. Also, see chapter 8, Recordkeeping.

A minimum of four legible copies of the DTID must be provided to the DRMO along with the property for sale. One copy will be returned within five working days as a valid receipt document.

Provide five copies of the DTID, if an interim “proof of delivery” is desired, but this copy cannot be used to adjust accounting records. Note that the QRP pays for transporting materials to DRMO.
Installations may want to combine their recyclable materials with materials from another generating activity to increase marketability (for additional information see paragraph 5.6). It is important to note that, in order to be credited directly by DRMO for recycling proceeds, the DTID must contain the reimbursable fund account number that is specific to each activity. If several generators have a centralized collection process and will be reimbursed separately, a DTID must be submitted for each generator specifying the amount of material originating from each. DRMO will then determine equitable distribution of sales proceeds.

7.2.1.2 DRMO Disposal Hierarchy And Obligations.

In accordance with DoD 4160.21-M, DRMO is obligated by the U.S. Government to attempt to get the best value possible for each item received as surplus or scrap property.

After accepting custody of recyclable materials, DRMO will first try to sell them. If sold, DRMO will deposit the proceeds into the suspense account or accounts listed on the DTID.

If the item is unable to be sold, DRMO will donate it to a recycler and no sales proceeds will be deposited in the QRP suspense account; however, the installation does get credit for recycling to meet the DoD MOM diversion goal.

If the item cannot be recycled, it is discarded as solid waste.

The specific DRMO disposal hierarchy, from most desirable to least, is as follows: (1) reuse within DoD agencies, (2) transfer to other Federal agencies, (3) donate to state and local agencies, (4) sell directly to the public, (5) recycle or donate for free in lieu of disposal, and (6) dispose.

For QRP managers that have suggestions or questions regarding DRMO procedures, points of contact are available through DRMS at http://www.drms.dla.mil/drmo/drmo-locations.shtml.

7.2.2 Storing Materials at the Installation and Brokering through DRMO.

An alternative to transporting materials to the DRMO yard is to broker them through DRMO and have the recycling vendor pick them up at the generating activity. Items such as cardboard, paper, wood pallets, and metal scrap can be accumulated in designated areas and picked up on a regular basis by the vendor.

The vendor will report the quantity of materials collected to DRMO, and DRMO will reimburse the QRP accordingly. Generating activities with their own weigh scales can better ensure more accurate materials reporting by the vendor than those without. See paragraph 7.3.1 for application of Federal or state speculative accumulation rules.
7.2.3 Collecting Money from DRMO.

DRMS processes proceeds through DFAS for deposit to the QRP suspense account. It sometimes may take up to 120 days from the time items are turned into DRMO until receipt of payment. Average time is 60-90 days. Although DRMS is authorized to deduct the processing costs from the sales proceeds, at this time 100% of sales proceeds are being returned to the QRPs.

Using the following steps, the DRMS web page can provide transaction information in order to determine when the QRP’s suspense account has been credited for sales made through the DRMO/DRMS.

b. Choose “Military/Government Scrap Property Turn Ins”.
c. From the dropdown menu, select “Qualified Recycling Program Reimbursements”.
d. Select “Checking Reimbursement Status” at the top of the page.
e. Select “Reimbursement by DODAAC”.
f. Select “OK” on the user agreement screen.
g. Enter the unit/installation DODAAC in the place indicated, enter the year, and select “Go”.

In addition to tracking payments on the web site, copies of all Form 1080s can be requested from the DRMO after payment vouchers are processed by DRMS. These can be helpful in tracking when payments can be expected and providing details such as: commodity and number of pounds sold, price per pound, month sold, total dollar amount, and fund cite paid.

7.3 Direct Sales.

Instead of selling the recyclable material through DRMO, installations with direct sales authority can sell their material directly to the vendor. Before conducting direct sales, the installation must first receive permission from its ACOM, ASCC, or DRU (see paragraph 4.3.5).

All direct sales must be conducted using procedures found in Federal Management Regulations, Part 102-38 – Sale of Property; DoD Financial Management Regulation (FMR) 7000.14-R, Vol. 11A; and DoD 4160.21-M.

For recycling of expended brass and range residue, see paragraph 7.4.
7.3.1 The Speculative Accumulation Rule.

It is important to be aware of speculative accumulation regulatory requirements as part of balancing the length of time material is stored on site against the best market opportunities. State speculative accumulation regulatory requirements can be more stringent than federal requirements and they vary both from state to state and from material to material.

7.3.1.1 The Federal Rule.

The federal definition of speculative accumulation is found at 40 CFR 261.1(c) (8): “A material is accumulated speculatively if it is accumulated before being recycled. A material is not accumulated speculatively, however, if the person accumulating it can show that the material is potentially recyclable and has a feasible means of being recycled; and that during the calendar year commencing on January 1 the amount of material that is recycled, or transferred to a different site for recycling, equals at least 75% by weight or volume of the amount of that material accumulated at the beginning of the period.” The US EPA has published a helpful guide, Definition of Solid Waste Compendium – Volume G: Speculative Accumulation that can be found at http://www.epa.gov/osw/hazard/dsw/compendium/g-spec-v1.pdf.

7.3.1.2 State Rules.

Most states are authorized to manage their own solid and hazardous waste generator regulatory program. Therefore, states may have their own set of regulations that apply in lieu of federal regulations. While most state solid and hazardous waste regulations are based on the federal requirements, some states have developed regulations that are more stringent than the federal program. See paragraph 1.3.6 to determine which state regulatory programs are different from the federal program.

7.3.2 Categories of Direct Sales.

Direct sales are divided into two categories: competitive sales and negotiated sales.

7.3.2.1 Competitive Sales.

Competitive sales must be conducted using procedures described in 40 U.S.C. 484; 41 CFR Parts 101-45 and 101-46; DoD 7000.14-R, Vol 11A; DoD 4160.21-M; and FMR, Part 102-38. To ensure that all sales of recyclable materials by the QRP are fully open and freely competitive, sales procedures must adhere to certain norms in public advertising, bidding, and award. QRPs should review their detailed procedures with installation directors of contracting for compliance with the requirements of FMR, Part 102-38 and 40 U.S.C. 484 prior to conducting any sales.

7.3.2.1.1 Authorized Sales Methods for QRPs.

a. Sealed Bid: Used for one-time, advertised competitive type sales for property already generated; and for term, advertised competitive sales for property
generated over a period of time in quantities that can be reasonably estimated. For a sample term-sales contract, see paragraph B-7.

b. Spot Bid: Used for one-time, advertised competitive type sales for property already generated. For a sample spot-sales contract, see paragraph B-6.

c. Auction: Used for one-time, advertised competitive type sales for property already generated. An auction is a sale where the bid amounts of different bidders are disclosed as they are submitted, providing bidders the option to increase their bids if they choose. Bids are submitted electronically and/or by those physically present at the sale. Normally, the bidder with the highest bid at the close of each bidding process is awarded the property. Internet auctions are becoming the predominant means for disposing of government excess property. DRMS and GSA have their own Internet Web site for online auctions of materials reported as excess within DoD or the other federal agencies. Commercial auction sites also are being used by governmental agencies at the federal, state, and local levels to dispose of excess property; BID4ASSETS and e-Bay® are two commercial examples.

7.3.2.1.2 Public Advertising.

All direct sales of recyclable materials shall only be made after publicly advertising in FedBizOps (FBO) for a minimum of seven (7) days prior to acceptance of bid and contract award. Materials shall be offered for sale under terms and conditions that permit full and open competition, and shall be described as completely and accurately as possible. Property shall be put into lots and displayed in a manner that will enhance sales value. Use of a secure Internet Web site for publishing the government offering, including photographs, is recommended.

7.3.2.1.3 Bidding.

All bids will be submitted in such a manner that the time and date of the bid and the bidder’s identity are documented. The following are considered acceptable alternatives to submittal directly to the Web site hosting the solicitation: a) certified US mail; b) traceable courier service, e.g., FedEx, UPS; c) Facsimile; d) Telex; and e) Internet electronic mail. Except for Term Sealed Bid sales, the requirement for a bid deposit is at the discretion of the Sales Contracting Officer. When a bid deposit is required, the normal amount is 20% of the bid price for the average estimated quantity to be generated over a 3-month period. Bid deposits shall only be in the form of a credit card, company check accompanied by a bank guarantee, bid bond or letter of credit, or a guaranteed negotiable instrument (cashier’s check, certified check, travelers check, and money orders). Bid deposits will be deposited into account X6501, “Small Escrow Amounts.” Upon award of the disposal contract, the successful bidder’s deposit will be transferred to the Recycling Budget Clearing Account **F3875 and the remaining bid deposits returned to the unsuccessful bidders.
7.3.2.1.4 Award.

All bids shall be publicly disclosed at the time and in the manner stated in the advertisement.

7.3.2.2 Negotiated Sales.

A negotiated sale is a sale where the selling price is arrived at between the seller and buyer, subject to obtaining such competition as is feasible under the circumstances. Sales of excess personal property (recyclable materials) may be negotiated when any of the following apply:

a. The property has an estimated fair market value less than $15,000.

b. Bid prices after advertising are not reasonable and re-advertising would serve no useful purpose.

c. Public exigency does not permit any delay such as that caused by the time required to advertise a sale.

d. The sale promotes public health, safety, or national security.

e. The sale is in the public interest under a national emergency declared by the President or the Congress.

f. Selling the property competitively would have an adverse impact on the national economy, provided that the estimated fair market value of the property and other satisfactory terms of disposal can be obtained by negotiations.

  g. Otherwise authorized by Title 40 of the U.S. Code or other law.

All negotiated sales of personal property must be approved by the Office of the Secretary of the Army.

All negotiated sales of personal property with an estimated fair market value above $5,000 will be reported annually to GSA, Personal Property Management Policy Division (MTP), 1800 F Street, NW, Washington, DC 20405, within 60 days of the end of the fiscal year. The annual report will list and describe each sale separately.

Each negotiated sale of personal property with an estimated fair market value in excess of $15,000 will be reported in advance of the sale with explanatory statements to the oversight committees for the General Services Administration in the Senate and the House, in accordance with 40 U.S.C. 545.

For more information on direct sales procedures, refer to paragraph 7.2. See also chapter 8, Recordkeeping.
7.3.3 Release of Materials.

Purchasers are required to pay, before delivery of any property, the full purchase price based upon the quantity or weight as described in the sales offering, except for term sales. Payment on term sales contracts shall be due upon issuance by the Sales Contracting Officer of a Statement of Account after release of property. QRP representative shall inspect all sales property prior to loading onto purchaser’s conveyance or, if delivery is included in the terms of the sales, prior to off-loading, in order to prevent error, fraud, or theft.

7.3.4 Direct Sales Strategies.

Program managers should never rely on a single buyer for a given material, even after adhering to the constraints of advertisement, competition, and involvement of a warranted contracting officer. If one market stops buying, the manager should be able to smoothly switch to an alternate buyer, thereby ensuring a continuous outflow of processed recyclables. Program managers should avoid interrupting recycling services as this causes community participants to lose interest, get out of the recycling habit, and become disillusioned. Refer to the recent PWTB 420-49-18 on direct sales for more detail.

Recyclable materials are marketed in one of five general methods:

a. Contracts with brokers or dealers
b. Contracts with end users
c. Open Market Trading—sell to highest bidder
d. Marketing cooperative
e. Issue a request for proposals.

7.3.4.1 Brokers.

Dealers and brokers act as “middlemen” between the recycling program and the end user. Sometimes they perform some processing and combine commodities from several sources. Brokers will have many more end user outlets than a recycling program. However, the broker can also combine loads from separate sources to make volume shipments to the end user. This service comes at a price, of course. Brokers’ services will be most useful to installations that are small, geographically remote from end users, have a wide variety of materials, or have fluctuating generation rates. Sometimes the best markets for a given material will be overseas. In this case, a broker must be involved to handle the complex trade documents and sales terms.
7.3.4.2 Direct Contracts.

Contracts directly with end users (e.g., paper mills) are usually made with the company’s buyer. The most obvious advantage of this method is saving brokers fees. End users may have more strict quality requirements, which mean more emphasis on sorting and processing for the recycling center. Long-term end user contracts (Not to exceed 5 years in accordance with the FAR.) are best used for high volume, homogenous commodities, such as cardboard (i.e., OCC). The wide variation in other items (e.g., scrap metals) would make it difficult, if not impossible to write a long term contract such that it would be advantageous to the government.

7.3.4.3 Open Markets.

Open market (or spot market) trading means carefully watching the market price fluctuations and selling individual lots of materials to the highest bidders. Spot market trading may maximize revenue in the short run. However, it leads to more paperwork, uncertainty, and possible disruption of services. Spot market trading is most applicable for variable recyclable material streams, especially scrap metals, as these typically fetch much higher returns than the regular consumer recyclables.

7.3.4.4 Cooperatives.

Marketing cooperatives allow multiple, small recyclable generators to combine their output before marketing to an end users or broker. The costs of handling and transportation are shared among several small recycling programs.

Also, by combining loads, the cooperative will have more “market power” and command better returns for all its members. For additional information, see paragraph 5.6.

7.3.4.5 Request for Proposals.

Releasing a request for proposals (RFP) is one contracting method used for the direct sale of recyclables. The RFP process protects the vendor’s prices from public disclosure; allows negotiation on price, terms, and conditions; and allows withdrawal of specific lots of material. For these reasons, the RFP process is more flexible than the invitation for bid process. The RFP allows quick response, which helps react to market conditions and space management (storage) considerations. The simple format of the RFP solicitation allows the manager to issue the RFP in a matter of minutes. RFPs are posted electronically on the Federal Business Opportunities web site: https://www.fbo.gov/.
7.3.5 General Strategies.

Long-term contracts are generally preferable to “spot markets” where the seller picks and chooses buyers for short-term quantities based solely on price. In the long term, prices will fluctuate over the life of the contract. The price at a given time can be related to published values that can be found in recycling trade media and on the Internet. The buyer may agree to set a minimum “price floor” to guarantee a certain amount of revenue, even in times of poor markets. However, the contract should not be let solely on the basis of the floor prices. If ample storage space is available and the speculative accumulation rules (see paragraph 7.3.1) do not apply, then the QRP can afford to ride-out market volatility associated with spot markets to earn, on average, a higher return. If ample storage space is not available or if speculative accumulation rules do apply, then stability is more important than price. Other considerations may be more important in the long run, such as company history and reliability, or flexibility in quality and processing.

If a contractor performs recycling collection and processing services, the government can still perform the marketing. As there is always some financial risk with fluctuating markets, the contractor will account for that risk with higher fees, or keep more of the revenues, etc. The installation should come out ahead, in the long run, by performing its own marketing.

Recycling managers should become familiar with potential buyers (i.e., tour facilities where possible, learn their supply needs, throughout capacity, quality requirements, and material handling capability). This knowledge will help tune the recycling processing to buyer requirements.

A goal of any recycling program should be to produce processed materials of high, consistent quality. This will foster trust and possibly higher bids from buyers. If the collection and processing of recyclables is contracted on the installation, quality control incentives can be built into the contract language. For example, the contractor would only be paid for the amount of materials accepted by the buyer.

7.3.6 Closed-Loop Recycling.

7.3.6.1 Description.

The QRP does not perform any manufacturing or re-manufacturing from recycled materials, but plays a role in ensuring that potential opportunities are pursued to fruition. Closed-loop recycling has a different meaning under RCRA, but for an installation QRP, closed-loop recycling is a complete recycling program in which products manufactured from the installation’s recyclables are bought back. Closed-loop recycling also assists installations in meeting green procurement requirements by purchasing recycled content products.
7.3.6.2 Advantages.

Advantages of adopting closed-loop recycling include:

a. Obtaining another market for the recyclables,
b. Cheaper source of recycled-content products,
c. Guaranteed access to recycled-content products,
d. Guaranteed market for recyclables, and
e. Increased participation from installation personnel because closed-loop recycling shows a direct and visible return for their efforts.

7.3.6.3 Examples.

An example of a closed-loop recycling program is a “bottles to bags” program. This program involves contracting with a company who will buy all the recyclable plastic bottles from the installation QRP and then sell back to the installation plastic bags made from those plastic bottles. Other general examples are provided in figure 7-1, below, and a specific example follows the figure. In figure 7-1, the QRP would not refurbish pallets, but would determine the market, identify potential buyers/contractors, sort recyclable/refurbish-able pallets, and either transport or ready for transport to another Army activity, or the selected private entity which would do the refurbishing of the pallets.
The New and Emerging Military Market Opportunities (NEMMO) program uses a multi-stakeholder process that will allow installations to partner with local businesses in order to create “closed materials loops” for products used by military installations. It is intended to build local economies and reduce waste disposal costs for the military.

a. Each year, military installations purchase millions of dollars worth of commodities, and each year thousands of tons of waste, including items that have exceeded their useful service-lives are disposed of in landfills. Through NEMMO, many of the items currently disposed of by the military could have new and/or alternative uses.

b. A mattress refurbishing program at Fort Bragg, NC is a NEMMO success story:
   (1) In the past, Fort Bragg disposed of mattresses that were at the end of their useful service-lives by dumping them in landfills.
   (2) Currently, Fort Bragg’s old mattresses are provided to a local company that refurbishes them, and Fort Bragg purchases the company’s refurbished mattresses to satisfy its resupply needs.
   (3) As a result of this program, the partner company is provided income from a reliable market, net costs are reduced for Fort Bragg, and the amount of waste in local landfills has been reduced. During 2006, this program saved

![Figure 7-1. Examples of Closed-Loop Recycling](image-url)
Fort Bragg $87,000 and prevented 1,450 mattresses from being thrown into landfills.

7.4 Selling Expended Brass And Mixed Metals Gleaned From Range Clearance.

7.4.1 General.

Only firing range “expended brass” (.50 cal (12.7mm) or smaller) and “mixed metals gleaned from firing-range clearance” that have been certified as safe may be recycled as scrap metal.

a. “Expended brass” is defined as empty (i.e., without functional primers and without propellant, or projectiles) brass or aluminum small arms (i.e., .50 cal (12.7mm) or smaller) cartridge cases.

b. “Mixed metals gleaned from firing range clearance” is defined by DoDI 4715.4 and the Deputy Under Secretary of Defense for Environmental Security (DUSD(ES)) Memorandum of 15 May 1998 as ferrous and non-ferrous metal scrap (e.g., shell/bomb fragments, target metal, range-related debris, or any metal that is fired or is a target on a range) that:

   1. Is collected during firing range cleanup.
   2. Does not include material considered MLI or CCLI.
   3. Is in a form that is unrecognizable.
   4. Has no residual utility or capability.
   5. Does not require further demilitarization.
   6. Has no use except for recovery of its basic material content.

These items may not be sold for ammunition reloading through a QRP.

All other scrap metals from MPPEH, even if certified safe, must be sold through the DRMS.

There is a trade security requirement to deform small arms brass prior to sale. This is accomplished by many installations using a stand-alone defomer or grinding mill.

DoDI 4140.62 identifies policy and assigns responsibilities for the management and disposition of DoD MPPEH. Some of these policies apply to QRPs that recycle firing range brass and mixed metals gleaned from range clean-up. DoD implementation guidance for DoDI 4140.62 will aid in the recycling and resale of the authorized materials from firing ranges in a safe manner and will address:

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4 SPECIAL NOTE: These procedures may be affected by Sec. 8019, PL 111-118, National Defense Appropriation Act for FY2010. Until an official announcement is published, installations are advised to consult their Staff Judge Advocate Office or legal advisor.
a. Training requirements in the identification and safe handling of used munitions. For information on MPPEH training courses, see appendix G.
b. Knowledge and experience levels for personnel.
c. Documented explosives risk evaluation for activities with non-munitions-related mission.
d. Handling procedures and chain of custody accountability until final disposition,
e. Incident reporting procedures in the event of an unintended explosive hazard or accident.

DLA has issued policy that strengthens the procedures the DoD Components must follow when preparing firing range scrap for sale to scrap dealers. This policy primarily makes changes to the disposal of range residue.

a. The generating activity—the entity that owns the training range—must ensure that the firing range scrap is properly inspected to determine that it is inert (i.e., certified and verified to be free of explosive or other dangerous material hazards) prior to turn-in to either a QRP that is authorized direct sale or the DRMO for release from DoD control.

b. Proper inspection for certification and validation that range scrap is inert requires:

(1) Inspection by two MPPEH or two other technically qualified personnel as designated by the generating activity. Contractors certifying range residue must possess qualifications equal to those of technically qualified DoD personnel.

(2) The signature of a certifier and the signature of a separate verifier.

a) The first signer (i.e., the certifier) may be either a technically qualified service member or DoD civilian employee or may be a technically qualified contractor.

b) The second signer (i.e., the verifier) must be a U.S. citizen and be a technically qualified service member or DoD civilian employee.

c) The personnel certifying and verifying the inspection shall certify on the DTID, as follows:

“We certify and verify that the range residue listed has been 100% properly inspected by us and, to the best of our knowledge and belief, is inert and/or free of explosives or other dangerous materials.”
(3) Certification and verification signatures must be placed on the DTID directly above the typed, clearly stamped, or legibly printed full name, rank/rate, complete organization name and address, and phone number (commercial and DSN) of the personnel that certified and verified that the range scrap was properly inspected in accordance with DLA policy.

c) Each generating activity shall ensure that its QRP (if authorized to make direct sales) or its servicing DRMO has a current list of the names and has samples of the signatures of the personnel who are qualified and authorized to inspect, certify, and verify range residue.

d) The contract for the sale of the range brass and mixed metals must contain the following clause:

“DANGEROUS PROPERTY: Purchasers are cautioned that articles or substances of a dangerous nature may remain in the property regardless of the care exercised to remove same. The government assumes no liability for damages to property of the Purchaser or for personal injury, disability, or death of the Purchaser, its employees, or to any other person arising from or affiliated with the purchase, use or dispositions of this material. The purchaser shall hold the government harmless from any and all such demands, suit, actions, or claims arising from or otherwise relating to the purchase of this material.”

7.4.2 Selling Expended Brass and Mixed Metals Gleaned from Range Clearance through DRMO.

The following are specific requirements for sale of range residue through DRMO. For additional general requirements concerning sale of range residue, see paragraph 7.3.1.

DRMO will accept custody of the range scrap only if it is certified as safe and is properly segregated.

DLA requires the use of MOAs, (see appendix B) between DRMS and the range commander to delineate the DRMO and generating activity's responsibilities for the disposal processing of range residue materials. MOAs will serve as a check-and-
balance system for DRMOs and generating activities to ensure each party knows its responsibilities.

a. The generating activity has responsibility for a number of actions, such as segregating and safeguarding range residue, listing ordnance used on a range, inspecting and certifying the material as safe or inert, and ensuring that material has been demilitarized and contains no radioactive residue.

b. DRMO is responsible for:

(1) Complying with sales procedures, including the strict requirements imposed under the Arms Export Control Act, and the International Traffic in Arms Regulation (ITAR) applicable to the recycling of expended firing-range brass or aluminum outside CONUS (OCONUS).

(2) Providing technical assistance in identifying property needing demilitarization.

(3) Reviewing the adequacy of demilitarization actions.

Scrap dealers must receive a thorough briefing by the military, which will include surveying the buyers, and telling them the types of munitions that were cleared from a range, in addition to proper handling procedures.

7.4.3 Selling Expended Brass and Mixed Metals Gleaned from Range Clearance through Direct Sales.

7.4.3.1 Exclusion.

a. Agencies that engage in dismantling munitions as a business are strictly prohibited from selling expended brass through a QRP.

b. Overseas (OCONUS) QRPs must recycle expended firing-range brass through DRMO. There are strict requirements under the Arms Export Control Act and the International Traffic in Arms Regulation applicable to the recycling of expended firing range brass or aluminum OCONUS. The material must be demilitarized or made unusable for its intended purpose before turn in to DRMO and must be accompanied by a properly certified demilitarization certificate (DODI 4140.62). The DRMO will sell the material and apply all sales and end-use controls. Proceeds are returned to the OCONUS QRP in accordance with current DLA reimbursement policy.
7.4.3.2 QRP Requirements.

The following are specific requirements for sale of range residue by a QRP authorized direct sale. For additional general requirements concerning sale of range residue, see paragraph 7.3.1.

a. The QRP assumes responsibilities for applying sales and end-user requirements and restrictions that would otherwise be overseen by the DRMO. These include compliance with strict requirements imposed under the Arms Export Control Act and the International Traffic in Arms Regulation applicable to the recycling of expended firing-range brass or aluminum OCONUS.

b. QRP personnel accepting the expended firing-range brass and mixed metals shall be appropriately trained to accept, store, and sell firing range brass and mixed metals. At a minimum, QRP personnel shall be trained to accomplish the following tasks:

   (1) Determine which type of MPPEH cannot be disposed of through a QRP;

   (2) Check both the name and signature on all turn in documents against the current list of personnel authorized to certify firing-range brass and mixed metals as safe;

   (3) Visually inspect firing-range brass and mixed metals certified as safe to recognize potential explosive safety hazards; and

   (4) Report any turned-in firing-range brass and mixed metals found not to be safe.

c. After the QRP accepts the expended brass and mixed metals, the brass and mixed metals shall be segregated from other mixed metals during storage. The QRP must then crush, shred, or otherwise destroy the expended brass prior to public sale. This is often done via a brass deformer.
CHAPTER 8 RECORDKEEPING

8.1 Why Keep Records?

The complexity of managing and operating a QRP successfully and ensuring that it complies with all laws and DoD and Army policies are the reasons for the focus and theme of this Handbook—operating a recycling program as a business. Businesses must be able to justify why they were created and must be open for external audit. A QRP acts like a business and is required to keep accurate records to ensure all costs are covered before any money is used for either safety or environmental projects, or shared with MWR. Not covering costs prior to distribution of proceeds is a violation of public law.

In the past, installations across DoD have failed to operate their recycling programs in strict accordance with the law and DoD policies. Evidence of these failures is found in reviews performed by the General Accounting Office, the DoD Inspector General, the Department of the Army Inspector General, and the U.S. Army Audit Agency. For the Army to retain the privilege provided in 10 U.S.C. 2577 regarding the retention of sales proceeds from recyclable materials, commanders and QRP managers must operate QRPs in strict accordance with the law, and under the directions of this Handbook. In addition to meeting these requirements, maintaining good recordkeeping practices provides a tool for market analysis and helps QRP managers select the most appropriate way to operate their specific recycling program.

8.2 Records for Organizing Qualified Recycling Programs.

The following are specific types of records to consider when running a QRP:

a. Installation recycling policy;

b. Recycling Center SOP;

c. Recycling business plan to include a description of the operation, feasibility study (see appendix C), cost-benefit study, market analysis, waste characterization, and decision matrix, consideration of outsourcing for QRP functions. If outsourcing is elected, contractors shall keep adequate records and provide summaries to the QRP manager;

d. List of QRP facility or building representatives;

e. Prior audit or internal review reports;

f. Management control reviews;

g. Controls to prevent the sale of excluded items listed in DoDI 4715.4;

h. Minutes from QRP committee;

i. Direct sales approval documentation (documentation of decisions supporting adoption of direct sales by the installation);
j. Decision documents on use of proceeds (documentation of decisions supporting the use of proceeds by the installation QRP committee or installation/garrison commander);
k. List of buyers;
l. Maintenance records; and
m. Training and certification records.

8.3 DRMO Sales Documents To Retain.

Although DRMO maintains its own tracking system, the QRP manager should also track the delivery and sales of installation recyclables. This information can be used to ensure proper payment is received and is correct, and to analyze the time between turn in and payment for the recyclables. Keep records of DRMO sales. SWARWeb can be used as a tool for this purpose.

a. DD Form 1348-1A, DTID. This form is used to record recyclables turned in to the DRMO. It should contain the correct account and station codes, identify the appropriate program, and list material code, weight, and date of turn in. See example in appendix B (paragraph B-8).
b. Local Form 1709. A local DRMO form used to account for each QRP and working capital fund account administered. The form should be made available to the installation by the 10th working day of the month, and should contain the QRP account code and total weight pulled by the contractor (buyer). One form will be provided for each contract.
c. Standard Form 1080. This form is a sales receipt.
d. Copies of checks received for payment or funds transfers. Maintain these with supporting documentation and check against information on contracts provided by DRMO.

8.4 Records Of Direct Sales.

Keep records of direct sales. SWARWeb can be used as a tool for this purpose. Additionally, copies of the following documents for direct sales should be kept on file:

a. Quotation forms/invitation for proposal/invitation for bid,
b. Weight certificates,
c. Shipment receipts,
d. Cashier record,
e. Deposit record,
f. Check copy, and
g. Dun letters (i.e., letters sent to buyers notifying them of outstanding debts and the initiation of collection activities).
8.5 Records of Operating and Overhead Costs.

QRPs must keep records on operating costs, including purchase of equipment, maintenance, program operation and expansion, labor costs, training, publicity, and overhead for processing recyclable materials. See chapter 6, QRP Finances, for more information on cost allocation, which must be current.

8.6 Records of Cost Avoidance.

Cost avoidance shall be estimated by determining the weight or volume of the material diverted from the waste stream, and calculating the labor, prorated hauling costs, maintenance costs, landfill tipping fee, and any other disposal charges that would have been incurred in the absence of waste prevention/recycling. SWARWeb calculates this value using a pre-set national average tipping fee, which can be overridden with actual local prices.

8.7 Retention of Records.

Generally, maintain records for the current fiscal year and the two preceding fiscal years, with the exception of documents chartering the program and documenting major decisions. Maintain and retain financial records for the length of time required in the DoD Finance Management Regulation. Records involving the direct sale of hazardous materials and waste (used oil, lead batteries) that could result in Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) liability should be maintained for the established length of time that is mandated for all Army installations. DRMS maintains sales records of hazardous property that could result in CERCLA actions for 50 years.

8.8 SWARWeb Reporting.

Installations are required to report all solid waste and recycling activity on a semi-annual basis through the chain of command to HQDA, using the Solid Waste Annual Report, Web-based (SWARWeb). Reports are due within 45 days after the end of the second and fourth quarters of the fiscal year. Managers of new construction, major renovation, facilities reduction or other demolition projects shall also report C&D waste activities to the designated installation Point of Contact for data entry to SWARWeb.

Annual evaluation of an installation or activity’s success, rated against the Department of Defense Pollution Prevention and Compliance Metrics, will be on the overall performance (total tons of recycled or diverted waste divided by the total tons of waste generated multiplied by 100) attained throughout the reporting period, as determined from the data reported in SWARWeb located at https://www.us.army.mil/suite/page/550262.

The SWARWeb is accessible via the Installation Management Application Resource Center (IMARC) portal at https://www.us.army.mil/suite/page/550262. User ID requests from installations are subject to approval by HQDA.
8.9 Additional Requirements.

Depending on the type of sales and recyclables sold, additional documents should be retained. For example, EPA transportation control numbers, certificates of destruction, and end use certificates for the sale of batteries and oil that documents the handling of these materials by a permitted recycler should be kept.

8.10 Inspections and Audits.

To ensure regulatory requirements are met, Installation Internal Review, Financial Management, and Environmental staffs should be consulted regarding internal and external audit and inspection requirements. At a minimum, there is an annual Management Control Program requirement and an annual Environmental Program Assessment System (EPAS) requirement.

The solid waste and recycling program is governed by AR 420-1, Army Facilities Management. Appendix T, paragraph T-34c of that regulation contains the solid waste and recycling program management control checklist. For ease of reference, the checklist is reproduced in figure 8-1 below. Solid waste and recycling programs have environmental attributes which may be reviewed during an EPAS inspection.

AR 200-1, Environmental Protection and Enhancement requires that internal assessments will be conducted annually, unless an external assessment is conducted that calendar year. CONUS external performance assessments are scheduled based on risk analysis and in consultation with HQDA and appropriate commands. Outside the Continental United States (OCONUS) external assessments are conducted every three years in accordance with DODI 4175.5.

The Army Environmental Program Assessment System (EPAS) makes use of Federal, state and local checklists published by media area in The Environmental Assessment and Management (TEAM) Guide. Table 8-1, below, is extracted from the TEAM Guide and lists the headings for the solid waste and recycling questions. These assessments do not apply to the Army National Guard.
## Solid Waste Management

**Management Control Evaluation Checklist**  
(AR 420-1, Appendix T, Paragraph T-34c)

1. Are proper storage containers used and are pick-up stations located for maximum efficiency for the storage, collection, and transportation of nonhazardous waste?

2. Are collection operations periodically evaluated to ensure the most efficient operation?

3. Does all equipment used for solid waste collection meet standards for operational safety published in Federal regulations and guidelines, Army guidelines, and host country guidelines and regulations?

4. Are source separation, resource recovery, and recycling programs determined to be life cycle cost-effective prior to establishment or expansion of such programs?

5. Are management policies and procedures for the recycling program established?

6. Are new or expanded facilities justified?

7. Does the design of new or expanded facilities comply with current engineering standards and all Federal, State, and local regulations or host country regulations?

8. Are thermal processing facilities and landfills operated and maintained efficiently and safely in accordance with Federal, State, or local standards?

9. Are proper disposal arrangements made for ash and residue from thermal processing facilities so the materials will be disposed of in an environmentally safe manner?

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**Figure 8-1. Management Control Checklist for Solid Waste Management**
Table 8-1. TEAM Guide Headings for Solid Waste and Recycling Questions

<table>
<thead>
<tr>
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<td>Medical Waste:</td>
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<td>Generators</td>
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<td>Containers/Labeling/Storage Areas</td>
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<td>Incinerators</td>
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</tbody>
</table>
### Solid Waste Management Headings (SO) | Topic #
---|---
Industrial Waste Management | SO.150
Surface Impoundments | SO.155
Waste Tires Management | SO.160
Yard Waste/Composting | SO.165
Other Disposal Units | SO.170
Other Treatment/Processing Units | SO.175
Closure of Solid Waste Facilities | SO.180
Land Application of Solid Waste | SO.200

Individual TEAM Guide checklist questions can be viewed with an account through the USAEC Army Environmental Reporting On-Line (OACSIM IMARC) portal at [https://www.us.army.mil/suite/page/550262](https://www.us.army.mil/suite/page/550262). An example of questions under the SO 25 Recycling Section is shown in figure 8-2 below.

![Figure 8-2. Example Question from TEAM Guide](image)

#### 8.11 Prevention of Fraud, Waste, and Abuse.

GCs and QRP managers need to be alert to the possibility of, and guard against, fraud and corruption. When suspicious situations occur, such as repeated complaints or discrepancies that cannot be reconciled, immediately call the audit, internal review, or criminal investigation offices for assistance.
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CHAPTER 9  ARMY WORKING CAPITAL FUND RECYCLING PROGRAMS

AWCF activities are a special classification of activities that do not receive their operating funds through the normal annual appropriations process, since AWCFs must be established by law and are not limited by fiscal year. AWCFs generate recyclable materials as any other tenant activity or installation, including scrap material (primarily metals) or leftover material (partially or totally unused material). These must be disposed of in a specific priority order. AWCFs were previously called Defense Base Operations Funds or Industrial Funds.

9.1 Introduction.

AWCFs generate recyclable materials as any other activity or installation. This chapter distinguishes AWCF recycling programs from QRP recycling programs. AWCFs are required to recycle under EO 13423.

9.2 Recycling Guidance.

9.2.1 AWCF Installations.

AWCF activities that manufacture or disassemble munitions are authorized under 10 U.S.C. 4690, Recyclable munitions materials: sale; use of proceeds, to sell recyclable munitions materials resulting from the demilitarization of conventional military munitions without regard to chapter 5 of title 49 and any proceeds shall be credited to the account specified for Army ammunition demilitarization, to be available for reclamation, recycling, and reuse of conventional military munitions (including research and development and equipment purchased for such purpose.) Amounts credited under this authority shall be available for obligation during the fiscal year when credited and for the three subsequent fiscal years.

9.2.2 AWCF Activities on non-AWCF Installations.

AWCF activities on non-AWCF installations must participate in the host installation QRP for QRP eligible items.

9.3 Restrictions.

While AWCFs do generate recyclable materials as any other tenant activity or installation including scrap material (primarily metals) or leftover material (partially or totally unused material), the AWCF recyclable materials must be disposed of in the following priority order of disposal:

a. The AWCF will retain the material if the AWCF or government will use it in other projects.

b. If the material is routinely sold/returned by the AWCF and the proceeds/credits used to offset customer or operational costs, it will be retained by the AWCF.

c. The AWCF will retain the material if the AWCF or government will reuse it for its original purpose.
d. If the material is a restricted metal or item, it will be disposed of using AWCF or DRMO procedures.

e. If none of the above applies, AWCF will scrap the material. At this point, the material becomes solid waste and may be given to the QRP, or go through the regular installation disposal process if the items are not QRP eligible. AWCFs, as are all tenant organizations, are responsible for funding solid waste disposal, to include, sorting and delivering to the QRP as appropriate.

Note: Precious metals, ships, planes, or weapons that must undergo demilitarization or mutilation before sale, electrical components, etc., are not QRP qualified from regular installation solid waste, and are not eligible for a QRP simply because it came from an AWCF. These items will continue to be handled by the AWCF or DRMO, as regulations require.

AWCF installations can either sell their QRP recyclables through the DRMO or through their QRP.

9.4 AWCFs and DRMO.

Some materials, like specialty metals or production scrap, may have a requirement to be sold through DRMO with the proceeds retained by DRMO. AWCF officials should discuss these materials with their DRMO and service recycling representatives to work out any concerns and determine in advance which items are covered by this restriction.

AWCF activities are required to report their recycling results under the DoD MOM. Although AWCF activities may not receive the proceeds from the sale of their recycled industrial scrap, these proceeds stay within DoD and benefit DoD as a whole. In addition, these proceeds, by covering part of the operating cost of DRMS, reduce the amount that the Army may owe to DRMS for services rendered.

9.5 Equipment Funding.

Because AWCFs are inherently self-funded, they are not eligible to receive equipment from a centrally-funded P2 equipment program, or receive P2 funds to purchase recycling bins, balers, can crushers, or other equipment to process and store recyclables. However, AWCFs may receive productivity investment funds (PIF). These funds can be used for a wide range of cost- and labor-saving capital investments, which could include equipment or facilities in support of a recycling program. Three funds that cover a broad spectrum of activities and functions are available and operate under DoDI 5010.36, which provides uniform project documentation formats and criteria for project selection and military post investment appraisal. The funds are the PIF, component sponsored Investment program (CSIP), and fast payback capital investment (FASCAP) fund. The FASCAP is most appropriate for a QRP. Each fund is briefly described below.

a. The PIF is limited to long-range projects with costs greater than $150,000.

b. The CSIP fund complements PIF but is more flexible. Investment limits and availability of funding vary depending on the annual budget allocation within each Service.
c. FASCAP investments are limited to projects with costs ranging between $3,000 and $150,000. Projects selected for FASCAP financing must be expected to return costs within two years.
CHAPTER 10  FREQUENTLY ASKED QUESTIONS

What is a QRP?
A QRP is an organized operation that receives and distributes proceeds from the sales of recyclables in accordance with 10 U.S.C. 2577 and 32 CFR Part 172. (See appendix G.)

Can I combine/partner my recyclable materials and/or efforts with another installation, service, or even another federal agency in order to capitalize the value of the QRP?
Yes, in fact regionalization and partnering efforts are often preferred and can increase market proceeds based on increased quantities of recyclable stock, better packaging, and centralized marketing. MOAs should be established between the partnering groups in order to ensure proportional sharing of proceeds and efforts.

What metals are considered “precious” under DoD regulations (i.e., precious metals bearing scrap that may not be recycled by QRPs)?
Any item containing any of the following listed elements must be turned over to the servicing DRMO: gold, silver, platinum, palladium, osmium, radium, iridium, and ruthenium. These elements may be found in circuit boards in computers/weapon systems, dental x-ray machines, or submarine batteries.

What regulations require demilitarization of an item before recycling?
See DoD 4160.21-M. DoD policy prohibits QRPs from recycling items that require demilitarization, with the exception noted in the next question. Items requiring demilitarization should be turned in to the servicing DRMO.

Can I sell demilitarized items through my QRP?
Except for Demilitarization Codes A and B, expended small arms brass, and mixed metals gleaned from firing range clearance, a QRP may not recycle or sell items requiring demilitarization. Note that mixed metals gleaned from firing range clearance are defined as “material (e.g., shrapnel) that is in a form that is unrecognizable from its original configuration and does not require further demilitarization.” If the firing range scrap is demilitarization in accordance with current DoD and DLA policies, it can be recycled through a QRP.
Can I sell hazardous materials through a QRP?
No, with a few exceptions. Disposal of hazardous materials is closely regulated. Unless disposed of properly, the generating activity and/or DoD may incur substantial liability. The prospect of hazardous materials and waste being disposed of improperly is too great a liability for a QRP to assume. Therefore, a QRP should refuse to accept hazardous material and direct that it be turned in to DRMO for disposal.

The only exceptions are lead acid batteries, used motor oil, and used antifreeze. QRPs may handle these items.

Can I sell weapon system scrap through a QRP?
No. All MLIs, except small arms fired brass, mixed metals gleaned from firing range clean-up, and CCLI are restricted from recycling through a QRP. All weaponry must be turned into DRMO.

Can I sell excess/surplus computers and parts through my QRP?
Government owned excess/surplus computers and electronic equipment are disposed of through DRMS, which has an electronic de-manufacturing and recycling program that ensures proper disposal of surplus computers and other electronic equipment. This program ensures compliance with all environmental requirements, including proper disposal of any hazardous material, and it also ensures that DoD obtains maximum value from surplus equipment. Privately owned electronic equipment may be sold through the QRP.

With “direct sales” authority, can I still use DRMO to sell my recyclables?
Yes, DRMOs can be used for some QRP recyclables. DRMS returns 100% of the sales proceeds to the QRP.

How can I use QRP proceeds?
Proceeds from the QRP must first be used to cover the costs of operations, maintenance, and overhead for processing recyclable material, including the cost of any equipment purchased for recycling purposes. Up to 50% of the balance remaining may then be used for P2, energy conservation, and occupational safety and health projects (not to exceed half the cost of a minor construction project). The remaining balance may be transferred to the non-appropriated fund (MWR) account at the installation. Proceeds may only be used for these three purposes. At the end of the fiscal year, any balance over $2,000,000 in the QRP account reverts to the Treasury.

Can I get the recyclables from my commissary for the QRP?
Commissaries, base exchanges, and post exchanges operate under special funding categories. They may operate their own recycling programs and retain the proceeds. If they decide not to operate their own recycling program, they must contribute their recyclables to the QRP if the item is QRP-qualified. Remember, the data on the amount of materials recycled separately by these organizations must be turned in to the installation for reporting under the DoD MOM.
How long should I maintain sales records?
It is best to keep sales records for the present fiscal year plus the two preceding years. An installation may want to keep summary information for as long as the program operates for trend analysis and historical purposes.

Are we limited to “direct sales” only within the continental United States?
Although firing range expended brass and mixed metals gleaned from range clearance are prohibited, other recyclable materials may be sold directly OCONUS; however, consideration must be given to the following concerns: trade status with foreign countries, U.S. tariffs, shipping container and stevedore costs, monetary exchange ratios at time of entry, and above all, contractual difficulties dealing directly with overseas scrap dealers instead of state-side brokers. Additionally, in the event the material was not properly identified as scrap, some materials could be compromised.

What is the best way to develop a “preferred bid list” for direct sales?
Subscribe to scrap industry trade journals and periodicals and scan their classified ads for leads. Network with recycle program managers in the local community, state government, and at military installations in your state and region of the country. Consider joining the Solid Waste Association of North America (SWANA) http://www.swana.org/ or the National Solid Waste Management Association (NSAWA) http://www.environmentalisteveryday.org/about-nswma-solid-waste-management/overview-and-history.php and attend their annual or regional conferences. Search the internet.

Can the QRP get the scrap generated from C&D projects?
Yes. All C&D projects should be reviewed to ensure that the most cost-effective contractual agreement for the installation is in place.

How can I find out who recycles C&D material in my region?
Many major metropolitan areas have developed C&D materials recycling and reuse guides, or try a local builders association. Use internet search engine for locating other sources such as http://www.cdrecycling.org/ and Habitat for Humanity.

Do I need authorization for “direct sales” of recyclables purchased with appropriated funds?
Yes. HQDA delegates direct sales authority through the chain of command.
Who should I contact if I suspect fraud, waste, or abuse of the “direct sales” authorizations?
Report instances of fraud, waste, or abuse to your command authorities, the Army Inspector General, or to the Defense Hotline, 1-800-424-9098.

What will happen if my installation is found abusing the “direct sales” authorization?
First, your installation commander’s authority to conduct “direct sales” may be immediately revoked. Individuals involved will receive appropriate disciplinary action.

When audits occur, what will auditors or evaluators look at?
Reviews may deal with financial aspects of the program or with performance aspects, and/or environmental compliance. To understand the specific audit, ask for a description of the objectives for the audit. You might also ask what criteria are used in the assessment. One common objective is to review the management controls relevant to the topic of the audit or evaluation. In the broadest sense, this means discovering what you the manager are doing to ensure that the goals and requirements for the program are being met, and testing to determine if these management controls are functioning properly. For more information see AR 11-2.

Does a recycling program need an authorized equipment list?
Yes. This list should be in accordance with AR 420-1, chapter 6.

Is there a dollar limit on equipment purchased on a QRP account?
No, but individual funds have procurement ceilings. All capital investments must be analyzed using traditional lifecycle cost (LCC) procedures. Equipment rental, partnering, and regionalization options are available. Contact your service representative for information on purchasing reconditioned equipment at substantial savings over new equipment.

Can tenants on an installation use their own turn-in numbers so that the revenue generated by non-qualified recyclables is returned to the tenants?
Yes. In order for a generating activity to be credited directly by DRMO for recycling proceeds, the DTID must contain a reimbursable fund account number that is specific to that activity.

What should I do if recyclables commodity prices drop and my QRP starts losing money?
Reevaluate your QRP. Perhaps you should not continue to recycle in the current manner. Try to initiate regional recycling activities with your sister services and other federal agencies. The markets for recyclables fluctuate from time to time. In times of profit, budget your funds for the leaner periods.
What happened to the Combined Services Recycling Workshops?
The Combined Services Recycling Workshops, also called the DoD Solid Waste & Recycling Workshops, were formerly held in conjunction with either the National Recycling Coalition or the Solid Waste Association of North America’s annual conference and exhibitions. However, due to budgetary constraints, OSD has focused on using joint training venues, such as the Joint Services Environmental Management Conference, rather than single-subject matter one. All recycling program managers and procurement personnel should set aside time and money to attend conferences and workshops that meet their training needs and allow interaction with their peers and hear firsthand the latest in policy changes and trends in the industry.

Is the QRP required to recycle demolition debris from C&D projects?
C&D debris may be recycled through or outside of the QRP. For installations to meet the Army C&D 50% diversion rate and the Department of Defense Measures Of Merit DoD MOM for solid waste, it is crucial that C&D be recycled one way or the other, and reported through the SWARWeb system.

What is the DoD MOM?
DoD MOM’s have not yet been updated to reflect the current diversion rates required by Executive Order. Previously, the DoD Measures of Merit (MOM) were based on a solid waste diversion rate, which measured the amount of waste diverted from landflling or incineration. This percentage enabled an installation to effectively gauge their ISWM efforts and gave a more realistic, installation-specific tool to determine the success of a recycling program and the costs associated with ISWM. Under this guidance a 40% diversion rate was to be achieved by 2005. However, this goal was reached ahead of schedule, and a new (October 2004) MOM requiring Military installations to have a recycling program, and make continuous improvement (above the 40% diversion rate, already achieved).

If my recycling contractor picks up recyclables from family housing, should the QRP pay for it?
No. In fact, it should not pay for curbside collection. If the waste were not recycled, that same contractor would be responsible for picking up the waste and taking it off site for disposal. By collecting recyclables, the contractor reduces the amount of waste that must be transported off site and avoids the substantial cost (tipping fees) and disposal capacity limits associated with municipal landfills. Often collecting recyclables is done separately from refuse, and requires an additional pickup that raises the cost of the contract.
Is an installation composting program ever managed under the QRP?
Yes, it can be. However, it is not required that the composting program be under the QRP unless the product is to be sold on the open market. Remember, whether composting is part of the QRP or not, you should track the quantities of waste recycled through the composting program and report it to meet the DoD diversion rate MOM.

Are the materials recycled by the Residential Communities Initiatives (RCI) housing area reportable in SWARWeb?
RCI housing is considered to be a private enterprise. The solid waste generated or the materials recycled do not count towards the installation statistics and are not reportable.

Are any of the following activities considered waste diversion and counted in the diversion goal metric for non-hazardous solid waste: treating POL contaminated soil, manure, or pine straw from forestry operations?
No. The rule of thumb is material that would have normally gone to landfill or incineration had it not been for the intervention of the QRP or recycling activity, then it counts as diversion.

If my question is not answered here, whom do I contact?
E-mail or call the Solid Waste and/or Recycling point of contact at the next higher echelon in your chain of command (i.e., IMCOM Region, National Guard Bureau, or Army Reserve Regional Support Command). If you do not know who that is or if you are unable to get a satisfactory response, contact one of following individuals:
Table 10-1. QRP Program Points-of-Contact.

<table>
<thead>
<tr>
<th>Organization</th>
<th>Name</th>
<th>Phone</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>OACSIM (DAIM-ODF)</td>
<td>Mr. William Eng</td>
<td>703-602-5827; DSN: 332</td>
<td><a href="mailto:William.Eng@us.army.mil">William.Eng@us.army.mil</a></td>
</tr>
<tr>
<td>IMCOM (IMPW-E)</td>
<td>Mr. Michael Andres</td>
<td>210-424-8249; DSN: N/A</td>
<td><a href="mailto:michael.andres@us.army.mil">michael.andres@us.army.mil</a></td>
</tr>
<tr>
<td>AMC (AMCPE-I)</td>
<td>Mr. Terry Funderburg</td>
<td>256-450-8970; DSN: 320</td>
<td><a href="mailto:Terry.L.Funderburg@us.army.mil">Terry.L.Funderburg@us.army.mil</a></td>
</tr>
<tr>
<td>MEDCOM (MCFA-E)</td>
<td>Ms. Tammy Ford</td>
<td>210-221-7942; DSN: 471</td>
<td><a href="mailto:Tammy.Ford@us.army.mil">Tammy.Ford@us.army.mil</a></td>
</tr>
<tr>
<td>NGB (NGB-ARI-FM)</td>
<td>CW3 Chris Swihart</td>
<td>703-607-9964; DSN: 327</td>
<td><a href="mailto:Christopher.Swihart@us.army.mil">Christopher.Swihart@us.army.mil</a></td>
</tr>
<tr>
<td>SMDC</td>
<td>Mr. G. Allen Bennett</td>
<td>256-955-4816; DSN: 645</td>
<td><a href="mailto:Allen.Bennett@us.army.mil">Allen.Bennett@us.army.mil</a></td>
</tr>
<tr>
<td>USAR (DAIM-ODR)</td>
<td>Mr. Lyman Lee</td>
<td>703-602-8650; DSN: 332</td>
<td><a href="mailto:Lyman.Lee@us.army.mil">Lyman.Lee@us.army.mil</a></td>
</tr>
<tr>
<td>AEC (SFIM-AEC BDC)</td>
<td>Dr. Dave Johnson</td>
<td>210-295-2371; DSN: 421-2371</td>
<td><a href="mailto:david.johnson79@us.army.mil">david.johnson79@us.army.mil</a></td>
</tr>
<tr>
<td>USAPHC</td>
<td>Ms. Beth Martin</td>
<td>410-436-5202; DSN: 584-5202</td>
<td><a href="mailto:Beth.a.martin@us.army.mil">Beth.a.martin@us.army.mil</a></td>
</tr>
</tbody>
</table>
APPENDIX A  ABBREVIATIONS, ACRONYMS, AND DEFINITIONS

AAFES  Army and Air Force Exchange Service
ACSIM  (Army) Assistant Chief of Staff for Installation Management
AKO    Army Knowledge Online
ALMC   Army Logistics Management College
APF    Appropriated Funds
AR     Army Regulation
ACOM   Army Command
ASCC   Army Service Component Command
AWCF   Army Working Capital Fund
BASOPS Base Operations System
CCLI   Commerce Control List Item
CERCLA Comprehensive Environmental Response, Compensation, and Liability Act
C&D    Construction and Demolition
CFR    Code of Federal Regulations
CONUS  Continental United States
CSIP   Component Sponsored Investment Program
DAC    Department of the Army Civilian
DAIM-OD Department of the Army's Assistant Chief of Staff for Installation Management, Operations Directorate
DeCA   Defense Commissary Agency
DEMIL  Demilitarization
DENIX  Defense Environmental Network Information eXchange
DESC   Defense Environmental Security Council
DFAS   Defense Finance and Accounting Service
DLA    Defense Logistics Agency
DOC    Director of Contracting
DoD    Department of Defense
DODI   Department of Defense Instruction
DOL    Director/Directorate of Logistics
DMWR   Directorate of Personnel and Community Activities
DPW    Director of Public Works
DRMO   Defense Reutilization and Marketing Office
DRMS   Defense Reutilization and Marketing Service
DRU    Direct Reporting Units
DTID   Disposal Turn-In Document
DWCF   Defense Working Capital Fund
EO     Executive Order
EPA    U.S. Environmental Protection Agency
EPAS   Environmental Performance Assessment System
QOC    QRP Oversight Committee
FAO    Finance and Accounting Office
FASCAP Fast Payback Capital Investment
FBO    FedBizOpps
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>FMR</td>
<td>Financial Management Regulation</td>
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<tr>
<td>FOB</td>
<td>Free on board</td>
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<tr>
<td>FSCAP</td>
<td>Flight Safety Critical Aircraft Parts</td>
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<td>FY</td>
<td>Fiscal Year</td>
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<td>GC</td>
<td>Garrison Commander</td>
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<tr>
<td>GFM</td>
<td>Government Furnished Material</td>
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<tr>
<td>GO CO</td>
<td>Government Owned, Contractor Operated</td>
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<tr>
<td>GSA</td>
<td>U.S. General Services Administration</td>
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<td>HQDA</td>
<td>Headquarters, Department of the Army</td>
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<tr>
<td>IAW</td>
<td>in accordance with</td>
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<tr>
<td>IC</td>
<td>Installation Commander</td>
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<tr>
<td>IF</td>
<td>Industrial Fund</td>
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<tr>
<td>IG</td>
<td>Inspector General</td>
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<tr>
<td>IMCOM</td>
<td>U.S. Army Installation Management Command</td>
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<tr>
<td>IMARC</td>
<td>Installation Management Application Resource Center</td>
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<tr>
<td>ISWM</td>
<td>Integrated Solid Waste Management</td>
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<tr>
<td>ITAR</td>
<td>International Traffic in Arms Regulation</td>
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<tr>
<td>LCC</td>
<td>Life Cycle Cost</td>
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<tr>
<td>MPPEH</td>
<td>Material Potentially Presenting an Explosive Hazard</td>
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<tr>
<td>MLI</td>
<td>Munitions List Item</td>
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<tr>
<td>MOA</td>
<td>Memorandum of Agreement</td>
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<tr>
<td>MOM</td>
<td>Measure of Merit</td>
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<tr>
<td>MSDS</td>
<td>Material Safety Data Sheet</td>
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<td>MWR</td>
<td>Morale, Welfare, and Recreation</td>
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<td>NAF</td>
<td>Non-Appropriated Funds</td>
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<tr>
<td>NAFI</td>
<td>Non-Appropriated Fund Instrumentality</td>
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<tr>
<td>NEMMO</td>
<td>New and Emerging Military Market Opportunities</td>
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<tr>
<td>NRC</td>
<td>National Recycling Coalition</td>
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<tr>
<td>NSA</td>
<td>National Security Agency</td>
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<tr>
<td>OCC</td>
<td>Old Corrugated Cardboard</td>
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<tr>
<td>OCONUS</td>
<td>Outside Continental United States</td>
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<tr>
<td>ODS</td>
<td>Ozone Depleting Substances</td>
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<tr>
<td>OGC</td>
<td>Office of General Counsel</td>
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<td>OFEE</td>
<td>Office of Federal Environment Executive</td>
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<tr>
<td>O&amp;M</td>
<td>Operation and Maintenance</td>
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<tr>
<td>OMA</td>
<td>Operation and Maintenance, Army</td>
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<td>ONP</td>
<td>Old Newspapers</td>
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<td>OSD</td>
<td>Office of the Secretary of Defense</td>
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<td>P2</td>
<td>Pollution Prevention</td>
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<td>PAO</td>
<td>Public Affairs Office</td>
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<td>PIF</td>
<td>Productivity Investment Funds</td>
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<td>PL</td>
<td>Public Law</td>
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<td>PMRP</td>
<td>Precious Metal Recovery Program</td>
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<td>POC</td>
<td>Point of Contact</td>
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<tr>
<td>POL</td>
<td>Petroleum, Oils, and Lubricants</td>
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<tr>
<td>PPE</td>
<td>Personal Protective Equipment</td>
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<tr>
<td>Abbreviation</td>
<td>Full Form</td>
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<tr>
<td>PWTB</td>
<td>Public Works Technical Bulletin</td>
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<tr>
<td>QRP</td>
<td>Qualified Recycling Program</td>
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<tr>
<td>RC</td>
<td>Recycling Coordinator</td>
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<td>RCRA</td>
<td>Resource Conservation and Recovery Act</td>
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<tr>
<td>RFP</td>
<td>Request for Proposal</td>
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<td>RMO</td>
<td>Resource Management Office</td>
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<tr>
<td>RMS</td>
<td>Resource Management System</td>
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<tr>
<td>SJA</td>
<td>Staff Judge Advocate</td>
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<td>SLI</td>
<td>Strategic Listed Item</td>
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<tr>
<td>SOP</td>
<td>Standard Operating Procedure</td>
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<tr>
<td>SWANA</td>
<td>Solid Waste Association of North America</td>
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<tr>
<td>SWAR</td>
<td>Solid Waste Annual Report</td>
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<tr>
<td>SWARS</td>
<td>Solid Waste Annual Report System</td>
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<tr>
<td>SWARWeb</td>
<td>Solid Waste Annual Report, Web-based</td>
</tr>
<tr>
<td>TSC</td>
<td>Trade Security Control</td>
</tr>
<tr>
<td>USACE</td>
<td>U.S. Army Corps of Engineers</td>
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<tr>
<td>USAEC</td>
<td>U.S. Army Environmental Command</td>
</tr>
<tr>
<td>USAPHC</td>
<td>U.S. Army Public Health Command</td>
</tr>
<tr>
<td>USD (AT&amp;L)</td>
<td>Under Secretary of Defense for Acquisition, Technology &amp; Logistics</td>
</tr>
</tbody>
</table>
Activity
A unit, organization, or installation that performs a function or mission.

Audit
DoD guidance directs installations to conduct internal self-audits of the QRP annually and external audits every three years. These self-audits should review records associated with the QRP financial conditions. The audit should independently verify costs, cost avoidance, and revenues from the QRP and evaluate QRP cost effectiveness. The audit team should prepare a written report of the audit findings and brief audit results to the installation Commander. The primary purpose of a QRP audit is to evaluate the QRP financial performance. The QRP audit is not intended to be part of an environmental compliance or EPAS inspection. Personnel involved in an EPAS inspection do not typically possess sufficient experience with reviewing financial records to provide an adequate audit of QRP records. It is recommended that installation internal review office or the local office of the Army Audit Agency (USAAA) conduct internal audits and a regional office of the USAAA conduct external audits. It may be possible to form the internal audit team from personnel from the installation resource management, provided that those personnel have had specific training and experience conducting financial audits.

Amount Recoverable
Materials that have useful physical or chemical properties after serving their original purpose and can be reused or recycled for the same or other purpose.

Amount Sellable as Recyclable
Materials that fit within the guidelines for items that can be sold through a QRP.

Appropriated Funds (APF)
Monies made available to DoD by Congress. The fiscal appropriation acts approved by Congress specify the purpose for which the APFs can be used. Accounting for APFs is significantly different from accounting for NAFs, and are described in the DoD Financial Management Regulation.

Army Working Capital Fund (AWCF)
The management of a working capital fund, or industrial, commercial, and support-type activities by the Secretary of the Army through separate accounting, reporting, and auditing. Proceeds are routinely used to offset customer costs. Army Ammunition Plants are an example of an AWCF activity. The AWCF is the Army equivalent of a Defense Working Capital Fund.
**Bulk Waste**
Large items of solid waste, such as household appliances, furniture, large auto parts, trees, branches, stumps, and other oversize waste, for which large size precludes or complicates handling by normal solid waste collection, processing, or disposal methods.

**Closed-Loop Recycling**
The three integral parts in the closed loop recycling process include: collecting recyclables, processing and manufacturing recyclables into new items, and buying recycled products. This definition is different from that in RCRA.

**Combined Services Solid Waste and Recycling Working Group**
A working group formed by the DoD P2 committee to develop joint service integrated solid waste and QRP policies. The group includes all Services (including the U.S. Coast Guard), the Defense Logistics Agency (DLA), the Office of the DoD Inspector General, and the National Security Agency (NSA).

**Commercial Control List Item (CCLI)**
A dual-use item under the export control jurisdiction of the U.S. Department of Commerce, Bureau of Export Administration.

**Commercial Solid Waste**
All types of solid waste (excluding hazardous waste) generated by stores, offices, clubs, cafeterias, dining facilities, warehouses, and other non-manufacturing activities. This includes non-processing waste generated at industrial facilities such as packing waste and paper products. Construction and demolition waste is not included in this category.

**Commingled Bag**
Designated recycling materials placed in one recycling container; may include paper, aluminum, glass, plastic, and other materials.

**Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**
The law that regulates hazardous substances encountered at inactive or abandoned sites, or where release of a hazardous substance requires an environmental response action. This is sometimes referred to as “Superfund.”

**Composting**
A controlled process for managing the degradation of plant and other organic wastes to produce a useful product that can be used as mulch or soil conditioner.
Construction and Demolition Debris (C&D)
Waste building materials, packaging, and rubble resulting from construction, remodeling, repair, and demolition operations on pavements, houses, commercial buildings, and other structures. Includes roofing, piping, dry wall, wood, bricks, concrete, and similar materials, but excludes asbestos-containing materials.

Defense Finance and Accounting Service (DFAS)
Directs finance and accounting requirements for all appropriated, non-appropriated, working capital, revolving, and trust fund activities.

Defense Reutilization and Marketing Office (DRMO)
{as of 19 Jul 10: DLA Disposition Services at Fort (installation name)}
The DLA organizational entity having accountability for and control over disposable property. Provides technical assistance to generating activities, and receives excess material and authorized turn-ins from generating activities.

Defense Reutilization and Marketing Service (DRMS)
{as of 19 Jul 10: DLA Disposition Services}
Exercises program management and staff supervision of the DoD Personal Property Reutilization and Marketing Program.

Defense Working Capital Fund (DWCF)
The DoD equivalent of a AWCF, operates under the Secretary of Defense. These activities include the Defense Finance and Accounting Service (DFAS), the Defense Commissary Agency, and the Defense Reutilization and Marketing Service (DRMS). Formerly known as the Defense Industrial Fund.

Demilitarization
The act of destroying the functional or military capabilities of certain types of equipment or material that has been screened through inventory control points and declared surplus or foreign excess. The term includes annealing, mutilation, cutting, crushing, scrapping, melting, burning, or alteration to prevent further use of this equipment or material for its originally intended purpose and applies equally to equipment or material in serviceable or unserviceable condition.

Disposal
The process of reutilizing, transferring, recycling, donating, selling, destroying, or other ultimate disposition of DoD personal property.

Disposal Turn-in Document (DTID) (DD Form 1348-1A)
Document that accompanies property when delivered to DRMO for reutilization, transfer, donation, or sale.
DoD Component
DoD Components are the U.S. Army, the U.S. Navy, the U.S. Air Force, the U.S. Marine Corps, and the U.S. Coast Guard when it is operating as a Military Service in the Navy. DoD Components also include the defense agencies, and DoD field activities, including other integral DoD organizational entities instrumentality established to perform a governmental function.

DoD Financial Management Regulation (FMR) (DoD 7000.14-R)
The primary authority on financial and accounting procedures within DoD.

Dun Letter
A demand letter requesting payment from a delinquent debtor.

Economic Analysis
An evaluation of the costs, benefits, and risks of various alternatives, clearly identifying any funding or budgeting constraints, citing rates, factors, and estimates.

Electrical Components
An integral part, assembly, or subassembly of a complete item.

End-user
Consumer, purchaser, buyer, or customer.

Excluded Materials
Materials that may not be sold through a QRP. The proceeds from their sale SHALL NOT be returned to a QRP. For lists of excluded items, see DoDI 4715.4, enclosure 3, paragraph 10, and 32 CFR section 172.2 (b)(3)(i)

Firing Range Residue
Material (e.g., shell/bomb fragments) consisting of expended brass or aluminum and mixed metals in a form that is unrecognizable from its original configuration. Firing-range residue does not require further demilitarization, and is not an MLI or CCL.

Free on Board (FOB)
Contract term designating delivery to the place of shipment (FOB origin) or the Government's destination (FOB destination) free of expense to the Government.

Funds Transfer Document
Document used to record the transfer of funds between a government entity and private contractor.
**Generation Rates**
Measures the total waste generated on an installation—total waste is the sum of the disposal amount and the recycled/reused amount.

**Gleaning**
Gathering and collecting mixed metals from firing ranges. Mixed metals gleaned from firing range clearance is defined as material (e.g., shell fragments) which is in a form that is unrecognizable from its original configuration and does not require further demilitarization, and which is not a MLI or CCLI.

**Government-owned, Contractor-operated (GOCO)**
A government-owned/contractor-operated facility is owned by the federal government, but all or portions of which are operated by private contractors.

**Government Furnished Material (GFM)**
Property that may incorporate into or attach to a deliverable end item or that may be consumed or expensed in performing a contract. It includes assemblies, component parts, raw and processed materials, and small tools and supplies that may be consumed in normal use in performing a contract.

**Hazardous Waste**
A solid waste not specifically excluded from the restrictions of 42 U.S.C. 6901, that meets the criteria listed in 40 CFR Part 302, or is specifically named as a hazardous waste in federal regulations.

**High Grade Paper**
Letterhead, dry copy paper, miscellaneous business forms, stationery, typing paper, tablet sheets, computer printout paper, and cards commonly sold as white ledger, computer printout, and tab card grade by the wastepaper industry. High-grade paper is included in the commercial solid waste category.

**Host**
A unit or activity that has management control of facilities and provides services or facilities to another unit or activity (tenant).

**Household Hazardous Waste**
Waste resulting from products purchased by the general public for household use that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may pose a substantial known or potential hazard to human health or the environment when improperly treated, disposed of, or otherwise managed.
Installation
A military facility together with its buildings, building equipment, land, and ships/vessels, and subsidiary facilities such as piers, docks, warehouses, spurs, access roads, and beacons under the control of a designated military department or defense agency, at which functions are carried on by that military department or defense agency.

Installation Commander
Responsible for a DoD Component who has separate budget and supervisory control over resources and personnel, or an installation.

Integrated Solid Waste Management (ISWM)
The concept of ISWM is designed to minimize the initial input to the waste stream through source reduction; reduce the volume of the waste stream requiring disposal through re-use and recycling, and dispose of solid waste through the effective combination of incineration, composting, and landfill disposal.

International Traffic in Arms Regulation (ITAR)
Regulations, implementing the authority granted the president, to control the export and import of defense articles and defense services; found in 22 CFR Part 120.

Landfill
A discrete area of land or an excavation, on or off an installation, that receives household waste and that is not a land application unit, surface impoundment, injection well, or waste pile. A solid waste landfill also may receive other types of waste, such as commercial solid waste or industrial waste.

Landfill Amount
Generation rates for landfilling that equal recoverable amounts plus sellable amounts less quantities for other disposal. The final amounts end up in a landfill. It covers all waste that is disposed of in any landfill anywhere on the land or at sea.

Life Cycle
A series of stages or processes through which a system, product or entity passes from inception to termination and disposal. It includes conception, design, development, testing, production, deployment, training, maintenance, supply management, distribution, and disposal/demilitarization.

Life-Cycle Cost (LCC)
Total cost to the government for a program over its full life, including the cost of research and development, investment in mission and support equipment (hardware and software), initial inventories, training, data, facilities, etc. Also includes the operation, support, and where applicable, demilitarization or detoxification of long-term waste storage.
Manifest
The document used to track shipments from point of origin to final destination. In shipments of hazardous waste, it is the shipping document originated and signed by the generator which contains the information required by 40 CFR Part 262, such as tracking hazardous waste from generation to ultimate disposal.

Material Potentially Presenting an Explosive Hazard (MPPEH)
Any substance that by its composition and chemical characteristics, alone or when combined with other substances, is or becomes an explosive or a propellant, or is hazardous or dangerous to personnel, animal or plant life, structures, equipment, or the environment as a result of blast, fire, fragmentation, radiological, or toxic effects.

Minor Construction
Projects with a funded cost of $750,000 or less ($1.5 million where the purpose of the project is solely to correct health, life, or safety deficiencies) will normally be financed from the OMA appropriation. Projects with a funded cost greater than $750,000 up to $2 million (up to $3 million where the purpose of the project is solely to correct health, life, or safety deficiencies

Munitions List Item (MLI)
An item that is subject to import and export control as listed in the ITAR published by the U.S. Department of State (see DoD 4160.21-M-1).

Mutilation
The act of making material unfit for its originally intended purposes by cutting, tearing, scratching, crushing, breaking, punching, shearing, burning, neutralizing, etc. This may also be a form of demilitarization.

Non-Appropriated Funds (NAF)
Monies not appropriated by Congress. NAF come primarily from the sale of goods and services to DoD military and civilian personnel and their family members, and are used to support MWR, billeting, and certain religious and educational programs. They are used for the collective benefit of military personnel, their family members, and authorized civilians.

Non-saleable Material
Material that has no reutilization, transfer, donation, or sale value as determined by DRMO, but is not otherwise restricted from disposal by U.S. law or federal or military regulations.
Non-QRP Recycling
When unusable or scrap materials are recycled through the DRMS/DRMO outside of or without establishing an installation QRP, the proceeds from the sales are not returned to the generating activity, but turned into the US Treasury.

Office Waste
Solid waste generated in the buildings or rooms in which the affairs of business, professional persons, or branches of government are carried on. Excluded is waste generated in cafeterias, snack bars, other food preparation and sales areas, and waste separated by medical personnel.

Other Disposal
Solid waste that cannot be reutilized, reused, or recycled.

Other QRP Materials
Materials that initially fit neither the definition of recyclable materials nor the definition of excluded materials. Typically, such materials are received in such poor condition and/or are of low value that they probably are not reusable; could not be donated; or would be too costly to process. These materials, such as refrigerators, cabinets, or desks, must undergo local screening to determine their recycling potential. These materials may be recycled by the QRP if a cost-effective way can be found to do so.

Pollution Prevention (P2) Plan
P2 Plan of management strategies for reducing the use of hazardous materials and releases of pollutants into the environment, reducing waste streams, reusing generated waste, and recycle waste not reusable.

Personal Protective Equipment (PPE)
Any of a number of devices or types of equipment (hardhats, gloves, goggles, etc.) worn to provide protection against various hazards.

Pollution Prevention (P2) Funds
Appropriated funds for all work necessary to eliminate or reduce DoD components’ undesirable impacts on human health and the environment in regards to its processes, practices, and the products used. Funds come from a variety of sources, including military construction, operations and maintenance, and procurement. Program and budget P2 project requirements in accordance with associated rules for each appropriation.

Precious Metal Recovery Program (PMRP)
DLA is the DoD single manager for the PMRP. The program promotes economical recovery of precious metal from all sources, and provides the reclaimed metals, as needed, to DoD Components, at the cost of recovery, for use as government-furnished material in support of defense contracts.
QRP Program Manager
A program manager who is responsible for managing all aspects of a QRP, consolidating information from all recycling activities, reporting on solid waste reduction, and green procurement activities.

QRP Program Leader
Person assigned to coordinate a QRP, including personnel, funds, and equipment for the purposes of carrying out the objectives of this Handbook and DoDI 4715.4.

QRP Recyclable Material
Scrap material whose sales proceeds can be deposited into the QRP **F3875 suspense account.

Qualified Recycling Program (QRP)
A recycling program that distributes proceeds pursuant to 10 U.S.C. 2577 and requires concerted efforts to:

1. Divert or recover scrap or waste from waste streams.

2. Identify, segregate, and maintain the integrity of the recyclable materials to maintain or enhance the marketability of the materials. If the program is administered by a DoD Component, a QRP includes adherence to a control process providing accountability for all materials processed through program operations.

Reclamation
The process of reclaiming required serviceable and economically repairable components and material from excess or surplus property, as authorized. This does not include inspection, classification, disassembly, and cleaning.

Recoverable Resources
Recoverable materials have useful physical or chemical properties after serving their original purposes. Recoverable resources can be re-used or recycled for the same or for other purposes.

Recyclable Grades
Recyclables are grouped into major categories such as paper, plastic, metal, glass, and wood. Each may have subcategories. Within each category or subcategory may be a “grade” of recyclable.

Recyclable Materials
Recyclable materials are materials diverted or recovered from the solid waste stream by concerted efforts for the beneficial use of such materials. Examples of recyclable materials include (but are not limited to): paper, food waste, plastic, glass, all cardboard and other packaging materials, newspapers, aluminum cans, glass, and plastics that contained food and beverages. Recyclable materials also include scrap (including ferrous and nonferrous scrap), firing range expended brass, and mixed metals gleaned from firing range cleanup that do not require demilitarization.
Items requiring demilitarization or mutilation prior to sale are not recyclable materials. In addition, the following materials are not qualified recyclable materials and will not be sold through a QRP: precious metals; GFM; hazardous waste (including household hazardous waste); machine parts; bottles (not scrap glass); electrical components; unopened containers of unused oil, solvents, or paints; and repairable items that have not progressed through the disposal cycle. See also “Excluded Materials.”

**Recycling**
The result of a series of activities by which materials, that would become, or otherwise remain waste, are diverted from the solid waste stream by collection, separation, and processing, and are used as feed stock in the manufacture of goods sold or distributed in commerce, after undergoing some type of physical or chemical processing.

**Residential Solid Waste**
Includes garbage, rubbish, trash, and other solid waste resulting from the normal activities of households.

**Residential Communities Initiative (RCI) Housing**
Under the provisions of 10 USC 2871 et seq, military Family or military unaccompanied housing acquired or constructed by an eligible entity (that is, any private person, corporation, firm, partnership, company, State or local government, or housing authority of a State or local government). RCI housing is not Government housing; however, the Army controls who is eligible for housing consistent with the terms of the ground lease. The Army does not assign Soldiers to RCI housing. Assignments are made by the eligible entity.

**Resource Conservation and Recovery Act (RCRA)**
The law that provides for solid waste management of both household and municipal type wastes, as well as establishes a system for controlling hazardous waste from the time it is generated until its ultimate disposal, in effect, from “cradle to grave.”

**Resource Management System (RMS)**
A system that provides central appropriated funds.

**Resource Recovery**
The process of obtaining materials or energy from solid waste or from a used petroleum, oils, and lubricants (POL) product.

**Resource Recovery Facility**
Any physical plant that processes residential, commercial, or institutional solid waste biologically, chemically, or physically, and recovers useful products (such as shredded fuel, combustible oil or gas, steam, metal, or glass) for resale or re-use.
Re-Use
Return of a material or product to the economy for use without any change in its identity by finding different purposes for the materials. For example, a soft-drink bottle is reused when it is returned to the bottling company for refilling. Special processing is not required.

Sales Contracting Officer
An individual who has been duly appointed and granted authority to sell surplus or excess property by any of the authorized and prescribed methods of sale (40 U.S.C. 484).

Scrap
Material that has no value except for its basic material content.

Screening
A process used to determine if excess property should be donated, sold, or otherwise disposed of unless specifically excluded by special processing instructions. Screening is accomplished electronically, manually, and visually.

Solid Waste
Garbage, refuse, sludge, and other waste materials not excluded by federal law or regulations. Any solid, liquid, semi-solid, or contained gaseous materials resulting from institutional, industrial, commercial, mining, agricultural, or community operations and activities. They are discarded or are accumulated, stored, or treated prior to being discarded. Infectious waste materials are not included in this category for purposes related to recycling. A material is discarded if it is abandoned (and not used, re-used, reclaimed, or recycled) by being disposed of, burned, or treated.

Solid Waste Annual Report (SWAR)
All activities that generate solid waste must submit metrics on solid waste generated, disposed of, recycled, composted, reused, incinerated, etc., for preparation of annual FY report through DoD to Congress.

Solid Waste Annual Report Web-based (SWARWeb)
An Internet-based computer program used to help track, manage and report transactional information regarding the collection, generation, disposal, and recycling of solid waste. It also assists managers in keeping track of costs and diversion rates and reporting this data to higher headquarters.

Source Reduction
Reducing the volume of the solid waste stream by reducing the amount of how material that becomes waste at the installation. Source reduction is an effective and efficient means to reduce solid waste volume. Methods of source reduction include considering how items are packaged when choosing products and selecting the minimum packaging that will ensure safe arrival and meet installation storage and handling needs.
Source Separation
Separating recyclables at their point of generation by the waste generator.

Start up Costs
Costs of starting recycling programs.

Strategic List Items (SLI)
Property subject to trade security controls. This list is comprised of the Department of Commerce Commodity Control List suffix “A” items. These items are controlled for reasons including national security, nuclear nonproliferation, crime control, technology transfer, and scarcity of materials.

Surplus Property
Excess property that is not required for its needs, has completed utilization screening, and is eligible for donation or sale.

Tenant
A unit or activity of one department, agency, or command that occupies the facilities of, or receives support from, another department, agency, or command, usually on a continuing basis.

Trade Security Controls
Policy and procedures designed to prevent the sale or shipment of U.S. government materiel to any person, organization, or country whose interests are unfriendly or hostile to those of the United States.

Trained Individual/Direct Sales POC
Person in charge of direct sales who has participated in and completed a “direct sale” course as required under this Handbook.

Total Amount Generated
The total waste generated on an installation—the sum of the disposal amount and the recycled/reused amount.

Un-saleable Material
Material for which sale or other disposal is prohibited by U.S. law or federal or military regulations.

Waste Stream Assessment
Determines the amount of waste generated in the area to be managed, components of the waste stream, geographic location of generation of waste, seasonal fluctuations of all the above, and existing capacity of all waste management methods and facilities.

Yard waste
Grass and shrubbery clippings, tree limbs, leaves, and similar organic materials commonly generated in residential yard maintenance (also known as green waste).
APPENDIX B   SAMPLE DOCUMENTS AND FORMS

B-1    Sample Letter to DRMO Requesting QRP Account

From: Installation/Garrison Commander, Fort Anywhere
To: Defense Reutilization Management Office

Subject: QUALIFIED RECYCLING PROGRAM (QRP)

Ref: (a) Fort Anywhere QRP Instruction

1. Per Ref. (a), Fort Anywhere established a QRP. Please deposit the sale proceeds of recyclable material governed by 10 U.S.C. 2577 (QRP Recyclable Materials) in **F3875 “Proceeds of sales, Recyclable Materials” Budget Clearing Account (suspense).

2. The QRP processes and retains the sales proceeds of QRP recyclable materials to fund recycling efforts, energy conservation projects, pollution abatement, occupational safety and health activities, and morale, welfare, and recreation projects. Any material delivered to the recycling center that is not QRP recyclable will be sent to the DRMO facility. Likewise, please send any QRP recyclable materials mistakenly sent to the DRMO facility to our recycling center located at Fort Anywhere, for processing and sale.

3. Our QRP manager looks forward to a cooperative and beneficial working relationship with your facility. By working together, we can reuse and recycle more materials.

4. My contact is (name of QRP manager, commercial phone and DSN phone and fax and e-mail here).

   John Doe
   COL USA

Copy to:

Headquarters
Fort Anywhere Reg 200-4
U.S. Army Center and Fort Anywhere
Fort Anywhere, Anystate 40121-5000
B-2 Sample Installation QRP Regulation

Facilities Engineering

QUALIFIED RECYCLE PROGRAM (QRP)

Summary. This regulation sets installation policies and procedures and assigns responsibilities for operation of a mandatory Qualified Recycle Program.

Applicability. This regulation applies to all major subordinate commands, directorates, and staff offices/departments this headquarters, and Partners in Excellence per host-tenant agreement.

Suggested Improvements. The proponent of this regulation is _____________. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) through channels to CDR, ____________, ATTN: ____________.

1. Purpose. This regulation sets installation policies and procedures and assigns responsibilities for the operation of a mandatory QRP.

2. References.
   a. AR 420-1, Army Facilities Management
   b. DoDI 4715.4, Pollution Prevention (P2)

3. Objectives.
   a. Recover all qualified recyclable materials.
   b. Protect national/natural resources.
   c. Conserve scarce and valuable landfill space.
   d. Recover strategic/critical materials.
   e. Maximize net dollars returned to Fort Anywhere.
   f. Generate energy savings using scrap in the manufacturing process.
   g. Meet or exceed the DoD measure of merit requiring that 40% of the non-hazardous solid waste generated will be recycled.

a. Recycling offers an opportunity to substantially reduce the waste stream, extend landfill life, and decrease waste disposal costs. It will reduce environmental degradation while involving the community in the solution to conserve energy and valuable resources.

b. Increase the recycle value received through better, more efficient source segregation and identification of material.

c. Excess dollars derived through the sale of recyclable materials may be used for pollution abatement, P2, composting, alternative fueled vehicle infrastructure support and vehicle conversion, energy conservation, occupational safety and health projects, and Morale, Welfare, and Recreation (MWR) programs.

5. Responsibilities.

a. QRP Manager.

q. Sales records of qualified scrap by direct sales. Direct sales records shall contain item description, sale price, sale date, payment date, weight of scrap sold, list of bidders and winning bidder.

r. Expense records for operating and overhead costs. QRP records on operating costs shall include purchase of equipment, maintenance, program operation and expansion, labor costs, training, publicity, and overhead for processing recyclable materials.

s. Records of incomes and expenditures. This data shall be used to calculate the annual QRP profit or loss using the following equation: Income – Expenses = Profit or Loss.

t. Records of cost avoidance. Cost avoidance shall be estimated by determining the weight or volume of the material diverted from the waste stream, and calculating the labor, prorated hauling costs, maintenance costs, landfill tipping fee, and any other disposal charges that would have been incurred in the absence of waste prevention/recycling.

u. Retain records of profit distributions to MWR, Pollution Abatement, Energy Conservation, Occupational Health, or Safety projects.

v. Identify, process, market, and sell all qualified recyclable materials, except those that the manager determines are required by regulation to be recycled through other means.

w. Properly screen “Other QRP Materials” through an informal process.

x. Ensure excluded materials are not sold through the QRP.
y. Assist in the implementation of recycling programs within each Partner in Excellence, Division, Directorate, and post facility. Maintain contact with organization Recycling Coordinators to ensure compliance with QRP procedures.

z. Manage the overall Fort Anywhere QRP to ensure the continuation and expansion of an aggressive program that will guarantee that Fort Anywhere receives full benefit from the accumulation and sale of all qualified recyclable materials.

aa. Designate a trained individual (besides the QRP manager) to conduct local sales (term and spot sales) and award contracts.

bb. Require the designated non-appropriated fund (NAF) contracting sales officer to sign all documents requiring signature for the federal government.

c. Directorate of Public Works (DPW).

   (1) Shall have responsibility for the operation of the Fort Anywhere QRP. DPW will recommend policies and procedures through the QOC for the garrison commander’s approval.

   (2) Maintain command level attention.
d. Directorate of Resource Management (DRM).

(1) Ensure that projects considered for local funding with recycling proceeds are not included in the normal military construction program.

(2) Ensure that the balance of funds, received from the sale of recycled material, but not distributed at the end of the fiscal year, does not exceed $2,000,000.

(3) Conduct an annual audit of the QRP **F3875 Budget Clearing Account (suspend) to ensure the recycling revenue is used per 10 USC 2577.

(4) Maintain all program and audit records and make them available for audit and inspection.

e. Law Enforcement Command/Provost Marshal Office. Provide adequate prison labor details on a daily basis to support the program.

f. Defense Reutilization and Marketing Office (DRMO), Fort Anywhere.

(1) Provide technical advice and assistance.

(2) Provide market research, sales, and contract services for materials that by regulation may not be recycled through the QRP.

(3) Ensure proceeds from the sale of all qualified recyclable materials sold through DRMO are returned to the Fort Anywhere QRP budget clearing account in an expeditious manner.

g. Public Affairs Office (PAO). PAO provides program assistance by publishing advertisements and articles in all forms of media. Coordination will be made with Marketing Division.

h. All Organizations, Units, and Activities on Fort Anywhere.

(1) Each commander will be responsible for ensuring that their waste producing activities are evaluated to determine those that are essential and those that are not. Waste audit assistance is available through the Fort Anywhere QRP. Based upon this evaluation, commanders will implement waste stream reduction procedures. Examples of waste stream reductions are:

(a) Ensure proper supply discipline practices are followed; use routing slips instead of multiple copies; when possible, make copies on both sides of paper where appropriate, and use electronic filing.

(b) Use reusable products such as ceramic coffee cups, and glasses; maintain and repair durable products; reuse containers and other items.
(2) Each commander will appoint a Recycle Coordinator for his or her unit. The QRP will be provided with a memorandum appointing the unit recycle coordinator, giving name, rank, office symbol, e-mail address, and telephone number. With the aid of the QRP, the coordinators will implement a mandatory recycle program within their unit, and will appoint building monitors or points of contact (POCs) for each building. Exterior recycling containers and locks will be issued by the QRP. Cleanliness of recycle containers and surrounding areas is the responsibility of the building POC. When more than one unit occupies a building, the responsibility for recycle monitoring will fall to the unit hand-receipt holder for the building.

(3) Compliance inspection will be performed by the QRP inspector by spot-checking dumpsters. Compliance will also be part of the Inspector General (IG) and environmental inspections.

   a. First offense – the building POC will be notified.

   b. Second offense – the unit commander will be notified by the QRP manager.

   c. Third offense – a memorandum will be sent to the commander/director from the Garrison Commander.

6. Coordinating Instructions.


      (1) Offices. All office paper, to include junk mail, aluminum cans, toner, and ink jet cartridges, after separation, should be recycled through the Fort Anywhere QRP. Proper separation procedures are as follows: all paper products in one bag; rinsed glass, plastic, and cans in one bag; toner cartridges and ink jets in original boxes. The POCs may coordinate periodic pickup or delivery with the collection contractor.

      (2) Supply Functions and Maintenance Facilities.

          (a) Old Corrugated Cardboard (OCC). Clean, brown paper bags and most packing paper (not newspaper) may be mixed with OCC. Plastic or wax coated OCC or OCC that is contaminated with food particles or petroleum products is not recyclable and should not be mixed with other OCC. Outdoor metal containers are available from the QRP for the collection and storage of recyclable OCC. All OCC shall be broken down to conserve space in collection containers.
The POCs may coordinate periodic pickup or delivery with the QRP.

(b) Wooden Pallets. Any standard wooden pallet, to include those with broken boards that still may be used as a pallet, is recyclable. Pallets, so broken as to be unusable as a pallet, should also be disposed of through the QRP for shredding and sale. Some older pallets (pre-1980) may have been treated with PCP and other harmful chemicals and should be handled with caution. Units may withdraw pallets from the QRP as needed. The POCs may coordinate periodic pickup or delivery with the QRP. Generators of 10 or more pallets per week may arrange for scheduled pickups.

(c) Shipping Crates. Many wooden shipping crates can be reutilized or recycled. Units generating this type of waste should contact the QRP for specific guidance.

(d) Scrap Lumber. Much of the scrap lumber disposed of on Fort Anywhere can be reutilized or sold for recycling. Scrap lumber that cannot be reused can be shredded and sold. Scrap lumber must be delivered to the Fort Anywhere Recycle Center by units or picked-up by the QRP. Units may withdraw scrap lumber, when available, for self-help projects from the QRP.

(3) Food Preparation Facilities.

(a) OCC. Clean, brown paper bags and most packing paper (not newspaper) may be mixed with OCC. Plastic or wax coated OCC or OCC that is contaminated with food particles is not recyclable and should not be mixed with other OCC. Outdoor, metal containers are available from the collection contractor. All OCC shall be broken down to conserve space in collection containers.

(b) Tin Cans, Aluminum Foil and Trays, Plastic Bottles, and Clear and Brown Glass Bottles and Jars. Generators of this type of material should remove lids and dispose of them; all material must be well rinsed. After proper preparation, these materials may be co-mingled in a container provided for storage until pickup. Glass containers, (not drinking glasses, plates, or light bulbs), should not be broken when placed in collection containers.

(4) Government Quarters Occupants.

(a) Family housing occupants will separate recyclable materials from other household refuse into the two blue bins provided for pickup (extra bins will be provided by self-help for larger families).
Occupants may also contact the QRP to remove cardboard boxes (nothing in boxes except packing paper).

(b) All clean paper to include, writing paper, newspaper with inserts, junk mail, catalogs, telephone books, magazines, cardboard, boxboard (cereal boxes etc.), should be placed together in one bin. In the same bin place clean, dry textiles and pairs of shoes (tie shoes together). If you do not have enough room, you may use a separate bag or box.

(c) Tin/steel/aluminum cans, aluminum foil and trays, clear and brown (only) glass bottles and jars, plastic bottles with the number 1 through 7 on the bottom, plastic bags: Lids must be removed and disposed of; all material must be well rinsed. After proper preparation, these materials may be placed in one of the blue bins provided. Glass containers, (not drinking glasses, plates, windowpanes, or light bulbs), should not be broken when placed in collection containers.

(d) Textiles such as used clothing, towels, sheets, etc. must be serviceable and clean. Please tie pairs of useable shoes together.

(e) Used motor oil from private auto oil changes should be turned in to

(f) Used automotive batteries should be exchanged (left with dealer) when purchasing new batteries.

(g) Used tires should be exchanged (left with tire dealer) when purchasing new tires.

(h) Collection personnel will contact the area Mayor if there is strong evidence of noncompliance.

- First offense—a reminder will be left in the recycle bin and the Recycle Program will notify the Mayor.

- Second offense—a reminder will be left in the recycle bin, the individual’s trash will not be picked up, and the Recycle Program will notify the Mayor.

- Third offense—a reminder will be left in the recycle bin, the individual’s trash will not be picked up, and the Recycle Program will notify the Garrison Commander.

b. Separation/Turn-in Procedures for DRMO

(1) Items turned in to DRMO.
(a) Definition of recyclable material that may not be recycled through the QRP: If the material is not reusable by the government for its original purpose, and is not required for disposal through higher priority programs such as transfer, donation, foreign military sales, precious metals recovery, strategic, and critical materials stockpile, used military vehicles, military vehicle or machine parts, and electrical components it should be recycled through the QRP. Also, not recyclable through the QRP are discarded materials that must undergo demilitarization or mutilation before sale, strategic list items, and munitions list items (with the exception of small arms brass and mixed metals gleaned from firing range clean up).

(b) All other types of scrap material must be turned in to the QRP.

(c) Turn-in Procedures for DRMO. All supply activities taking items that may later be declared as scrap to DRMO will ensure documents indicate that the derived funds are to be deposited to the Recycling Budget Clearing Account 21F3875.1111, DAO, Fort Anywhere, Kentucky. Failure to provide recycling information to DRMO will result in the proceeds not returning to the Fort Anywhere community.

c. Separation/Turn-in of Hazardous Materials. Separation and turn-in of hazardous materials must be coordinated with the Environmental Management Division.
FOR THE COMMANDER:

OFFICIAL:
JOHN DOE
COL, AR
Garrison Commander

SAM O. SMITH
Director, Information Management

DISTRIBUTION:
A

CF:
DCG, USAARMC
REFERENCES:

1. All References are listed at the end of this sample standard operating procedure (SOP).

PURPOSE:

2. This (sample) SOP:
   a. Establishes and/or prescribes procedures and assigns responsibility, under DoDI 4715.4, Pollution Prevention, for execution of a cost-effective waste prevention and qualified recycling program to reduce the volume of non-hazardous solid waste and impact of (insert installation name wherever quotation marks are shown, and throughout document wherever indicated) activities on the environment, in accordance with Title 10 United States Code (U.S.C. 2577) and Executive Order (EO) 13423), to be operated by the (“).
   b. Designates (“) personnel to lead the implementation of key pollution prevention and waste reduction programs within (“).
   c. Formalizes a green procurement program in accordance with 42 U.S.C. 6962 and EO 13423.

SCOPE:

3. This SOP applies to all (“) units and activities with the following exceptions:
   b. Additional pollution prevention requirements for transportation-related onshore and offshore facilities and vessels that are regulated by the U.S. 33 U.S.C. 1901-1912.
DEFINITIONS:

4. To maintain consistency with other Army or DoD components, the terms and definitions at the beginning of this document apply to this SOP, and shall be used for any supplemental or delegated regulations, policy/regulations, or publications promulgated by the (“”).

POLICY:

5. It is (“”) policy to:

a. Ensure (“”) organizations in the United States comply with applicable federal, state, interstate, regional, and local environmental laws, regulations and standards, and with relevant Executive Orders; or in the case of organizations located outside the United States, with applicable Executive Orders, international agreements, federal statutes with extraterritorial effect, and either the final governing standards or the Overseas Environmental Baseline Guidance Document where no final governing standards have been issued.

b. Reduce the use of hazardous materials, the generation or release of pollutants, and the adverse effects on human health and the environment caused by activities.

c. Reduce pollution through improvements in energy and water efficiency, the use of alternative fuels, and other activities that improve resource utilization.

6. It is (“”) policy to accomplish the objectives using a management approach that:

a. Emphasizes pollution prevention, including improvements in energy and resource utilization, as the alternative of first choice in achieving compliance with applicable environmental requirements and Executive Orders.

b. Incorporates pollution prevention throughout (“”) organizations and into all phases of acquisition, operations, maintenance, support and ultimate disposal of equipment and materials over the system life cycle.

c. Uses the environmental management hierarchy to develop environmental solutions. In descending order of preference, (“”) will:

(1) Prevent pollution at the source to eliminate or minimize adverse health effects while protecting, preserving, restoring, and enhancing the quality of the environment.

(2) Reuse pollutants that cannot be eliminated. Recycle, in an environmentally safe manner, pollutants that cannot be reused.
(3) Treat, in an environmentally safe manner, pollutants that cannot be eliminated or recycled.

(4) Dispose or release pollutants into the environment only as a last recourse and only where such disposal or release can be controlled and conducted in a manner that is safe for human health and the environment and consistent with applicable legal requirements.

d. Reduces the life cycle costs of (“) equipment and processes by avoiding the use of hazardous materials.

e. Plans, programs and budgets to achieve the policies in this policy/regulation. (“) budgeting procedures shall use environmental quality classes and the following definitions for environmental compliance and pollution prevention:

(1) Environmental compliance includes all activities and projects that use end-of-pipe treatment or disposal methods to meet applicable environmental requirements.

(2) Compliance-type requirements that are satisfied by source reduction (pollution elimination or reduction), pollutant (toxicity) minimization, or recycling approaches are pollution prevention requirements and shall be funded as pollution prevention.

f. Instills knowledge and understanding by all personnel (military and civilian) of pollution prevention requirements through comprehensive education, training, career development, and awareness programs.

g. Promotes P2 through positive relations and partnerships with Federal, state, Native American, regional and local government officials as well as host country, other private and public stakeholders.

h. Develops, demonstrates, and implements innovative P2 technologies and business practices.

ORGANIZATIONS:

7. A recycling committee shall be established to consist of members from Logistics Services; Occupational Health, Environmental, and Safety Services; Facilities Services; and the Office of General Counsel (OGC).

8. A representative from the contracting office will attend committee meetings as a non-voting member when contracting issues are to be discussed.

9. The recycling manager will attend as the recorder.
10. The chief or deputy chief, occupational health, environmental, and safety services shall chair the committee.

11. The committee shall meet at least quarterly to review and approve proposals for pollution prevention and source reduction projects. Such projects will be funded by revenue generated from various recycling and waste prevention activities. The committee will review ways and means to improve and monitor recycling initiatives and procedures at the ("").

12. The committee will annually review and approve the operating expenses of the ("") recycling program based on an annual budget prepared by the recycling manager.

13. Written reports and minutes covering formal meetings will be furnished to the committee members by the recorder within two weeks of each meeting.

14. As necessary, costs incurred because of equipment failure and/or personnel requirements during recycling operations will be included in the operation cost, and reimbursed to the activity as appropriate.

15. The committee will publish an annual report for the commander including, but not limited to, quantity and type of materials recycled, revenues generated, and disbursement of funds. This report will be forwarded through channels to Headquarters, Department of the Army (HQDA).

16. The committee will oversee the Green Procurement Program in accordance with EO 13423.
RESPONSIBILITIES:

17. The Deputy Director for Support Services shall:
   a. Oversee the ("\(\)) Waste Prevention and QRP.
   b. Implement programs to monitor and achieve progress toward the ("\(\)) goals highlighted in its P2 Plan and compliance with EO 13423.

18. The Recycling Manager will:
   a. Develop, establish, and maintain the operation of an aggressive QRP.
   b. Maintain Directorate-level attention.
   c. Coordinate, when appropriate, with the DRMO for:
      (1) Assistance in program management and generation of recyclable materials.
      (2) Technical advice and assistance.
      (3) Sale of qualified materials.
   d. Manage the overall ("\(\)) recycling program to ensure the continuation and expansion of the QRP, which will guarantee that ("\(\)) receives funds from the accumulation and sale of all recyclable materials that normally would be discarded.
   e. Coordinate with Occupational Health, Environmental, and Safety Services on all aspects of environmental protection. Specifics include all matters that affect solid and hazardous waste management, general environmental compliance, and permit compliance and reporting.
   f. Ensure that supporting documentation is kept for three years.
   g. Advise generators of recyclable materials on source segregation, identification, and turn-in of recyclable materials (education).
   h. Improve and expand the ("\(\)) recycling, source reduction, and green procurement programs as appropriate.
19. The Recycling Committee will:

a. Investigate options to purchase and operate alternative-fueled vehicles to reduce the emission of pollutants associated with recycling and maintenance vehicles, as required for non-tactical vehicles by Public Law (PL) 102-486, EO 12844, and DoD Regulation 4500.36-R.

b. Maintain financial control of the program through strong amounting and information system management procedures.

c. Execute strategies to eliminate reliance on Ozone Depleting Substances (ODS) in accordance with EO 12843.

d. Provide necessary data to DLA to allow them to manage the DoD ODS Reserve and meet any reporting requirements, including those in DoD 4160.21-M.

e. Participate in periodic pollution prevention in-progress reviews (IPRs) as required by HQDA and IMCOM.

f. Raise emerging DoD pollution prevention issues through the chain of command to the Defense Environmental Security Council (DESC), the Environment, Safety and Occupational Health Policy Board, or the DESC P2 committee, as appropriate.

g. Ensure that program procedures address recyclable materials, excluded materials, and other QRP materials.

h. Divert recyclable materials from the non-hazardous solid waste stream where economically feasible. Individual types of recyclable materials that make up a substantial percentage of the non-hazardous waste stream should be included in recycling programs unless doing so will make the overall recycling program unprofitable. Recyclable materials do not require informal screening as defined in DoD 4160.21-M.

i. Sell recyclable and other QRP materials, or consign them to the Defense Reutilization and Marketing Service (DRMS) for sale.

(1) Implement DoD procedures that ensure U.S. trade security control policies are followed in accordance with DoDI 4160.27 and DoD 4160.21 - M prior to directly selling firing range expended brass or mixed metals gleaned from firing range cleanup that do not require demilitarization and that are Munitions List Items (MLI) or Strategic List Items (SLI).
(2) Prior to selling directly other recycling program materials, shall implement procedures for reuse screening to consider reuse programs in accordance with EO 12873.

(3) Ensure that outside the United States, disposition of recyclable and other QRP materials, derived from goods that have been imported duty-free, is consistent with the provisions contained in status of forces agreements, surplus or excess property agreements, or other international agreements with host nations.

j. Assist Finance and Accounting in establishing an accounting and control system for recycling programs that provides detailed management and audit information and tracks expenditures made for appropriate projects and programs. Integrity of the audit will be a priority concern.

k. Ensure that appropriate management controls are in place for recyclable materials that may be hazardous, such as lead-acid batteries.

20. The Office of Finance and Accounting will:

a. Establish and maintain a clearing account for the deposits of proceeds and ensure that all collections are accumulated in this account as received.

b. Ensure the issuance of all collection vouchers for funds received in the clearing account and contain complete accounting classification. Copies of collection vouchers shall be provided to the recycling manager.

21. The Finance and Accounting Fund Manager will:

a. Establish an accounting and control system for recycling programs that provides detailed management and audit information, tracks material quantity handled, calculates sales and handling costs for recycled material, and tracks expenditures made for appropriate projects and MWR programs. Integrity of the audit will be a priority concern.

b. The recycling program manager will prepare and submit an annual budget for review by the fund manager and approval by the (―) recycling committee. The budget will identify and describe operation expenses and projected revenues.

22. Logistics Services will:

a. Provide the recycling manager with official documents of dollar amount of recyclable materials sold by DRMO or contractors for accrual of recyclable income.
b. Provide equipment to support the (‘‘) recycling Program on an as available basis (non-reimbursable) until final purchases can be made.

c. Ensure that principles and procedures as outlined in this policy/regulation are followed to process all documents and materials cleared for direct turn-in to DRMO or direct sale to contractors for the recycling program.

d. Ensure that items to be disposed of are properly sanitized to ensure that no classified information is compromised.

23. Facilities Services will:

a. Participate in the necessary aspects of the program to ensure a vigorous and accountable recycling program.

b. Within resource constraints and subject to good engineering practices, provide self-help materials and facility support to the (‘‘) recycling program on a non-reimbursable basis.

c. Provide preventive maintenance and repair of equipment used for recycling materials on a reimbursable basis from the Recycling Fund.

d. Retain prepotency and responsibility for all aspects of the solid waste management program.

e. Ensure, where cost effective, that any government contracts that provide for contractor operation of a leased facility located within the United States, its territories, or possessions, include provisions that obligate the contractor to participate in a recycling program.

f. Modify existing contracts covering leased facilities, where cost-effective, to incorporate recycling provisions.

24. Security Services will:

a. Establish procedures for recycling unclassified sensitive material. This includes manuals, bulletins, regulations, reference books, and all other instructional materials to include those manuals with distribution restrictions.

b. Maintain appropriate guidance, in writing, concerning the recycling of privacy act material paper products.

c. Manage spent ammunition brass.

Occupation Health, Environmental, and Safety Services will:
a. Monitor all activities of the recycling program.

b. Ensure that appropriate management controls are in place for recyclable materials that may be hazardous, such as lead-acid batteries.

c. Ensure that appropriate controls are in place for recycling processes.

d. Perform annual audits of recycling contractors. Forward these audits to the recycling committee for review within two weeks of performing the audit.

e. Chair the recycling committee.

f. Research and develop innovative pollution prevention technologies through partnerships with federal agencies, government laboratories, and the private sector.

25. The Contracting Office will provide a non-voting member to the recycling committee and provide guidance on contractual issues related to the sale of recyclable items.

26. All (“”) organizations, units, and activities will:

   a. Identify, collect, separate, and remove contaminants from all recyclable materials, e.g., staples, paper clips, carbon paper, etc.

   b. Be responsible for property accountability for items such as recycling containers issued from the recycling manager on a hand receipt.
DISTRIBUTION OF PROCEEDS:

27. The proceeds from the sale of recyclable materials will be dispersed according to the following hierarchy:

a. Proceeds shall first be used to cover the costs directly attributable to all (“”) Recycling Programs, including, but not limited to, manpower, facilities, equipment, overhead, and other capital investments.

b. After these costs are recovered, up to 50% of the remaining proceeds may be used for pollution abatement, energy conservation, or occupational safety and health projects.

c. In accordance with law, any proceeds remaining from the sale of direct recyclable materials or other qualified recyclable materials may be transferred to the non-appropriated MWR account for any morale or welfare activity.

28. An accounting and control system shall be established for the (“”) Recycling Program that provides detailed management and audit information, tracks the quantity of material recycled, calculates sales and handling costs for recycled material, and tracks expenditures made for operation and maintenance of recycling program projects, MWR programs, and to the Treasury by line item.

29. Changes in DoD policy after the date of this policy/regulation will be implemented through additional (“”) documentation.

EFFECTIVE DATE AND IMPLEMENTATION: This policy/regulation is effective immediately.
References

(Complete as deemed necessary.)
Sample Outline of Job Duties for Facility Recycling Coordinator

The Facility Recycling Coordinator (RC) is responsible for planning, implementing, and coordinating comprehensive waste management systems to maximize waste prevention, reuse, and recycling opportunities in accordance with presidential Executive Order 13423 and other applicable federal, state, and local laws and regulations. The RC plays a central role in planning and administering environmental activities related to waste management. They exercise judgment and broad perspective in applying a thorough knowledge of the principles, concepts, and practices relating to waste management as they concern problems of organizing, planning, funding, and controlling waste minimization and recycling programs.

The work involves extensive practical knowledge gained through experience and/or specific training. RCs carry out tasks, procedures, and/or computations that can be performed by (1) application and adaptation of standardized techniques and methods and (2) use of practical judgment with only an elementary grasp of the basic principles of environmental protection work.

Generally, they perform a variety of functions related to one or more of the following areas:

A ANALYZING/AUDITING WASTE STREAMS
- Acquire knowledge of facility specific waste streams.
- Identify wastes.
- Quantify wastes.
- Evaluate waste management options.
- Recommend waste management techniques and strategies.

B MANAGING WASTE STREAMS
- Establish goals and objectives.
- Plan programs.
- Implement programs.
- Maintain records.
- Evaluate programs.

C MANAGING COLLECTION/PROCESSING SYSTEMS
- Develop a collection and processing strategy.
- Research waste management equipment options.
- Determine specifications for collection/processing equipment.
- Implement a collection and processing system.
- Ensure a safe work environment.
- Operate and maintain equipment.
D IDENTIFYING/DEVELOPING MARKETS

- Acquire knowledge of markets and recovered materials.
- Investigate marketplace standards for recovered materials.
- Seek markets for recovered materials.
- Match recovered materials with end users.
- Maintain vendor liaison.
- Maintain supply and demand statistics.

E ENSURING REGULATORY COMPLIANCE

- Identify applicable regulations, standards, and policies.
- Interpret regulations, standards, and policies.
- Propose internal policy and operating guidance.
- Comply with EO 13423 and applicable regulations (e.g., local, state, federal).

Educate employees/public.
- Maintain records.
- File reports.
- Conduct and participate in self-assessments, audits, and inspections.
- Implement permitting, investigations, and enforcement/corrective action activities.
- Keep current on regulatory environment.

F ADMINISTERING CONTRACTS, GRANTS, AND BUDGETS

- Determine scope of work.
- Prepare documentation for contracts, grants, and budgets.
- Assess liability.
- Negotiate terms.
- Monitor for compliance.
- Provide reports.
- Regularly review contracts, grants, and budgets.

G DEVELOPING PUBLIC RELATIONS AND EDUCATION PROGRAMS

- Assess audience.
- Establish media relations.
- Develop and conduct surveys and studies.
- Develop educational materials for internal and external use.
- Inform and educate customer on waste management issues.
- Present information (e.g., displays, tours, speeches, trade shows, and schools).
- Facilitate public forums.

H ESTABLISHING PARTNERSHIPS
- Develop and maintain external and internal networks.
- Facilitate information exchange.
- Coordinate programs among public and private partners.
- Provide technical and financial assistance.
- Participate in local, state, and national organizations.
- Encourage and participate in mentoring.

I SUPERVISING EMPLOYEES/VOLUNTEERS

- Implement management's philosophy.
- Define goals (e.g., safety, production, and costs).
- Assign duties.
- Conduct training.
- Provide support and guidance.
- Resolve conflicts and problems.
- Maintain records.
- Evaluate performance.

J PARTICIPATING IN PROFESSIONAL DEVELOPMENT ACTIVITIES

- Participate in local, state, and national organizations.
- Read professional journals.
- Attend seminars and continuing education courses.
- Develop leadership skills.
- Share information in public forums.
- Publish and present papers at conferences.
CHAPTER 1
INTRODUCTION

1-1. PURPOSE. This SOP establishes the Recycle Safety Program and prescribes policies and procedures for safety program implementation throughout this organization.

1-2. SCOPE. This SOP applies to all personnel assigned, attached, or otherwise detailed for duty to the Recycle Program.

1-3. REFERENCES. Required and related publications are listed at Appendix ____.

1-4. GOALS AND OBJECTIVES. The Recycle Program’s objective is a safety and health program that will reduce the number of work related injuries and illnesses to a minimum; and recognizes that employee safety is the number one concern. Our goal is zero accidents and injuries.

1-5. DUTIES AND RESPONSIBILITIES OF KEY PERSONNEL

a. Recycle Manager.

(1) Establish objectives and policies that will influence the effectiveness of the accident prevention effort of the program.

(2) Motivate staff, supervisors, and each individual to reduce accident potentials through hazard identification, reporting, and abatement.

(3) Ensure that all personnel are aware that their responsibilities and support of the Recycle Safety Program is a rating element of their evaluation reports, in accordance with (IAW) Army Regulation (AR) 385-10, The Army Safety Program.

(4) Integrate safety factors into all operations and activities.

(5) Ensure that all accidents and close-call incidents are reported (at least to immediate supervisor) and investigated IAW AR 385-40 and Department of the Army Pamphlet (DA PAM) 385-40, Accident Reporting, Investigation and Recordkeeping. Primary focus of mishap investigations will be to determine the causes of the mishap/accident and to prevent reoccurrence. This information will be used to educate employees in accident prevention.
(6) Appoint collateral duty safety personnel, a Collateral Duty Safety Officer (CDSO) and Assistant Collateral Duty Safety Officer (ACDSO), to coordinate the various safety program elements outlined in this SOP and serve as principle advisor to the manager for all matters concerning safety, occupational health, and risk management.

b. The CDSO and ACDSO will be appointed IAW criteria prescribed in AR 385-10, Chapter 2, paragraph 2-7 (g) and (h). Specific duties are as follows:

(1) Complete the Additional Duty Safety Officer course within 90 days of appointment.

(2) Become familiar with Army safety regulations, safety requirements for the activity, principles of accident prevention, and safety aspects included in SOPs, field manuals, technical manuals, etc.

(3) Interpret safety policies and procedures for the manager, supervisors, and subordinate personnel.

(4) Supervise and conduct safety hazard inspections giving particular attention to recurring and serious hazards and to new or varied operations.

(5) Coordinate with supervisors to provide technical assistance to eliminate unsafe work practices.

(6) Provide prompt assistance with accident investigation and reporting. Review reports for completeness and accuracy and evaluate adequacy of corrective actions. Follow-up to ensure corrective actions are taken.

(7) Maintain safety records and analyze the unit’s accident experience to determine accident patterns, then develop and implement countermeasures.

(8) Provide the manager with periodic safety progress reports and information concerning accidents.

(9) Provide assistance for manager in conducting periodic briefings with supervisors regarding the objectives of the safety program, methods of attaining these objectives, and the degree of success expected.

(10) Incorporate safety practices in operating procedures, training publications, demonstrations, and exercises to ensure the safety of Recycle Program personnel and the public.

(11) Determine the need for and obtain material for safety training, safety promotions, and safety awards.
c. Supervisors.

(1) Perform a Job Hazard Analysis (JHA) of all operations under their control to ensure compliance with this SOP and applicable safety standards and regulations. Assure employees observe and comply with appropriate safety and occupational health rules and regulations, including the use of Personal Protective Equipment (PPE) provided for their protection. Supervisors will set the example in using PPE.

(2) Perform Risk Assessments for each potentially hazardous task, and train personnel using the risk assessments in addition to the manufacturers operating manuals.

(3) Be responsible for accident prevention to the same extent as for protection, services, mission, and training.

(4) Be on the alert for unsafe acts or conditions that may be conducive to accidents to include the use and care of PPE.

(5) Report unsafe workplace conditions to the {insert name of responsible safety office} Safety Office (XXSO) for assistance in correction.

(6) Promptly evaluate and take action as required to correct hazards reported by employees or identified through accident investigation. Reprisal action will not be initiated or supported against employees who identify hazards, raise safety concerns, or engage in authorized safety and occupational health activities.

(7) Orient all newly assigned personnel concerning the hazard inherent in their job and work environment. Conduct training and certification for use of any mechanical equipment the employee will use.

(8) Report all accidents promptly. Conduct comprehensive factual investigations when on-duty injuries result in lost time.

(9) Ensure facts on compensation forms are fully documented and accurately reported.

(10) Provide light duty for employees injured on the job when indicated by the Medical Treatment Facility. When light duty is not available, the next higher employing echelon will attempt to find such duty.

d. Employees are responsible for their own actions and will be held accountable for any unsafe act observed, reported, or founded as determined by an investigation. Individuals must:

(1) Remain familiar and comply with safety rules and regulations. Consult user manuals or talk to supervisor regarding safety questions.
(2) Correct and report unsafe conditions. As appropriate, warn others of known hazards or their failure to observe safety precautions.

(3) Report all accidents and close-call incidents to immediate supervisors whenever they occur.

(4) Wear all appropriate PPE gear and maintain properly between uses.

(5) Be aware of safety responsibilities for both on and off duty.

1-6. SAFETY PROGRAM ELEMENTS.

a. Administrative Requirements.

   (1) Functional Files: Safety files will be maintained IAW AR 25-400-2, The Modern Army Recordkeeping System.

   (2) The employee bulletin board will have the following: The Commanding Generals Safety Policy, Thunderbolt Six Policy Memo No. 40-11 Command Safety; the DCFA Policy Memo No. 2-03 - Safety, DD 2272, DoD Safety and Occupational Health Program; and the inventory of all hazardous chemicals/materials and locations of Material Safety Data Sheets (MSDSs).  
   {NOTE: Insert pertinent local safety policies, directives, instructions, etc. where highlighted, above.}

b. Training.

   (1) The CDSO and ACDSO will both attend the Collateral Duty Safety Officer course within 90 days of appointment.

   (2) All Recycle Program employees will receive specific safety training required to perform their duties and all elements of this SOP.

   (3) New employees will be briefed on the Recycle Safety Program by the CDSO/ACDSO within 30 days of employment.

   (4) Safety training will be forecast, scheduled, and conducted to standard.

   (5) During any training session should an unsafe act occur, training will be halted, the problem corrected, and the training resumed.

c. Office Safety.

   (1) Supervisors will ensure that work areas are maintained in a safe condition.
(2) Spills will be cleaned up immediately.

(3) Electrical outlets will not be overloaded. Proper grounding measures will be taken on selected equipment.

(4) File cabinets will be used and handled in a way that will avoid tipping. File drawers will remain closed when not attended.

(5) Personnel will be instructed in the proper ways to lift and carry materials, especially heavy or bulky loads. Personnel will solicit help if the load is more than 50 lbs.

d. Vehicle Safety.

(1) Only trained and licensed personnel will operate vehicles or equipment.

(2) Vehicle loads will be checked to insure loose items are properly secured.

(3) Ground guides will be used at all times when backing or moving vehicles in a congested area and in Building # xxx {specify as needed}.

(4) All vehicles will have the basic issue of safety items, i.e., highway warning devices, first aid kit, and fire extinguishers.

(5) Vehicles will operate with lights on while on public roads.


(1) All personnel will receive seasonal Hot and Cold Weather Injury Prevention Training.

(2) Supervisors and all leadership will be held accountable for any cold weather or heat injury casualty.

(3) All reasonable efforts will be taken to protect employees from the elements, i.e., flash floods, extreme heat and cold, lightning, etc.

f. Safety Inspections.

(1) Supervisory personnel will conduct spot inspections to identify and eliminate any hazardous conditions in their area of responsibility.

(2) The CDSO/ACDSO will coordinate formal inspections to meet the various regulatory requirements and to ensure a safe and healthy working environment exists throughout the Recycle Program.
(3) The CDSO/ACDSO will document safety inspections and maintain records.

(4) All findings will be corrected immediately. Whenever a systemic problem is identified, the manager will be made aware and will provide guidance for the plan of action to abate the problem.

CHAPTER 2
ACCIDENT REPORTING AND RECORDS

2-1. GENERAL.

a. Accident reporting and investigating will be performed per the requirements of AR 385-40 and this document. The supervisor directly responsible for the operation, material, or person(s) in an accident will ensure that:

(1) Injured personnel are provided immediate first aid. Appropriate medical authorities will also be notified as soon as possible if required. Seriously injured personnel will be moved only under the supervision of qualified medical personnel.

(2) Access to the accident scene is secured and permitted only to medical personnel, Military Police, firefighters, management, or official investigators.

(3) All accidents are reported to the CDSO/ACDSO as soon as possible after an accident occurs in or around their activity. Be specific and be prepared to provide the following:

(a) Date of accident

(b) Time of accident

(c) Location of accident (bldg. #, location in bldg., etc.)

(d) What happened?

(e) What caused it to happen?

(f) Current status of the individual or equipment

2-2. RESPONSIBILITIES.

a. Management/supervisors are responsible for:

(1) Making a formal investigation of all accidents.
(2) Taking positive corrective action to prevent a reoccurrence.

(3) Submitting accident reports as required.

(4) Ensuring all witnesses are available for questioning.

b. The CDSO/ACDSO is responsible for:

(1) Keeping an ample supply of accident forms on hand at the activity to avoid delay in submission of employee claims.

(2) Ensuring facts on compensation forms are fully documented and accurately reported. Forms and submission requirements are listed below:

(a) “LS-202—Initial Report of Injury” \(\text{\{}\text{Replace with equivalent local form designation}\}\). Should be filed within three days of knowledge about any injury.

(b) “LS-1—Form” \(\text{\{}\text{Replace with equivalent local form designation}\}\). Employee takes to the doctor/hospital when seeking treatment.

(c) “LS-210” \(\text{\{}\text{Replace with equivalent local form designation}\}\). Employer/manager fills out. If the employee will miss more than three days of work due to the accident, this form must be filled out by the manager and turned in to the Civilian Personnel Office (CPO) \{\text{NOTE: Replace if necessary with local equivalent}\}. The form will again be filled out when the employee returns to work. NOTE: Failure to turn in appropriate forms to CPO within 10 working days of the accident may result in a $500 fine being levied against the Recycle Program.

CHAPTER 3
SPECIAL EMPHASIS ON SAFETY

3-1. ELECTRICAL HAZARDS.

a. Only trained and qualified personnel will perform work on electrically powered equipment and facility electrical systems. Defective electrical wiring, downed wires, and other electrical hazards

b. Flagpoles, radio masts, metallic ladders, and similar objects will not be erected or dismantled where the possibility of contact with energized circuits exists. Masts, towers, and antennas will be installed at least twice the height of the structure from power lines.

3-2. MACHINE SAFETY.
Rings, other jewelry, loose clothing, and unbound hair will not be worn when working around moving machinery, during vehicle maintenance or during other hazardous industrial operations.

3-3. SLIPPING/TRIPPING HAZARDS.

All aisles, passageways, stairs, sidewalks, and other walking surfaces will be free of slipping or tripping hazards.

3-4. RADIATION HAZARDS.

If a radiation source is found, personnel should immediately evacuate the area and call the Fort Anywhere Radiation Protection Officer at {insert telephone number monitored 24/7}.

CHAPTER 4
HAZARD COMMUNICATION PROGRAM

4-1. GENERAL. Chemicals pose a wide range of health hazards (such as irritation, sensitization, and carcinogenicity) and physical hazards (such as flammability, corrosion, and reactivity). This Hazard Communication Program is designed to ensure that information about these hazards and associated protective measures are disseminated to workers and employers.

a. The recycle manager will ensure:

   (1) An individual is appointed to coordinate the hazard communication program within their organization and act as the central point of contact. Provide the name and phone number to the {XX}SO.

   (2) Compliance with all elements of this program.

   (3) This regulation, the organization’s hazard chemical inventory, and applicable MSDSs are readily available for personnel working with hazardous chemicals.

a. Recycle management will:

   (1) Keep the hazardous chemical inventory up to date.

   (2) Request assistance for initial training for newly assigned military/civilian personnel by contacting {NOTE: Insert name of appropriate office}.

   (3) Ensure safe handling procedures, measures, protective clothing, and equipment is used per the direction on the MSDS.

   (4) Ensure receipt of MSDS with shipment of hazardous chemicals.
(5) Maintain MSDS on all hazardous chemicals used in the workplace, and make readily available to all employees.

b. Supervisors will:

(1) Train employees on specific hazards associated with the chemicals used in their workplace and protective measures to prevent injury/exposure to hazardous chemicals.

(2) Apprise employees performing non-routine tasks of any hazardous chemicals they may use or come in contact with and protective measures to prevent exposure.

4-2. PROCEDURES.

c. Labeling.

(1) Labeling shall provide workers with baseline information on the substances to which they are exposed. A label is not intended to provide full information on the substance.

(2) Label containers with the chemical identity and the appropriate hazard warnings.

(3) Containers into which a toxic substance or mixture is being transferred from a labeled container, and which is intended for immediate use by the employee making the transfer, are exempt from labeling.

(4) Containers must be individually labeled. The labels must be affixed and displayed in such a manner that employee’s can easily identify the hazardous substance contained within.

(5) If labeling or re-labeling is required, the user shall complete DoD hazardous chemical label, and affix same to all individual hazardous chemical containers. Known or suspect carcinogen containers will be labeled to properly identify the contents with “DANGER-CHEMICAL CARCINOGEN.”

(6) Information on DoD hazardous chemical label shall include the chemical name and the name of the manufacturer, importer, or responsible party, and appropriate hazards.

(7) The chemical/common name on the DoD label shall be the same as shown on the MSDS.
(8) Hazardous wastes also must meet EPA labeling requirements. Units generating hazardous wastes will contact the Environmental Management Division, at {Note: Insert telephone number}, to obtain proper hazardous waste labels.

(9) Chemicals used in laboratories need not be relabeled if labels on incoming containers of hazardous chemicals are not defaced or removed.

a. Material Safety Data Sheets (MSDSs).

(1) Contents of any MSDSs used on Fort Anywhere must meet Occupational Safety & Health Administration (OSHA) requirements.

(2) MSDS for locally purchased items and nonstandard stock hazardous chemicals should be requested at time of purchase.

(3) If a MSDS is not received with a locally purchased hazardous chemical, the supervisor may contact the vendor, manufacturer or find it on the Internet by typing “MSDS” in the search window. The hazardous chemical will not be used until a MSDS is available.

(4) Identification of a hazardous material and correct matching to its MSDS is required. Critical differences exist between similarly named chemicals/products from different manufacturers.

(5) All personnel will have ready access during each work shift to MSDS applicable to their work area. Accessibility will be achieved by placing copies in the immediate work area or by providing rapid response from a centralized MSDS file.

(6) Employees who question the safe use of a material will not be required to use it until an approved MSDS is provided and the hazards and protective procedures explained.

4-3. UNIT CHECKLIST FOR HAZARD COMMUNICATION COMPLIANCE.

a. Is an individual appointed to coordinate the Hazard Communication Program within the unit?

b. Is there a hazardous chemical inventory covering all hazardous chemicals within the organization, and is the inventory list readily available to workers?

c. Is the hazardous chemical inventory kept up-to-date, and is the updated list forwarded to the Armor Branch Safety Office?

d. Are a copy of the hazardous chemical inventory and the location of the MSDSs maintained on the unit bulletin board near the Fire Evacuation Plan?
e. Is there a MSDS for each chemical in the inventory and are the MSDSs readily available for the worker's review?

f. Is there an SOP developed covering the execution of the hazardous chemical program within the unit?

g. Have all personnel who work with hazardous chemicals as a normal part of their duties been properly trained? (i.e., The Federal Hazard Communication Training Program and unit specific training.)

h. Are all hazardous chemical containers properly labeled?

i. Are all hazardous chemicals properly stored?

j. Have all personnel who work in facilities where hazardous chemicals are stored been informed of their presence and told what to do in case of emergency?

CHAPTER 5
LOCKOUT/TAGOUT OF HAZARDOUS ENERGY SOURCES

5-1. RESPONSIBILITIES.

a. Recycle Management will:

(1) Ensure a lockout/tagout program is established and implemented for the protection of personnel from accidental energization or start up of equipment during maintenance/repair.

(2) Ensure employees required to use lockout/tagout devices are trained in the purpose and use of the lockout/tagout procedures and all employees are trained in their responsibilities to inform their supervisor of a lockout/tagout situation with their equipment.

(3) Provide locks and tags necessary to lockout/tagout energy sources during maintenance or repair of equipment. These locks and tags shall not be used for any purpose other than to lockout and tagout energy sources. Tags should only be attached with non-reusable nylon cable ties.

(4) Conduct periodic inspections to ensure supervisors and employees are following all elements of this SOP.

(5) Ensure supervisors are aware of their responsibility for removing lockout/tagout devices. The individual installing the lock is the only person permitted to remove the lock.
b. Employees will:

(1) Comply with all procedures herein to prevent accidental start up of equipment/systems while performing maintenance or repair.

(2) Be knowledgeable of the equipment being serviced, the types of energy, and its hazard, and how to isolate the equipment from all energy sources.

5-2. LOCKOUT PROCEDURES.

a. Individual(s) performing maintenance will notify all affected employees that a lockout is required and the reasons for the lockout.

b. If the equipment is operating, shut it down by the normal stopping procedure (depress stop button, open toggle switch, etc.).

c. Operate the switch, valve, or other energy-isolating device so that the energy source(s) (electrical, mechanical, hydraulic, etc.) is disconnected or isolated from the equipment. Stored energy in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc., must also be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding-down, etc.

d. After ensuring that no personnel are exposed, verify that the energy sources have been disconnected by operating the pushbutton or other normal controls to make certain the equipment will not operate. Return operating controls to neutral position after the test. The equipment is now locked out.

5-3. RESTORING EQUIPMENT TO SERVICE.

Removal of lockout/tagout devices by persons other than the employee(s) who applied them is not authorized unless circumstances are such that the employee(s) who applied them is/are unable to remove them. See paragraph 5-6.

5-4. PROCEDURES INVOLVING MORE THAN ONE PERSON.

a. Employees performing maintenance on the same equipment or machinery as other employees shall place their own personal lockout or tagout device on the energy isolating device(s).

b. When employees no longer need to maintain their lockout protection, they will remove their lock from the energy isolating device(s).

5-5. SHIFT OR PERSONNEL CHANGES.
a. If work on equipment is required by the next shift, the employees shall affix their lock/tag to the equipment identifying them as the responsible party for locking or tagging out the energy sources to the equipment.

b. The employee replacing the existing lock or tag should follow procedures in paragraph 5-2.

5-6. REMOVAL OF ENERGY ISOLATING DEVICES

a. This procedure will only be applied to those situations where circumstances are such that the employee who applied the lockout or tagout is unavailable to remove them.

b. The supervisor must verify that the employee who applied the device is unavailable to remove the lock or tag.

c. Every reasonable effort will be made to contact employees to inform them that their lockout or tagout device has been removed.

d. The supervisor will ensure that the employees have been informed that their tags have been removed before the employees resume work in the facility where the lockout or tagout device was removed.

e. The supervisor shall document the reason for removal of an employee’s energy isolating device with a copy provided to the Armor Branch Safety office.

CHAPTER 6
BLOODBORNE PATHOGENS

6-1. GENERAL.
This chapter establishes responsibilities and procedures to eliminate or minimize occupational exposure to blood and blood borne diseases, i.e., Hepatitis B Virus (HBV) and Human Immunodeficiency Virus (HIV).

6-2. REQUIREMENTS.
The following requirements shall be implemented:

a. Exposure Control Plan. Personnel with occupational exposure to blood borne pathogens or other infectious materials shall establish a written Exposure Control Plan designed to eliminate or minimize personnel exposure. The Exposure Control Plan shall contain at least the following elements:

(1) An exposure determination shall be developed, which includes all job classifications in that personnel have occupational exposure to blood, body fluids, or other potentially infectious materials. In addition to the job classifications, list all tasks and procedures that are performed by personnel in which occupational exposure occurs. This exposure determination shall be made without regard to the use of personal protective equipment.
(2) A copy of the Exposure Control Plan shall be accessible to all personnel.

(3) The Exposure Control Plan shall be reviewed and updated at least annually and whenever necessary to reflect new or modified tasks and procedures that affect occupational exposure and to reflect new or revised personnel positions with occupational exposure.

b. Methods of Compliance.

(1) General. Universal precautions shall be observed to prevent contact with blood or other potentially infectious materials. Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids shall be considered potentially infectious materials.

(2) Engineering and Work Practice Controls. Engineering and work practice controls shall be used and evaluated annually to eliminate or minimize personnel exposure. When occupational exposure remains after institution of these controls, personal protective equipment shall also be used.

(3) Hand-washing facilities shall be provided which are readily accessible to personnel. Antiseptic hand cleanser in conjunction with clean cloth/paper towels or antiseptic towelettes may be used when hand-washing facilities are not available. When antiseptic hand cleansers or towelettes are used, hands shall be washed with soap and running water as soon as feasible.

(4) Personnel will wash their hands immediately or as soon as feasible after removal of gloves or other personal protective equipment.

(5) Personnel will wash hands and any other skin with soap and water, or flush mucous membranes with water immediately or as soon as feasible following contact of such body areas with blood or other potentially infectious materials.

(6) Specimens of blood and other potentially infectious materials shall be placed in a container that prevents leakage during collection, handling, or transport. Infectious materials in containers will be taken to the \{insert name of facility to receive medical wastes\} for disposal.

(7) Equipment that may become contaminated with blood or other potentially infectious materials shall be decontaminated. Decontaminate equipment by using an EPA approved disinfectant. Read and follow the product instructions found on the container as well as the MSDS.

6-3. PERSONAL PROTECTIVE EQUIPMENT (PPE).

a. Appropriate personal protective equipment shall be provided at no cost to personnel. PPE provides for the protection of work clothes, street clothes,
undergarments, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time that the protective equipment will be used.

b. The supervisor shall ensure that PPE is repaired or replaced as needed to maintain its effectiveness.

c. Employees will:

1. Notify their supervisor as soon as possible if there is an exposure to blood, other potentially infectious materials, mucous membranes, and non-intact skin.

2. Wear impermeable gloves when it can be reasonably anticipated that personnel may have hand contact with blood, other potentially infectious materials, mucous membranes, and non-intact skin, and when handling or touching contaminated items or surfaces.

6-4. HOUSEKEEPING.

a. The worksite will be maintained in as clean and sanitary condition as possible.

b. Employees will wear impermeable gloves when working with materials potentially contaminated with blood-borne pathogens.

6-5. INFECTIOUS WASTE.

a. Infectious waste will not be knowingly picked up during curbside pickup.

b. If contaminated material is identified in curbside recycle materials, all materials at the site will be left in place and the occupant informed of the reason. Recycle Management will be notified of such an occurrence and will log the offense.

c. Names of repeat offenders who put contaminated materials at the curbside pickup will be identified to the Garrison Command Sergeant Major for appropriate action.

6-6. EMPLOYEE HEALTH COMPONENTS.

a. Hepatitis B vaccine will be made available to personnel who have been determined by the Chief, Preventive Medicine Service to be at high risk for occupational exposure to blood or other potentially infectious material (OPIM). Hepatitis B vaccine is available for personnel in high-risk occupations. Requests for the vaccine are issued by the Occupational Health Service and administered by the Immunization Clinic, {Note: Insert name of medical facility}
b. Civilian employees who choose not to accept the offer of the Hepatitis B vaccination must sign a mandatory declination statement (paragraph 6-11) per 29 CFR 1910.1030. If an employee initially declines the vaccination but later decides to undergo the vaccination series, the employer must provide the vaccine at that time provided the employee is still occupationally exposed.

6-7. POST EXPOSURE EVALUATION AND FOLLOW-UP.

a. Personnel who have had an exposure to blood or OPIM are to seek a medical evaluation immediately. The medical evaluation will be conducted in the *Insert name of medical facility qualified to provide this service*, with a consultation to Occupational Health Service for follow-up. The medical evaluation and follow-up will include at the following elements:

1. Documentation of exposure route and circumstances surrounding the exposure incident.

2. Identification of the source individual should be determined if feasible. The source individual’s HIV and HBV infection status must be determined and documented per laws and regulations related to consent for testing, documentation, and confidentiality.

3. The source individual’s laboratory results, as they pertain to exposure, will be made available to the affected individual. The affected individual must be informed of applicable confidentiality laws relative to source individual.

4. Collection of the individual’s blood for baseline HBV and HIV serological testing must be done as soon as possible after consent is obtained. If the individual consents to a baseline blood collection but does not give permission at that time for HIV testing, the sample must be stored in a manner that would preserve it for testing within the next 90 days. This 90-day period provides time for the individual to receive counseling and make an informed decision about testing. If within the 90-day period the individual decides to proceed with testing and provides consent, Occupational Health Service would submit the order to conduct the testing as soon as possible.

b. The supervisor must ensure that the evaluating healthcare professional is provided with:

2. A description of the affected individual’s duties as they relate to the occupational exposure.
3. Documentation of route of exposure, circumstances as to how exposure occurred, results of the source individual’s blood testing related to the exposure incident, if available, and the affected individual's medical records.
c. The health care provider must provide the “Health Care Professional’s Written Opinion” to the supervisor, who in turn must give a copy to the affected individual within 15 working days of the completion of the evaluation.

d. The written opinion is documentation that the affected individual has been told about any medical conditions resulting from exposure to blood or OPIM, which requires further evaluation or treatment. Documentation confirms if Hepatitis B vaccination was indicated and if the affected individual received the vaccine.

6-8. RECORDKEEPING.

a. Medical Records. A confidential health record is initiated by the health care professional when an individual receives the Hepatitis B vaccination or is treated following an exposure incident. This record includes:

(1) Name and social security number of the individual.

(2) A copy of the individual’s Hepatitis B vaccination status.

(3) Testing and examination results and follow-up procedures.

(4) A copy of the health care professional’s written opinion and information provided by the employer to the health care professional about the exposure incident.

(5) Medical records must be maintained for at least the duration of employment plus 30 years.

b. Training Records. Information that must be maintained in these records includes:

(1) Dates of the training sessions.

(2) Contents or a summary of the training sessions.

(3) Names and qualifications of the people conducting the training sessions.

(4) Names and job titles of all personnel attending the training sessions.

(5) The supervisor shall maintain training records for 3 years from the date on which the training occurred.

6-9. INFORMATION AND TRAINING.

a. All personnel with potential occupational exposure will participate in a training program, which will be provided during duty hours. A qualified instructor will provide the necessary training.
b. Training shall be provided at the time of initial assignment to tasks where occupational exposure may take place and at least annually thereafter. Additional training shall be provided when changes such as modification of tasks or procedures or new tasks or procedures affect the individual’s occupational exposure.

6-10. BLOODBORNE PATHOGEN TERMS.

a. “Blood-borne Pathogens” are pathogenic micro-organisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, HBV and HIV.

b. “Contaminated” refers to the presence or the reasonable anticipated presence of blood or other potentially infectious materials on an item or surface.

c. “Contaminated Laundry” refers to laundry that has been soiled with blood or other potentially infectious materials.

d. “Decontamination” refers to the use of physical or chemical means to remove, inactivate, or destroy blood-borne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.

e. “Engineering Controls” refers to controls that isolate or remove the blood-borne pathogens hazard from the workplace.

f. “Exposure Incident” refers to a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that result from the performance of an employee’s duties.

g. “Occupational Exposure” means reasonably anticipated skin, eye, mucous membrane, or parenteral (see “j” below) contact with blood or other potentially infectious materials that may result from the performance of an employee’s duties.

h. “Other Potentially Infectious Materials” refers to human body fluids such as semen, vaginal secretions, cerebrospinal, synovial, pleural, pericardial, peritoneal and amniotic fluids, saliva in dental procedures; any unfixed tissue or organ (other than intact skin) from a human (living or dead).

i. “Parenteral” refers to piercing mucous membranes or the skin barrier through such events as needle sticks, human bites, cuts, and abrasions.

j. “PPE” refers to specialized clothing or equipment worn by an employee for protection against a hazard.

k. “Regulated Waste” refers to liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially
infectious materials in a liquid or semi-liquid if compressed; and items that are
caked with dried blood or other potentially infectious material and are capable of
releasing these materials during handling.

l. “Source Individual” refers to any individual, living or dead, whose blood or other
potentially infectious materials may be a source of occupational exposure to the
employee.

m. “Universal Precautions” refers to an approach to infection control. According to the
concept of Universal Precautions, all human blood and certain human body fluids
are treated as if known to be infectious for HIV, HBV, and other blood-borne
pathogens.

n. “Work Practice Controls” refers to controls that reduce the likelihood of exposure by
altering the manner in which a task is performed.

6-11. EMPLOYEE DECLINATION STATEMENT FOR THE HEPATITIS B VACCINE.

Hepatitis B vaccinations will be provided to all employees identified through the process
of exposure determination to potentially have occupational exposure to Hepatitis B.
Employees who elect not to take the vaccine are required to sign an employee
decclaration statement. The following is a sample statement to be signed by employees
who decline the HBV vaccine:

I understand that due to my occupational exposure to blood or other potentially
infectious materials I may be at risk of acquiring Hepatitis B Virus (HBV) infection. I
have been given the opportunity to be vaccinated with Hepatitis B vaccine, at no charge
to myself. However, I decline Hepatitis B vaccination at this time. I understand that by
declining this vaccine, I continue to be at risk of acquiring Hepatitis B, a serious disease.
If in the future I continue to have occupational exposure to blood or other potentially
infectious materials and I want to be vaccinated with Hepatitis B vaccine, I can receive
the vaccination series at no charge to me.

__________________________     ________________________
SIGNATURE                       DATE

A copy of signed employee declination statement should be provided to the employee
for his/her records and the signed originals should be kept in the employee’s permanent
personnel file.
CHAPTER 7
PERSONAL PROTECTIVE EQUIPMENT (PPE)

7-1. GENERAL.

a. AR 385-10 authorizes the purchase and maintenance of PPE.

b. The (XX)SO, in conjunction with Preventive Medicine Service (PMS), will determine the need for PPE for any tasks or jobs not covered by other regulations. Requests will be submitted by memorandum to {Insert name of organization}.

c. Areas where PPE is required will be appropriately marked.

7-2. MAINTENANCE AND USE.

a. PPE will be maintained in a sanitary and reliable condition.

b. The recycle manager may initiate disciplinary action against personnel failing to use PPE per Fort Anywhere {insert pertinent local personnel policy guidance reference}.

7-3. GUIDE. Supervisors will ensure PPE is provided, and personnel are trained on proper use and care for the PPE.

a. Eye and Face Protection.

   (1) Protective eye and face equipment is required where there is a reasonable probability of injury that can be prevented by such equipment.

   (2) Visitors as well as workers will wear protective eyewear suitable to guard against the hazard.

   (3) Protective prescription eyewear will be procured through command channels per Fort Anywhere {insert pertinent local personnel policy guidance reference}.

   (4) All eye protection must meet the requirements of the American National Standards Institute.

b. Foot Protection.

   (1) Personnel exposed to potential foot hazards are required to wear safety footwear. Guidance for type of footwear required for specific occupations can be obtained from (XX)SO.

c. Head Protection.
(1) Personnel exposed to injury from falling or flying objects will wear protective headgear. Examples of jobs requiring head protection include: working on construction and demolition sites, areas where objects are stored above head level, and around power lines.

(2) Areas where objects project from the ceiling or wall in an egress path shall be removed, guarded, or visibly marked with yellow caution paint to prevent head injury.

d. Hearing Protection.

(1) Personnel exposed to noise hazardous environments (85 decibel (dB) or greater) must wear hearing protection per Fort Anywhere {insert pertinent local personnel policy guidance reference}. Earplugs or muffs may be used to attenuate noise to an acceptable level. Some instances may require that both be worn simultaneously. For specific information about the type of protection required contact PMS, or the Hearing Conservation Center (HCC) {insert local equivalent}. Personnel exposed to hazardous noise on a routine basis must receive annual audiometric testing at the HCC.

(2) Areas that are noise hazardous must be visibly marked with signs stating the area is noise hazardous.

7-4. COMPLIANCE. Supervisors will ensure personnel comply with the requirement to wear appropriate PPE. Failure to comply with this requirement may result in administrative actions.

CHAPTER 8
HAZARD IDENTIFICATION

8-1. GENERAL. The identification and correction of unsafe practices and unsafe physical conditions through safety inspections is essential to a successful accident prevention program.

8-2. INSPECTIONS. To properly direct efforts to eliminate the cause of accidental injuries and property damage, safety inspections must be conducted at all levels. Minimum requirements for safety inspections are as follows:

a. All personnel have a responsibility to report safety hazards and safety violations to their supervisor. Additional duty safety officers will inspect operations and facilities and record the results of the inspection on {insert local safety inspection form number} (Quarterly Safety Inspection).

b. {XX} SO personnel will inspect work sites and facilities using the Standard Army Safety and Occupational Health Inspection (SASOHI) procedures described in AR 385-10. These inspections may be conducted with or without prior notification.
(1) A written report of deficiencies observed by {XX} SO during the inspection will be provided to the commander/director of the activity inspected. These reports will cite hazard severity, safety program achievements and deficiencies, and recommended corrective action. {XX} SO will maintain a copy of all surveys.

(2) The unit or activity inspected will be required to respond to the {XX} SO in writing concerning corrective action taken on each cited deficiency within the time frame indicated on the inspection report. The unit will establish follow-up procedures to ensure each deficiency is corrected.

8-3. ABATEMENT PLANS.

a. 29 CFR Part 1960, “Occupational Safety and Health Programs for Federal Employees” establishes requirements for abatement plans. DoD and the U.S. Army require these plans for all violations in categories I through III B, requiring more than 30 days to correct.

b. DoD provides an internal channel for those situations where the most effective means to correct a hazardous situation may be through application of local alternate measures in place of OSHA standards. The installation, after consultation with appropriate labor relations representatives, may petition through the chain of command for approval of a variance that adopts a local alternate safety or health measure.

c. Violations often require abatement plans solely because preparing, processing, scheduling, and actually doing the work requires more than 30 days. For this reason, any safety hazard that requires a work request to correct will forward a DA Form 4283, Facilities Engineering Work Request, to the Safety Office by the activity responsible for correcting the problem. The Safety Office will assign a Risk Assessment Code (RAC) to the work request.

8-4. REPORTS OF UNSAFE OR UNHEALTHFUL WORKING CONDITIONS.

a. Reports of unsafe or unhealthful working conditions should be handled at the operational level whenever possible to ensure timely correction in the following order of priority:

(1) Oral reports directly to the supervisor.

(2) Reports through operational channels.

(3) Phone calls or memos to the {XX} SO.

(4) The Army Hazard Reporting System.
b. The Army Hazard Reporting System provides a route for personnel to bring complaints directly to the installation level, bypassing intermediate commands or supervisory elements.

(1) If an employee is not satisfied with the action taken to correct the alleged condition, they may make a written report to the Director, {XX} SO, on DA Form 4755 (Employee Report of Alleged Unsafe or Unhealthful Working Conditions). This form is available at the {XX} SO. Refer to DD Form 2272, DoD Safety and Occupational Health Protection Program (Poster), for reporting hazards.

(2) Reports submitted to the {XX} SO will be investigated per AR 385-10. Reports of alleged unsafe and unhealthful working conditions will be forwarded to the appropriate organization for response. Responses will be furnished to the {XX} SO within seven working days.

(3) All DA personnel, both military and civilian, will be protected from coercion, discrimination, or reprisals for participating in the Army Safety and Occupational Health Program and exercising lawful occupational safety and health rights.

(4) Reports requesting anonymity will be handled per provisions of AR 385-10.

(5) Reports that appear to involve immediate life-threatening situations will be investigated immediately.

(6) Safety or health personnel will investigate all reports. The originator, if known, will be notified of the results of the investigation in writing within 10 working days following receipt of the hazard report.

(7) If the originator is dissatisfied with the Safety Director’s response, they may appeal to the installation commander who will review the findings and take appropriate action.

(8) If the originator is dissatisfied with the installation commander’s response, they may appeal to {Insert name of higher reviewing authority}. The originator may further appeal to the Army designated Safety and Occupational Health Official and finally the DoD Designated Occupational Safety and Health Official, if appeals are rejected at any point in the chain.

(9) Personnel are encouraged not to bypass review levels prescribed above.

(10) Reviews will normally be completed within 20 workdays. Personnel are advised that if an appeal is not acted upon within 20 workdays, it may be appealed to the next higher level for review.
CHAPTER 9
SEVERE WEATHER

9-1. GENERAL. Each activity will be prepared to deal effectively with hazards associated with severe weather such as heat, cold, snow, ice, lightning, tornadoes, etc. Each activity will prepare a written plan for dealing with such hazards and will ensure all personnel are familiar with the plan. Supervisory personnel will provide appropriate training before each season.

9-2. SNOW AND ICE CONDITIONS.

a. In the event of inclement or hazardous weather on Fort Anywhere, guidance in the Fort Anywhere Snow and Ice Removal Plan will be followed.

b. Ice and snow will be removed from walkways, steps, landings, docks, and ramps; and ice melt applied as necessary. Icicles, where they present a hazard to personnel, will be removed.

9-3. TORNADOES. The tornado safety rules contained in Fort Anywhere Tornado Warning Plan will be observed for maximum protection against tornadoes. The Fort Anywhere Tornado Warning Plan, published by {insert name of office or agency}, will be available in each work area.

9-3a. Upon hearing that a tornado warning has been issued for the installation, the following action should take place:

   (1) Personnel in Buildings {insert affected building numbers} should immediately move to the {insert tornado-safe area} Area in Building {insert affected building numbers} and seek shelter under any heavy furniture available. {Provide any other additional warnings}.

   (2) If time does not permit, get into the safest area of your building (the inside wall away from the doors and windows).

   (3) All persons should remain in the shelter area until advised that the warning has ended.

9-3b. If a tornado should happen to hit the building:

   (1) Evacuate the building if possible; stay together and wait for emergency personnel to arrive.

   (2) Carefully render aid to those who are injured.

   (3) Stay away from power lines and puddles with wires in them; they may still be carrying electricity.
(4) Watch your step to avoid broken glass, nails, and other sharp objects.

(5) Do not use matches or lighters in case of leaking natural gas pipes or fuel tanks nearby.

(6) Remain calm and alert, and listen for information and instructions from emergency crews or local officials.

(7) Submit a Casualty Report {Insert form number} as soon as possible to the Fort Anywhere IOC.

9-4. EARTHQUAKES. The earthquake safety rules contained in the Fort Anywhere Earthquake Plan will be observed for maximum protection against earthquakes. The Fort Anywhere Earthquake Plan, published by \{insert name of office or agency\}, will be available in each work area.

9-5. LIGHTNING. Management and supervisors at all levels will ensure that all personnel are aware of the safety precautions to take before and during lightning storms.

a. The following precautions will be implemented before the storm begins:

(1) Personnel inside closed vehicles with steel tops generally are safe from lightning.

(2) When available, seek shelter in as large a building as possible. A well-grounded metal frame building offers the most protection. When inside, stay away from electric wiring, fireplaces, stoves, showers, bathtubs, sinks, cold water pipes, and other possible conductors of electricity.

(3) If adequate cover is not available, personnel will drop to their knees and bend forward, putting hands on knees. Do not lie flat on the ground or place hands on the ground.

b. Command Protective Measures. In the event a warning is provided of an impending electrical storm or lightning strikes are observed within Fort Anywhere limits, management and supervisors will ensure that:

(1) Outside activity is ceased immediately.

(2) Personnel are moved into a building if possible.

c. General Protective Measures. The following general rules apply during an electrical storm:
(1) Do not fish, play golf, or participate in activities that involve the use of metallic instruments in open spaces. It is extremely hazardous to ride tractors, golf carts, motorcycles, and bicycles during lightning storms.

(2) Do not swim, operate boats, or participate in any aquatic activities during electrical storms.

(3) The use of telephones and field radios during electrical storms will be held to a minimum. Lightning may be conducted through telephone lines.

(4) Playgrounds should immediately be evacuated to a safe area at the approach of, or during an electrical storm.

(5) Do not use plug-in electrical appliances such as hair dryers, razors, and televisions. All automation equipment should be unplugged during electrical storms.
CHAPTER 10  
RESPIRATORY PROTECTION PROGRAM

10-1. GENERAL. This is a mandatory program. All recycle personnel must comply with the Respiratory Protection Program as outlined below:

a. Respirators are considered an acceptable method of protecting the health of Department of Army personnel when the Safety Director (SD)/Industrial Hygienist (IH)/Occupational Health Nurse (OHN) determine that the following conditions exist:

(1) Routine operations in which there are no feasible engineering controls and/or work practices that would adequately eliminate exposure to the hazard if used.

(2) Intermittent, non-routine operations (such as those not exceeding 1 hour/day or 1 day/week) when there are no feasible engineering controls and/or work practices available that would adequately control exposure to the hazard.

(3) Interim periods when engineering controls are being designed and installed.

(4) Emergencies.

(5) Federal regulation or operating license requires use of respirators.

b. Wherever economically feasible and the technology exists for eliminating or reducing the cause of an environmental respirator hazard, the following engineering control methods will be implemented:

(1) Substitution of less toxic substances.

(2) Installation of local exhaust systems.

(3) Natural or mechanical ventilation.

(4) Segregation or isolation of processes or operations.

c. Respiratory protection will be furnished at no cost to the employee and will be used as a condition of employment. Employees hired after 12 December 1994 will be required to shave facial hair to wear the facial seal respirator if it interferes with the valve functions.
10-2. RESPONSIBILITIES.

a. Recycle personnel supervisors will:

(1) Develop an SOP on respirator use for their operation.

(2) Indicate job requirement to use respiratory equipment on the SF 52, Request for Personnel Action, when it is submitted to {insert name of human resources office} for recruitment to fill a position. Supervisor will ensure that selectees' for vacancies requiring respiratory protection are advised of this requirement before selectees' acceptance of the position.

(3) Conduct and document monthly inspections of self-contained breathing apparatus.

(4) Ensure monitoring of breathing air quality for air-supplied respirators and perform quality assurance evaluations.

(5) Post areas where respiratory protection is required.

(6) Ensure that proper respiratory protection equipment (RPE) is used by employees where required and that employees adhere to the instructions relative to the proper use and maintenance requirements of the RPE.

(7) Ensure employees receive periodic medical examinations by providing the Occupational Health Service with an annual listing of individuals in the respiratory program.

(8) Provide facilities for cleaning, maintenance, and proper storage of equipment.

(9) Ensure workers are individually fit tested by respirator specialists before work assignment.

(10) Ensure users are supplied and trained in the use and care of appropriate RPE as specified by {Insert name of installation} SO/PMS and maintenance of this equipment meets requirements outlined in this document.

(11) Enforce the required exchange of RPE.

(12) Ensure training for personnel on RPE is documented and kept current by the Respirator Specialist.

(13) Ensure respirators are maintained per manufacturer instructions. Respirators used by more than one person shall be thoroughly cleaned and disinfected after each use.
10-3. PROCEDURES.

a. Selection of respiratory protection equipment.

(1) All respirators procured for use will be approved respirators (tested and listed as satisfactory jointly by the National Institute for Occupational Safety and Health (NIOSH) and the Mine Safety and Health Administration (MSHA)). Any modification that is not authorized by these agencies voids the approval of a respirator. Component replacement, adjustments, or repair will follow the manufacturer’s recommendations only. A respirator is approved as a whole unit with specific components.

(2) PMS will specify the correct respirator for each job based on environmental evaluations and requirements contained in OSHA 29 CFR 1910, Subpart Z.

(3) Industrial respirators (negative pressure types) are not to be used in confined spaces or where concentrations of contaminants are immediately dangerous to life or health (IDLH), or in any atmosphere containing less than 19.5% oxygen. For entry into confined space or IDLH atmospheres, only self-contained
breathing apparatus or supplied airline respirators will be used, and only then where specific controls and requirements are applied, where experts have been consulted, and written procedures developed to ensure safe operation. Regulations require anyone planning any confined space entry to contact the {insert name of responsible organizational Safety Office}, {insert telephone number}.

(4) In the event an employee desires not to wear a facial respirator, the unit/activity will negotiate with the union possible optional respiratory equipment. This applies only for employees in which respirator use is not a condition of employment.

(5) The respirator does not provide protection to exposed areas of the body against vapors, gases, and airborne particulate matter that irritates the skin or that may be absorbed by the body through penetration of the skin, the use of specialized hand and/or body coverings may be required for protection.

b. Use of respiratory protection equipment:

(1) Where practical, a respirator will be assigned to an employee for exclusive use.

(2) Supervisors will ensure that permanently assigned respirators are marked to indicate to whom it is assigned. The mark will not affect the respirator performance in any way. The supervisor will record the issue date on inventory they maintain.

c. {XX} SO and/or the unit respirator specialist will conduct initial and annual respiratory protection training and respiratory fit-testing.

d. Contact lenses will not be worn with full-face-piece respirators, helmets, hoods, or suits.

e. Each area and operation requiring respirators will be marked to inform personnel of the work hazards or health risks involved and the type of respirator required.

f. Testing for fit.

(1) Fit testing will be conducted annually. In addition, fit testing will be repeated whenever there is physical changes that could affect respirator fit, i.e., facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.

(2) Before entering an area containing a hazardous atmosphere, the respirator wearer should test the tightness of the seal by performing one of the tests below:
(a) Positive pressure fit check.

1. Place thumb through large opening in exhalation valve guard to close the exhalation valve.
2. Exhale.
3. If the mask bulges slightly and there is no evidence of air leaks, a tight fit has been obtained.
4. If an air leak is detected, reposition the mask and/or tighten straps and repeat the test.

(b) Negative pressure fit check.

1. Place palms of hands over opening on filters and inhale for 5-10 seconds.
2. If mask collapses, you have a good seal.
3. If an air leak is detected, reposition the mask and/or adjust straps. Repeat the test.

g. Inspection, maintenance, and care of respirators.

(1) When a respirator is issued to an individual, that person is responsible for the primary maintenance and care of that respirator. Where respirators are used collectively or kept ready for emergencies by a shop or operating activity, the work area supervisor is responsible for establishing a respirator maintenance and cleaning program. This program will be adjusted for the number of types of respirators in use, working conditions, and hazards involved and will include the basic services of inspection for defects, cleaning and disinfecting, repair, and storage. Equipment will be properly maintained to retain its original effectiveness.

(2) No attempts will be made to replace components or to make adjustments or repairs to mask beyond the manufacturer's recommendations. If mask is unserviceable, turn the mask in to the installation recycling center for disposal.

(3) All respirators will be inspected routinely before and after each use and during cleaning. A respirator that is not routinely used but kept ready for emergency use will be inspected after each use and at least monthly to ensure that it is in satisfactory working condition using the following steps:

(a) Examine the face piece for excessive dirt, cracks, tears, holes, or distortion from improper storage or inflexibility.

(b) Examine the head straps or head harness for breaks, loss of elasticity, and broken or malfunctioning buckles and attachments.
(c) After removing the cover, examine the exhalation valve for the following:

1. Foreign material, such as detergent residue, dust particles, or human hair under the valve seat.

2. Cracks, tears, distortion in the valve material, or improper insertion of the valve body in the face piece.

3. Cracks, breaks, or chips in the valve body, particularly in the sealing surface.

4. Missing or defective valve cover or improper installation of the valve body.

(4) Examine the air-purifying elements for:

(a) Incorrect cartridge, canister, or filter for the hazards.

(b) Incorrect installation, loose connections, missing or worn gaskets, or cross thread in holder.

(c) Expired shelf-life date on cartridge or canister.

(d) Cracks or dents in outside case of filter, cartridge, or canister.

(e) Evidence or prior use of sorbent cartridge or canister, indicated by absence of sealing material, tape, foil, etc. over inlet.

h. A monthly inspection will be conducted on all self-contained breathing apparatus type respirators. Air and oxygen cylinders will be fully charged according to the manufacturer’s instructions, and it will be determined that the regulator and warning devices function properly.

i. Respirators issued to specific individuals will be cleaned and disinfected as frequently as necessary to ensure that skin penetrating and dermatitis-causing contaminants are removed from respirator surfaces. Respirators maintained for emergency use or used by more than one person will be cleaned and disinfected after each use.

j. Cleaning and disinfecting.

(1) The following approved procedures will be used for cleaning and disinfecting respirators.

(2) Remove any filters, cartridges, or canisters. NOTE: Do not submerge in cleaning or disinfecting solution.
(3) Wash the face-piece and breathing tube, if any, in a cleaner solution of one-tablespoon dishwashing soap to one-gallon warm water. To disinfect, use two tablespoons of household bleach to one gallon of warm water.

(4) Rinse completely in clean, warm water.

(5) Air-dry in a clean/non-contaminated atmosphere.

(6) Clean other respirator parts as recommended by the manufacturer.

(7) Insert new filters, cartridges, or canisters as specified by the manufacturer, and ensure the seal is tight. Filter assemblies will be replaced if the wearer notices any odor, difficulty in breathing, or ill effects from fumes.

(8) After inspection and cleaning, respirators will be stored to protect them against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals. Respirators placed at stations and work areas for emergency use will be stored in compartments built for the purpose. The compartments must be clearly marked to indicate their content and must be quickly accessible at all times. Routinely used respirators may be stored in plastic bags; however, respirators will not be stored in such places as lockers or toolboxes unless they are in containers or cartons. Respirators will be placed or stored so that the face piece and exhalation valve will rest in a normal position in order not to impair the respirator function by affecting its physical configuration.
CHAPTER 11
RISK MANAGEMENT

11-1. GENERAL. Risk management is a five-step cyclic process that is easily integrated into the military decision-making process; it doesn’t have to be a separate consideration and shouldn’t be. Army Field Manual (FM) 100-14, http://www.dtic.mil/doctrine/jel/service_pubs/100_14.pdf contains detailed risk management guidance and will be used to ensure the risk management process is conducted to standard. The standard for risk management involves leadership at the appropriate level of authority making informed decisions to control hazards or accept risks. All leaders are responsible and accountable for assessing their operations as total systems. They must ensure that risk management decisions match the mission and that control measures reduce the risks to a level that supports their commanders’ guidance. The degree of risk determines the level of authority at which a decision is made to accept risk. The forms found in the Appendix of FM 100-14 will be used to complete the five-step risk management process prior to all training events; a copy of the completed forms will be maintained at the training site.

11-2. RISK ASSESSMENT. A risk assessment is part of risk management. It can range from simple to complex. A risk assessment causes leaders to place identified hazards and threats in perspective relative to the task at hand. Logically, hazards must be identified before the level of risk is determined.

11-3. MISSION AND TRAINING RISK ASSESSMENT. The risk management process consists of the following steps:

a. The first step in risk management is to Identify Hazards or factors that may adversely affect people, property, and mission accomplishment. All aspects of current and future situations, as well as historical problem areas must be considered. Other considerations are complexity and difficulty of the mission; terrain and environment; weather and visibility; equipment; time available for execution, and experience, supervision, training, morale and endurance of the personnel involved. Conditions can change quickly, requiring constant vigilance. List hazards in the proper column on the risk management worksheet. Hazard identification must take place during mission planning to be effective.

b. The second step is to Assess Hazards to determine their cumulative effect on the mission. Determine the potential loss and cost that could result from the identified hazards, based on probability and severity. Probability determines the likelihood that the hazard may cause a problem or an accident; severity determines the expected result of an event in terms of the degree of injury, property damage or other mission impairing factors. Use the matrix in the FM appendix to determine the initial level of risk and enter the information into the appropriate block (L - Low, M - Moderate, H - High, E - Extremely High) in column G on the risk management worksheet.
c. The third step is to *Develop Controls and Make Risk Decisions*. Develop courses of action that eliminate hazards or reduce the risks. Controls may range from hazard alerts and physical warning signs to issuing protective clothing or avoiding the hazard altogether. List controls in column H on the risk management worksheet. After establishing controls, re-evaluate the hazards to determine residual risk, again using the matrix in the appendix, and ensure risks are reduced to a level at which benefits outweigh potential costs, then check the appropriate block in column I on the worksheet. Next, a decision must be made to accept any residual risk. The following will be used to determine risk acceptance decision authority.

1. Extremely High Risk missions require approval by the director, deputy director, or chief of staff of Headquarters IMCOM.

2. High Risk missions require approval by the director, deputy director, or chief of staff of IMCOM Region.

3. Moderate Risk missions require approval by a 0-6 level garrison commander. This authority cannot be delegated.

4. Low Risk missions require approval by a 0-5 deputy garrison commander. This authority may be delegated to the next lower level.

d. Step four is to *Implement Controls* or put in place controls that eliminate the hazards or reduce their risks. This may be done through verbal or written orders, standing operating procedures, performance standards, safety briefings, and rehearsals. Ensure unit members and others associated with the mission clearly understand the controls. List how controls will be implemented in column J on the risk management worksheet.

e. Step five is to *Supervise and Evaluate*. Supervision here is more than just ensuring that people do their job, it also means following up and continuously evaluating. It means fine-tuning the operation to accommodate unforeseen issues and incorporating lessons learned into after-action reports. List supervision and evaluation requirements and responsibilities on the worksheet.

f. Next, circle the appropriate residual risk level for the mission in block X on the worksheet. Overall, residual mission risk is determined based on the hazard having the greatest residual risk. For example, if one hazard has a high residual risk, the overall residual risk of the mission is high, no matter how many moderate or low risk hazards are present. Determining overall mission risk by averaging the risks of all hazards is not valid. The worksheet will then be signed by the proper authority as provided in paragraph 11-3c above.
CHAPTER 12
FIRE PREVENTION AND PROTECTION

12-1. GENERAL.

a. Fire prevention and protection will be performed per the requirements of AR 420-1, Chapter 25, Fire and Emergency Services, or Fort Anywhere Regulation XXX-X {insert local regulation number}, date, and this document. {Note: Edit to suit local conditions}

b. All fires or explosions that occur within the Recycle Program, regardless of size, will be reported to the fire department.

12-2. RESPONSIBILITIES.

a. Management is responsible for:

   (1) Appointing on orders a Fire Warden for each building to help execute the Recycle Fire Prevention Program. The persons selected as Fire Warden will have the position and authority to conduct fire prevention on behalf of the Recycle Program.

   (2) Developing a fire conscious attitude in their subordinates in order to prevent fire incidents within their areas and to eliminate fire hazards wherever found.

b. Recycling Program Fire Wardens will

   (1) Thoroughly inspect assigned buildings and grounds each week to detect and eliminate fire hazards, ensure proper fire prevention practices are being practiced, and that fire extinguishers are properly sealed and serviceable. The date and time of inspection shall be recorded on DA Form 5381-R (Fire Risk Management Survey). The inspection form and a Fort Anywhere Poster XXX-XX (Fire Evacuation Plan) will be prominently posted in a general area that can be observed by personnel on a daily basis.

   (2) Coordinate emergency plans for evacuating personnel, reporting and control of fire, and salvaging property.

   (3) Conduct evacuation drills with fire protection personnel. Fire evacuation drills will be conducted at least once every six months or when sufficient personnel have changed to warrant a fire drill. Evacuation drills will be coordinated with the installation Fire Department.

   (4) Ensure that all personnel know how to report a fire, how to use a fire extinguisher, and practice effective fire prevention measures.
(5) Ensure that Fort Anywhere Form XXX (Emergency Calls Instructions) is placed in a conspicuous location near each telephone.

12-3. GENERAL FIRE PREVENTION AND PROTECTION PRACTICES.

c. Fire Reporting Procedures.

(1) Dial 911 {Note: Replace with local numbers, if different} to report a fire from an official telephone anywhere on post.

(2) When you have been connected with the fire department dispatcher, give the building number and location of the fire, and wait until this information has been acknowledged. After completing your report, remain in the vicinity of the fire to direct fire department personnel to the fire site.

d. Fire Evacuation Plans.

(1) Fire evacuation graphic plans are not required in buildings where exits are obvious or familiar to all occupants. If routes of exit require markings for complex structures, they should be posters or lighted exit signs as required by National Fire Protection Agency (NFPA) 101 (Life Safety Code) for the specific occupancy.

(2) Fort Anywhere Poster XXX-XX, Fire and Evacuation Plan, shall be posted in a general area that can be observed by personnel on a daily basis.

a. Securing Emergency Exits.

(1) Locking, securing, or blocking of exits when a building is occupied is in violation of federal law. The requirement is mandatory and not discretionary. The law does not prohibit locking the exits so that entrance cannot be gained from the exterior, but does stipulate that when the building is occupied there must be free and unobstructed egress from all parts of the structure.

(2) When exit doors or exit ways are found chained, padlocked, blocked, locked or secured in violation of the law, it will be immediately brought to the attention of persons of authority in the facility who are responsible to correct the deficiency. The person discovering the violation will remain on the scene until corrections are made. Failure of the responsible individual to make the required corrections will result in the immediate notification of the DCFA Director.

b. Fire Extinguishers.

(1) Fire extinguishers will be allocated to buildings and other facilities in accordance with NFPA 10.
(2) Decals designating type and use of fire extinguishers will be displayed directly on the fire extinguisher.

(3) Fire extinguishers will be suspended from hangers with the top of the extinguisher not over five feet from the floor. They will not be placed on the floor without some sort of support.

(4) Special purpose vehicles will not be operated unless the fire extinguisher is filled and sealed.

c. Smoking.

(1) Smoking in shops, warehouses, supply rooms, storage rooms, and other similar type buildings and hazardous areas is prohibited. “NO SMOKING” signs will be posted over the entrances to such buildings and at the entrances to such areas.

(2) Smoking is not permitted in hazardous areas. Smoking in non-hazardous areas is permitted only in posted designated areas.

(3) Cigarette and cigar butts, ashes, matches, etc., will be disposed of in butt cans, ashtrays, or other approved containers. In no case will live smoking material be disposed of in trash containers, thrown from vehicles, or carelessly disposed of in outside areas.

(4) Butt cans and ashtrays will not be used for disposal of trash paper and debris.
CHAPTER 13
MATERIALS HANDLING EQUIPMENT (MHE)

13-1. GENERAL.

a. This chapter relates to Materials Handling Equipment (MHE) only and is not a guide for other operations.

b. MHE includes:
   (1) Forklift trucks
   (2) Industrial tractors (tow motors)
   (3) Hydraulic lift jacks for material movement, pallet jacks, etc.
   (4) Lifting devices.

13-2. GENERAL SAFETY MEASURES.

a. Only trained, licensed, and qualified operators shall be permitted to operate MHE.

b. The maintenance shop supervisor will establish procedures for testing and licensing MHE operators.

c. Operators shall perform a vehicle safety check before operation, during operation, and at the end of the shift and report mechanical deficiencies to the supervisor. Vehicles found to be unsafe will not be operated regardless of the circumstances or condition. Operators will not attempt to repair or adjust any mechanical part of MHE unless trained and certified to do so.

d. Forklift trucks will comply with ANSI B56.1. All will be equipped with an overhead safety guard fabricated from steel and will be equipped with an approved load backrest except when removed for a specific operation. The supervisor removing the backrest will be responsible for replacing it when the specific job is finished.

e. No passengers will be allowed to ride on forklifts, tow tractors, or trailer tractors unless two seats are provided. Only authorized persons are permitted.

f. The proper type of equipment will be used for the specific job involved and equipment will be of the correct rated load capacity for the weight of the material to be handled.

g. Equipment will be properly serviced and maintained at all times to ensure maximum safety in operation.
h. Forklift trucks or other MHE will not be equipped with a steering knob or extension to the gearshift lever.

i. Stunt driving and horseplay is prohibited. Persons observed in violations of this provision will suffer immediate loss of license and corrective action as determined by the supervisor.

j. A truck driving in an aisle has the right-of-way over one about to enter the aisle.

k. Aisles will be clear of overhanging or projecting obstructions.

l. Operator hands, arms, or legs are prohibited from being placed between the uprights of the mast or outside the running lines of the truck.

m. At no time will MHE be used to push another vehicle, material, or equipment forward, backward or sideways, except in specific operations that have the approval of the CDSO/ACDSO.

n. MHE will be brought to a full stop prior to reversing direction of travel.

o. MHE with pneumatic tires will be driven in low range during all moves of less than 50 feet.

p. Maximum allowable speed limit within warehouses for all MHE is five miles per hour.

q. Each vehicle will be equipped with a horn device.

r. Power cable or “running plug” power connection will be disconnected on electric trucks if they are left unattended.


13-3. LIFTING DEVICES.

a. Lifting Devices. Any device or component used to raise, lower, hold, or position a load from one location or elevation to another. Examples of lifting devices include forklift trucks, cranes, manual or motorized pallet jacks, hoists, wreckers, A-frames, slings, ropes, wire ropes, hooks, O-rings, pear rings, spreader bars or lifting clamps, beams, jacks, safety stands, and jack stands.

b. Lifting Fixtures. Any device or assembly of devices used to facilitate attachment of a load to a lifting device. Examples of lifting fixtures include an H-beam with nylon slings, wire rope with spreader bars or rope with lifting clamps.
c. Periodic. As related to inspections, a period of one year or less, based upon the nature of the lifting device and the degree of exposure to wear, deterioration, or malfunction.

d. Load Rating. The load rating is the maximum authorized load that may be lifted by a lifting device. The load rating may be less than or equal to, but shall not exceed the Manufacturer’s Rated Load. For fixtures, the smallest Manufacturers Rated Load component shall equal the fixtures rated load.

e. All lifting devices will be maintained IAW TB 43-0142, Safety Inspection and Testing of Lifting Devices.


f. Inspections of lifting devices will be recorded on DD Form 314 or the ULLS.

13-4. SPECIAL INSTRUCTIONS.

The operator will refuse to move an unstable load or stack.

a. When a powered industrial truck is left unattended, load-engaging means shall be fully lowered, controls shall be neutralized, power shall be shut off, and brakes set. Wheels will be chocked if the truck is parked on an incline. When not in use for longer periods of time, the requirements of AR 190-51, Security of Unclassified Army Property (Sensitive and Non-sensitive), paragraph 3-5d and 3-5e apply.

b. The operator will not unload from the rear of an unblocked tractor-trailer.

c. The operator will face in the direction of travel at all times.

d. Operators will not smoke while mounted on vehicles.

e. Operators will:

   (1) Assure proper clearance above, below, and to each side of MHE at all times.

   (2) Be alert at all times to pedestrians and vehicular traffic, falling material, traffic signs, etc.

f. Operators will not pass another vehicle when it has slowed down or stopped for traffic at an intersection.

g. Operators will not drive over objects in the roadway.
h. Operators will not use equipment with hard tires on gravel or earthen surfaces. They will be operated on concrete or asphalt only.

i. Operator shall be required to slow down for wet and slippery surfaces.

j. To eliminate the possibility of carbon monoxide poisoning from the motor exhaust, the operator shall ensure that a door of a building is open while operating petroleum fueled equipment unless other adequate ventilation is provided.

k. When vision is obscured by doors, corners, elevators, at cross aisles and intersections, the operator will slow the vehicle and sound the horn before proceeding. Operators will not cut corners.

l. No person will be allowed to stand on or pass under the elevated portion of any truck, loaded or empty.

m. Loads will be centered on fork prongs prior to lifting. Fork prong extensions must be used when material being moved is of sufficiently greater width than the length of regular fork prongs. Stacks will not be bumped or pushed with forklift trucks to straighten or move the stack. Load limits will be reduced when using fork prong extensions.

n. Forklift trucks will be driven forward when transporting cargo up ramps and in reverse on downgrades.

o. Forklift trucks will not be used to elevate personnel unless authorized by the supervisor. When lifting of personnel is authorized, a safety pallet will be used and personnel being lifted will face away from the mast and remain clear of the hoisting mechanism. The safety pallet must be in good condition and be securely anchored to the forklift. Personnel will not ride on the empty forks.

p. Forklift trucks will be driven slowly over railroad tracks crossing diagonally whenever possible. Parking closer than eight feet from the center of railroad tracks is prohibited.

q. Operators will check bridge plates or dock boards frequently for safe anchorage and to ensure sufficient strength to support MHE.

r. Personnel will not be allowed to counterbalance a load on a forklift truck by riding the rear of the machine; a truck of greater capacity will be used.

s. Fork or platform will be held within four inches of the floor and ground when trucks are being driven backward or forward. Operators driving pneumatic-tired trucks over rough terrain will hold forks in a position to clear obstacles.

t. Extreme care shall be used when tilting the load forward or backward, particularly when high tiering. Tilting the load forward with the load engaging means elevated
is prohibited except to pick up a load. An elevated load shall not be tilted forward except when the load is in a deposit position over a rack or stack. When stacking or tiering, only enough backward tilt to stabilize the load shall be used.

u. The operator will watch the rear and the swing of the forklift truck so there is no danger of striking personnel or objects.

v. An operator will not drive on or off an elevator until the elevator operator’s signal is received. The operator will set the brakes, place the machine in low gear, turn off ignition, and dismount before the elevator is in motion.

13-5. EQUIPMENT REFUELING.

a. Tanks on gasoline or diesel powered MHE will not be refueled while the engine is running.

b. Refueling of MHE will be done at designated refueling stations or 20 feet from warehouses, other inert buildings, or inert loading docks. If the fuel supply is exhausted while equipment is inside a building, the equipment will be towed outside to a safe location for refueling. Only one piece of MHE will be refueled from a single dispenser at a time. Refueling will never be accomplished at a distance of less than 100 feet from buildings containing explosives. Extreme care will be exercised to ensure the filling hose and equipment are properly bonded and grounded. The metal nozzle of the filling hose will be in contact with the metal filling spout.

c. Motors of MHE will be stopped during refueling.

d. Smoking or use of open flame devices are forbidden within 50 feet of refueling MHE.

e. If portable containers are used for refueling operations, they will be approved safety cans not exceeding five-gallon capacity equipped with a spark arrestor and self-closing lid. (Exception: military gasoline cans must comply with all requirements of TB 385-3).

f. In the event of gasoline spillage, the engine of the equipment will not be started until the spillage has been thoroughly contained and the area deemed safe. Approved absorbent material will be used to collect the spillage. Spark producing tools WILL NOT BE USED.

g. All motor driven MHE will be equipped with an approved, maintained portable fire extinguisher.
CHAPTER 14
PREVENTION OF VEHICLE ACCIDENTS

14-1. DRIVER TRAINING. All Army Motor Vehicle (AMV) drivers will be trained and tested per AR 385-55, Prevention of Motor Vehicle Accidents, and AR 600-55, The Army Driver and Operator Standardization Program (Selection, Training, Testing, and Licensing). Accident avoidance training and the Army Motorcycle Safety Course are designed to reduce motor vehicle accidents by training and motivating personnel to drive defensively.

   a. Accident Avoidance Class.

      (1) All personnel who are required to drive an Army motor vehicle will successfully complete an Army or DoD recognized accident avoidance class every four years.

      (2) Drivers of Army-owned or leased buses, military police vehicles, ambulances, fire trucks, fueling vehicles, vehicles carrying hazardous cargo, crash-rescue vehicles, or other emergency vehicles must complete additional training required in AR 385-55 and AR 600-55.

      (3) Units and organizations are responsible for completing the training.

      (4) Attendance at accident avoidance class is not a pre-requisite for driving a tracked vehicle nor is it a prerequisite for obtaining a learner’s permit to operate a tracked vehicle.

      (5) Upon completion of training the {XX} SO will provide cards that are valid for four years from date of issue.

      (6) Optional Form 346 (U.S. Government Motor Vehicle Operators’ Identification Card) will not be issued to personnel until they have completed the accident avoidance class.

   b. Army Motorcycle Safety Course.

      (1) All military personnel desiring to operate a motorcycle or moped either on or off Fort Anywhere must first attend an Army-approved Motorcycle Safety Course. DoD civilians must attend an Army-approved Motorcycle Safety Course before operating a motorcycle or moped on Fort Anywhere.

      (2) To register for the class, contact the {XX} SO.

      (3) Students must use their own motorcycle or moped for the examination phase. Students will be required to show state registration, driver’s license or permit, and proof of insurance before class work begins.
(4) Students must comply with protective equipment requirements in paragraph 4-11b.

14-2. DA FORM 348 (EQUIPMENT OPERATOR’S QUALIFICATION RECORD).

The following information will be included as a minimum on DA Form 348.

a. Accident avoidance training and date.

b. Safety awards.

c. Army motor vehicle accidents.

d. Civilian and military traffic points and citations.

e. Operator’s training completed.

14-3. MILITARY VEHICLE SAFETY BELTS.

a. The operator will inspect seat belts before use to ensure they are functional. Damaged or nonfunctioning seat belts will be repaired before the vehicle is driven.

b. All personnel, operating or riding, as passengers in Army Motor Vehicles (AMV) or Army combat vehicles (ACV) will wear installed seat belts.

14-4. GROUND GUIDES.

a. Ground guides will be proficient in the use of hand and arm signals. Ground guides will walk two meters outside the path of the vehicle when space permits and a minimum of 10 meters in the front or rear of the vehicle they are guiding.

b. Continuous visual contact will be maintained between the vehicle commander or the driver and the dismounted guide.

c. Ground guides will be utilized in the cantonment area when escort vehicles are not available for tracked vehicles or where visibility is restricted.

d. Two ground guides will be used while backing tracked vehicles and while maneuvering in close quarters.

e. Ground guides will be utilized in the following situations or as the commander dictates:

   (1) On bypasses around unserviceable bridges.
   (2) Around roadblocks.
   (3) On shoulders of narrow roads.
(4) In or near bivouac areas.

(5) When crossing roads.

during periods of reduced visibility, ground guides will wear high visibility clothing and use flashlights.

14-5. SAFE TRANSPORTATION OF PERSONNEL.

a. Driver Qualification. Vehicles will not be used to transport personnel during driver training.

**NOTE:** Only qualified drivers, experienced on the vehicle to be utilized, will be used to transport personnel. Before transporting personnel, drivers will receive a briefing on the route and hazards they may expect to encounter.

b. Types of Transportation. Personnel will be transported in passenger type vehicles, such as sedans, or buses, to the maximum extent possible. When these type vehicles are not available, cargo vehicles may be used. Personnel may be transported without fixed seating for short distances (under 10 miles) on post provided each passenger remains seated wholly within the body of the vehicle and the body of the vehicle is equipped with stakes and sideboards. Flatbed trucks will not be used to transport personnel. Bus passengers will be seated and bus capacity will not be exceeded. Field gear and equipment will not be placed in bus aisles.

c. Personnel may be transported in the cargo bed of general purpose pickup trucks provided the following safety procedures are followed.

(1) Vehicle tailgate must be secured.

(2) Passengers must be seated on the cargo deck with no portion of their body overhanging the vehicle sides or rear.

(3) Vehicle will not be operated off post.

d. Personnel will not be transported in engineer dump trucks unless the vehicles are equipped with fixed seating for all passengers, an approved positive anti-dumping device is installed, and a means to ease boarding and off loading is provided.

e. Driver Responsibilities. Drivers of cargo trucks, pickup trucks, and dump trucks carrying passengers will follow the rules outlined below.

(1) Walk to the rear of the vehicle before starting to ensure the tailgate and safety strap are secured and that all passengers are seated.
(2) Walk to the rear of the vehicle after stopping, release the safety strap, and lower the tailgate before permitting passengers to dismount. Passengers will not jump from vehicles.

(3) Drivers will not move a vehicle in which any personnel are in an unsafe position, such as standing, or sitting on the tailgate or the sides of truck.

(4) Before backing a vehicle, the driver will check for clearance and sound the horn. When visibility is blocked or limited, drivers will use ground guides. If ground guides are not available, the driver will walk around the vehicle to check clearance before backing.

(5) Vehicles transporting passengers will not tow other vehicles or equipment.

(6) Drivers will ensure there is adequate ventilation to prevent accumulation of exhaust gases in the cargo compartment or cab of the vehicle.

e. Personnel will not ride on top of cargo being transported or in vehicles transporting unsecured cargo such hazardous cargo as firewood, field heaters, or hot food items. If personnel ride in vehicles hauling cargo, the cargo must be secured to prevent it from shifting or overturning and injuring passengers.

f. Vehicle Capacities. The passenger carrying capacities listed below are for normal passenger carrying operations and are consistent with safety policies and design features of the vehicles. The passenger capacities apply only when the vehicle is properly equipped with fixed seats. The maximum number of passengers authorized and the maximum speed limit will be stenciled on the dashboard of tactical vehicles.
Table B-1. Vehicle and Passenger Capacity

<table>
<thead>
<tr>
<th>Vehicle</th>
<th>Passenger Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 ½-Ton Cargo Truck</td>
<td>14</td>
</tr>
<tr>
<td>2 ½-Ton Extended Cargo Body Truck</td>
<td>18</td>
</tr>
<tr>
<td>2 ½-Ton Dump Truck</td>
<td>10</td>
</tr>
<tr>
<td>5-Ton Cargo Truck</td>
<td>16</td>
</tr>
<tr>
<td>5-Ton Extended Cargo Body Truck</td>
<td>20</td>
</tr>
<tr>
<td>5-Ton Dump Truck</td>
<td>12</td>
</tr>
<tr>
<td>5/4-Ton HMMWV Troop Carrier</td>
<td>8</td>
</tr>
<tr>
<td>5/4-Ton HMMWV Cargo/Troop Carrier</td>
<td>4</td>
</tr>
<tr>
<td>5/4-Ton M880, M881, M882</td>
<td>8</td>
</tr>
</tbody>
</table>

**NOTE:** The passenger capacity does not include the operating crew. Refer to the operator’s manual for vehicles not listed above.

14-6. **TIRE CHAINS.** Tire chains will be used at the commander’s discretion. Tire chains will not be used when driving on dry pavement. Guidance concerning tire chains on fuel tankers is in FM 10-67-1.

14-7. **MILITARY MOTOR VEHICLE OPERATION.**

a. Before operation, vehicles will be properly dispatched and preventive maintenance checks and services (PMCS) conducted.

b. Smoking is prohibited in and around all military vehicles.

c. Vehicles will not be started or allowed to run without a driver seated at the driver’s station.

d. Drivers will be trained, qualified, and licensed on the vehicle they are operating. In addition, drivers transporting hazardous materials must receive training required by AR 600-55.

e. The senior occupant of the vehicle is responsible for safe operation of the vehicle.

f. Drivers will ensure that windshields and vision blocks are clean and free of obstructions. All drivers, gunners, air guards, and track commanders will wear goggles when windshields are down or when riding in open hatches.

g. Drivers of vehicles with radios will be cautioned concerning dangers of operating near high voltage wires. Antennas will be tied down (no lower than three meters) when the vehicle is in motion. Antenna caps will be firmly in place. Tape will be used if necessary to secure the cap in place.
h. Parking brakes will be engaged when vehicles are parked. When tactical vehicles and buses are parked on an incline, both the parking brake and chock blocks will be used. Chock blocks will be provided and carried on all tactical vehicles and buses.

i. Personnel will not sleep in vehicles with the engine running or on the ground under or around vehicles. Drivers will check under and around vehicles before starting engine or moving vehicle.

j. Ground guides will not position themselves between two vehicles or between a vehicle and a fixed object.

k. Vehicles will not be loaded above their capacity, and all loads will be secured.

l. Special care will be taken by drivers hauling tanks of liquid (which are only partially full) to ensure liquids do not shift in turns and overturn trailers or vehicles.

m. Personnel will be instructed in the proper procedures for coupling and uncoupling trailers.

n. The use of safety chains between trailers and prime movers is mandatory.

o. Passengers will dismount when crossing hazardous terrain or obstacles where danger of overturning is possible.

p. Road guards must be used when crossing roads on post where the oncoming traffic has the right-of-way. Road guards must wear high visibility devices when controlling traffic. In addition, red baton flashlights or flares must be used during periods of darkness or when visibility is otherwise reduced to 500 feet or less. Road guards will be posted 500 feet on either side of the crossing site to halt and warn motorists of the crossing.

**NOTE:** Road guards cannot stop traffic off-post. Off-post crossings must be coordinated through Law Enforcement Center/Provost Marshall.

q. Vehicles will maintain adequate intervals to ensure safe stopping under all conditions. Dust, fog, and other conditions that restrict visibility require greater intervals. All vehicles must operate at a speed safe for road conditions.

r. Towing of any vehicle will be accomplished in accordance with the vehicle’s technical manual and FM 20-22, Vehicle Recovery Operations.

s. Any vehicle above the size of a sedan designed to transport personnel will come to a complete stop at unguarded railroad crossings and check in both directions before crossing when transporting personnel. All personnel will exit a vehicle stalled on railroad tracks. In case of damage to railroad tracks at Fort Anywhere, the Transportation Officer will be notified immediately.
14-8. PRIVately OWNED VEHICLE (POV) OPERATION. POV accidents constitute the Army’s most common cause of fatalities and serious injuries. While commanders or supervisors do not control POV operators similar to those operating Army motor vehicles, there are numerous areas of influence, which may be used to reduce losses. The following elements shall be included in unit POV safety programs:

a. The Army Six-Point POV Accident Prevention Program. This is a comprehensive program designed to aid commanders in reducing the risk of POV accidents. It consists of the following elements: command emphasis, discipline, risk management, standards, providing alternatives, and commander’s assessment. Details are available on the Army Safety Center Web page at https://safety.army.mil/.

b. The POV Inspection Program. This program will be established in all military organizations and conducted prior to all holiday weekends. A competent person, selected by the chain of command and using a local form POV Inspection Checklist, will conduct this inspection.

c. Safety Briefings. Commanders will conduct quarterly POV safety briefings that emphasize seasonal driving hazards. Briefings will also emphasize the use of restraint systems, driving while fatigued, use of alcohol, and speeding. Commanders will also conduct safety briefings prior to holidays and extended leaves.

d. Safety Restraint Usage.

   (1) Soldiers will use a restraint system while driving or riding in a POV that is equipped with a restraint system required by Department of Transportation (DOT) or other equivalent transportation authority. The restraint system will be worn at all times, both on and off federal installations.
(2) All civilian personnel, including visitors, will use a restraint system while driving or riding in a privately owned or government-owned vehicle with manufacturer-installed restraint systems. The restraint systems will be used on federal installations at all times and off federal installations when the vehicle is used for official business.

(3) Individuals will not ride in seats from which manufacturer-installed occupant restraints have been removed or rendered inoperative.

B-6 Spot Sales Contract

Sale of recyclable materials by the (Name of QRP)
Solicitation / contract form

Type of contract: It is anticipated that this solicitation (request for proposal) will result in the following type of contract: firm fixed price, definite delivery contract with definite quantities, subject to an increased quantity option.

A. The government (recycling program), has the option to increase the quantities called for herein up to 35% of the quantity of each item (lot), offered in the schedule at the same prices specified in the acceptance of proposal (contract). The contracting officer may exercise this option at any time or times within 30 calendar days after contract award date by giving notice to the contractor. The contracting officer and the contractor shall in accordance with delivery/pickup dates agree to delivery/pick up of the quantities of items added by exercise of this option. The aforementioned increased quantity option may be further increased by mutual agreement of both contracting parties at any time up to 60 calendar days after contract award.

B. Supplies (Recyclable Materials) and Prices:

<table>
<thead>
<tr>
<th>LOT #</th>
<th>ITEM DESCRIPTION</th>
<th>ESTIMATED QUANTITY</th>
<th>UNIT OF ISSUE</th>
<th>UNIT PRICE (CONTRACTOR FILL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Copper wire</td>
<td>100,000</td>
<td>LBS.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>First item</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Second item</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Third item</td>
<td></td>
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<td></td>
<td>Fourth item</td>
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</table>

C. Packaging and Marking:
Material will be picked up in a container by the contractor, Free on Board (FOB) origin. Contractor shall provide said standard containers at contractor’s expense.

D. Weight of Merchandise:

The purchaser (contractor) and the contracting officer will decide by mutual agreement to accept scale weights using the scale located on the base located at building, or by use of a certified public scale located between the contractor’s facility and the base (at contractor’s expense). Weights are subject to verification by the contracting officer. When merchandise is loaded on a wooden pallet of unknown weight the average weight of pounds will be deducted from the gross weight of the recyclable merchandise for each pallet utilized to arrive at the net weight of the recyclable merchandise.

E. Inspection and Acceptance:

(1) Recyclable merchandise inspection: Contractors are expected to inspect the merchandise offered for sale and to satisfy themselves as to merchandise quality and all general and local conditions that may affect the offers proposed. In no event will the failure to inspect the recyclable merchandise constitute grounds for a claim after award of a contract resulting from this solicitation (request for proposals).

(2) Recyclable merchandise may be inspected on an appointment basis at building, base. Appointments may be made by contacting contracting officer (or COR) at . No inspections will be scheduled on Saturdays, Sundays, or on federal holidays.

(3) Inspection and acceptance of the recyclable merchandise to be furnished under this contract shall be made at the building, base, by the successful offeror (contractor) unless otherwise agreed to in writing by both contracting parties.

(4) Title to the property sold there under will be vested in “the purchaser (contractor)” as and when removal is affected. No right, title, or interest in or to any of the property offered for sale there under shall be vested in the purchaser prior to its removal from the building, base.

F. Deliveries and Performance:

(1) Sales of recyclable materials are on FOB origin basis: FOB origin is defined as being loaded by the recycling program, at the recycling program’s expense, on to the contractor’s open top trailer or truck at the building, base. At the option of the contracting officer the recyclable materials may be loaded by the recycling program directly into the
contractor provided 20, 40, or 45 ft., shipping container. The contractor shall insure that the recycling program can load its containers.

(2) Removal of recyclable materials purchased by the contractor. Vehicles used for the removal of recyclable materials by the contractor or his agent must be adequate in configuration so that all property loaded thereon will be confined within the outside dimensions of the vehicle and said recyclable materials shall be stacked, tied and otherwise secured by the contractor to prevent any portion of the load from being dislodged in any manner while said vehicle is on government property. It is the sole responsibility of the contractor to insure his/her vehicles are properly loaded in the aforementioned manner.

G. Contract Administration Data:

(1) Payment for merchandise by the successful offeror (contractor). Within seven calendar days from the notice of award of contract(s) based on this solicitation, the contractor will deliver a certified/cashier's check to the contracting officer in an amount equal to award of that particular contract. Upon receipt of the aforementioned payment, pick up of the recyclable materials may commence on a mutually agreed to schedule but not later than 15 calendar days after payment is received unless the contracting officer grants an extension. Payment for recyclable merchandise covered in section a, paragraph 1a of this contract schedule regarding increased quantity option may be made by the contractor no later than three days after removal of said property using a company check. All payments made by the contractor will be made out to "Recycling Program."

(2) Under no circumstances will the contractor be authorized to make cash payments for any merchandise covered under this contract. The only authorized payment method is by check.

(3) The contractor assumes complete liability for all taxes applicable to its property, income, and all of its transactions arising out of, or in connection with, the performance of this contract. The contractor will not be reimbursed for any direct or indirect tax imposed on it by reason of this contract or otherwise.

(4) The contracting officer may, at his/her option, impose a $25.00 administrative charge on dishonored checks received from the contractor for the payment for recyclable materials. A charge of $100.00 per calendar day may be assessed by the contracting officer to any contractor who fails to remove his/her recyclable materials purchased under this agreement in the time specified in the contract.

H. Special Contract Requirements:
(1) Indemnity. The contractor agrees to indemnify and hold harmless the recycling program, the (military service), and the United States (including its agencies and instrumentalities), and their officers, agents and employees against liability and against any and all claims for loss, death, injury, or property damage (including costs and expenses incidental thereto), arising out of or in connection with (i) the performance of this contract, (ii) any of the activities or actions of the contractor’s subcontractors, representatives, agents or employees while performing this contract, or (iii) any of the contractor’s activities or actions.

(2) Damage to government property. Any damage to government property during the contractor’s removal operations is the responsibility of the contractor, if deemed by the contracting officer that the contractor or his/her employee was at fault, will be repaired at the contractor’s expense, to its original state or a reasonable facsimile thereof to the satisfaction of the contracting officer.

(3) Insurance requirements. The contractor agrees to furnish necessary vehicle and other insurance as provided for in the regulations for the state of _______________ and the base security office.

(4) Vehicle safety and licensing. The contractor agrees to provide vehicles and vehicle operators that are in current compliance with state and local vehicle safety and/or licensing requirements.

(5) Dangerous property. The purchaser (contractor) is cautioned that articles or substances of a dangerous nature may remain in the property notwithstanding the care exercised to remove same. The government assumes no liability for damages to the property of the purchaser (contractor) or for personal injuries, disabilities or death to the purchaser (contractor), his/her employees or for any other reason arising from or incident to the purchase of this recyclable material or its use, or suits, actions, or claims of any nature arising from or out of the purchase of this recyclable material.

(6) Insulated wire/cable. In some cases, insulated wire/cable may contain polychlorinated biphenyls (PCBs) above 50 parts per million by weight, which must be properly handled by the purchaser (contractor) in accordance with all applicable federal, state, and local laws and regulations regarding handling, recycling, and the eventual disposal of any remaining byproducts.

(7) Chemical agent resistant coating (CARC) paint. The purchaser (contractor) is cautioned that the items listed below are, or are likely to be, coated with chemical agent resistant coatings containing trivalent chrome, lead, cobalt-zinc hexamethylene diisocyanate, and other chemicals which represent a potential hazard to human health if welded, cut, or not processed properly. The government brings the following precautions/warnings to the attention of prospective purchasers who plan to disturb this property in any way:
(a) Airline respirators should be used for processing; unless air sampling shows exposure to be below OSHA standards, then either chemical cartridge respirators or airline respirators should be used.

(b) Chemicals should be isolated from heat, electrical equipment, sparks, and open flame. Local exhaust ventilation should be used for inside processing.

(c) Overexposure to vapor/mist can cause irritation to respiratory tract (lungs, nose, throat), edema, dermatitis, dizziness, rash, itching, swelling of extremities, eye irritation, or damage to nervous system, kidneys, or liver. Coating may be fatal if swallowed. Possible items or lot #'s include painted aluminum and other non-ferrous scrap metals including sheets, pipes, tubing, valves, nuts, bolts, hardware, ingots, anodes, and insulated wire.

I. Contract Clauses:

1. Definitions: As used throughout this contract, the following terms and abbreviations have the meanings set forth below:

   (a) The term “contract” means this agreement and any modifications hereto.

   (b) The abbreviation “NAFI” means Non-appropriated Fund Instrumentality of the United States government.

   (c) The term “contracting officer” means the person executing or responsible for administering the contract on behalf of the recycling program that is a party hereto, or his successor or successors.

   (d) The term “contractor” means the party responsible for buying recyclable materials at a certain price or rate from this recycling program (base recycling program) ______________ under this contract.

(1) Advertisements: The contractor agrees that none of its nor its agents’ advertisements, to include publications, merchandise, promotions, coupons, sweepstakes, contests, sales brochures, etc., shall state, infer or imply that the contractor’s products or services are approved, promoted, or endorsed by the Recycling Program (Base Recycling Program). Any advertisement, including cents off coupons, that refers to the Recycling Program will contain a statement that the advertisement is neither paid for nor sponsored in whole or in part by the particular activity.

(2) Assignment: The contractor may not assign his right or delegate his obligations under this contract without prior written consent of the contracting officer.
(3) Disputes:

(a) Except as otherwise provided in this contract, any dispute or claim concerning this contract, which is not disposed of by agreement, shall be decided by the contracting officer, who shall state his decision in writing and mail or otherwise furnish a copy to the contractor. Within 90 days from the date of receipt of such copy, the contractor may appeal by mailing or otherwise furnishing to the contracting officer a written appeal addressed to the Armed Services Board of Contract Appeals. The decision of the board shall be final and conclusive. The contractor shall be afforded an opportunity to be heard and offer evidence in support of any appeal under this clause. Pending final decision of such a dispute, however, the contractor shall proceed diligently with the performance of the contract and according to the decision of the contracting officer unless directed to do otherwise by the contracting officer.

(b) The "disputes" clause does not preclude consideration of law questions in connection with decisions provided for in paragraph “a” above, providing that nothing in this contract shall be construed as making final the decision of any administrative official, representative, or board on a question of law.

(4) Examination of records:

(a) This clause is applicable if the amount of this contract exceeds $10,000 and the contract was entered into by means of negotiation. The contractor agrees that the contracting officer or his duly authorized representative shall have the right to examine and audit the books and records of the contractor directly pertaining to the contract during the period of the contract and until the expiration of three years after the final payment under the contract.

(b) The contractor agrees to include the clause in paragraph “a” above in all subcontracts thereunder that exceed $10,000.

(5) Gratuities:

(a) The recycling program may, by written notice to the contractor, terminate the right of the contractor to proceed under this contract if it is found after notice and hearing, by the secretary of the (military department) or his duly authorized representative, that gratuities (in the form of entertainment, gifts, or otherwise) were offered or given by the contractor, or any agent or representative of the contractor, to any officer or employee of the government or the recycling program with a view toward securing favorable treatment with respect to the awarding, amending, or the making of any determinations with respect to the performance of such contract.

(b) In the event this contract is terminated as provided for in paragraph “a” hereof the recycling program shall be entitled; (1) to pursue the same remedies
against the contractor as it could pursue in the event of a breach of contract by the contractor and (2) as a penalty in addition to any other damages to which it may be entitled by law to exemplary damages in an amount (as determined by the secretary of the (military department) or his duly authorized representative), which shall be not less than three nor more than ten times the cost incurred by the contractor in providing any such gratuities to any such officer or employee.

(c) The rights and remedies of the recycling program provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract.

(6) Hold and save harmless. The contractor shall indemnify, save harmless and defend the recycling program from any liability, claimed or established for violation or infringement of any patent, copyright, or trademark right asserted by any third party with respect to goods or merchandise hereby sold or any part thereof. The contractor agrees to hold the recycling program harmless from all claims or judgments for damages resulting from the use of products listed in this contract. Also, the contractor shall at all times hold and save harmless the recycling program (base recycling program) ______________________, its agents, representatives and employees from any and all suits and expenses which arise out of acts or omissions of the contractor, its agents, representatives, or employees.

(7) Law governing contracts. In any dispute arising out of this contract, the decision of which requires consideration of law questions, the rights and obligations of the parties shall be interpreted and determined according to the substantive laws of the United States of America.

(8) Legal status. The Recycling Program is an integral part of the DoD and is an instrumentality of the U.S. government. Therefore, recycling program contracts are U.S. government contracts; however, they do not obligate appropriated funds of the United States. No appropriated funds of the United States shall become due or be paid a contractor by reason of this contract.

(9) Modifications. No agreement or understanding to modify this contract will be binding upon the recycling program unless made in writing and signed by a contracting officer from the office that issued the contract or its successor.

(10) Order of precedence. In the event of an inconsistency between provisions of this solicitation/award, the inconsistency shall be resolved by giving precedence in the following order: (1) supplies and prices, (2) special contract requirements, (3) contract clauses, and (4) other provisions of the solicitation/award.
(11) Termination for convenience. The contracting officer may terminate this contract by written notice, in whole or in part when it is in the best interest of the Recycling Program.

(12) Termination for default. The contracting officer may terminate the contract by written notice, in whole or in part for failure of the contractor to perform any of the provisions hereof. In such event the contractor shall be liable for damages including the excess cost of resoliciting offers for sales of recyclable merchandise; however, if it is determined that the contractor's failure to perform is without his/her or his/her subcontractor's control, fault or negligence the termination must be deemed to be a termination for convenience. As used in this provision, the term "subcontractor" means subcontractor at any tier.

(13) Clauses incorporated by reference. The provisions of the following clauses set forth in the FAR are hereby incorporated into this solicitation/award by reference with the same force and effect as though herein set forth in full. As used in the following clauses the term "government" is deleted and recycling program is substituted in lieu thereof. The date of each clause shall be the current date set forth in the FAR on the issuance date of the contract(s) awarded as a result of this solicitation (request for proposals). Clauses made inapplicable by the reference or by the kind of order or contract (e.g., contracts for services or purchase of supplies) instead of for sale of recyclable materials are self-deleting. The complete text of any clause incorporated in this solicitation/contract by reference may be obtained from the contracting officer.

Table B-3. Contract Clauses

<table>
<thead>
<tr>
<th>Clause No.</th>
<th>Reference</th>
<th>Clause Title</th>
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<tbody>
<tr>
<td>23</td>
<td>52.203-1</td>
<td>Officials not to benefit</td>
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<tr>
<td>24</td>
<td>52.203-5</td>
<td>Covenant against contingent fees</td>
</tr>
<tr>
<td>26</td>
<td>52.222-20</td>
<td>Walsh-Healy public Contracts Act (supply contracts over $10,000 not with foreign contractors)</td>
</tr>
<tr>
<td>27</td>
<td>52.222-26</td>
<td>Equal opportunity (supply contracts over $10,000)</td>
</tr>
<tr>
<td>28</td>
<td>52.222-35</td>
<td>Affirmative Action for special disabled veterans and Vietnam Era Veterans (supplies over $10,000)</td>
</tr>
<tr>
<td>29</td>
<td>2.222-36</td>
<td>Affirmative Action for handicapped workers (supplies over $2,500)</td>
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</table>

J. Representations, Certifications, and Other Statements of Offeror:

(1) Scrap warranty. The purchaser, (contractor) represents, warrants and certifies to the U.S. government that this property will be scrapped by pulping, shredding, or other equally complete manner which precludes any recognition or reconstruction of the items. The purchaser (contractor) further represents, warrants, and certifies that he/she is purchasing the property as scrap and that he/she will only use it as scrap. Notwithstanding any other provisions of this contract to the contrary, title to the property shall not vest in the purchaser until all required
scraping has been accomplished. Should the purchaser (contractor) fail for any reason to complete the scraping within 60 calendar days after removal of the property, or such additional time as may be granted by the contracting officer, the government shall have the right to repossess the property charging the purchaser (contractor) with all costs incurred by the government in repossessing and reselling the property including any direct loss on account of the resale.

K. Instructions and Conditions and Notices to Offerors:

(1) Telegraphic or facsimile offers. In keeping with standard scrap markets industry practice and in consort with the Defense Logistics Agency (DLA) policy of allowing submission of facsimile offers in response to requests for proposals for the sales of recyclable materials, facsimile or telegraphic offers may be submitted in response to this request for proposals. Telegraphic or facsimile offers must be received at the place designated by the contracting officer prior to the time specified for the receipt of offers in the request for proposals. Such offers must specifically refer to this request for proposals; must include the item(s) or lot(s), estimated quantities and the unit prices for which the offer is submitted. Additionally, the offer must contain all the representations and other information required by the request for proposals together with a statement that the offeror agrees to all the terms, conditions, and provisions of the solicitation. Failure of the offeror to furnish in the telegraphic or facsimile offer the representations and information required in the request for proposals may necessitate rejection of the offer. A person authorized to conduct negotiations and sent to the recycling program - must sign facsimile responses.

(2) Collusion warning. Offerors are cautioned to submit their offers without consultation, communication, or agreement with any other offeror for the purpose of restricting competition. Offer (bid) rigging is a federal felony criminal offense under section 1 of the Sherman Anti-Trust Act (15 U.S.C. 1). Conviction carries with it a fine of up to $1,000,000 for corporations and up to $100,000 or three years imprisonment (or both) for individuals. Contractors are encouraged to report suspected violations of this criminal law to the contracting officer at (000) 000-0000. This matter is of the greatest importance to this program and your utmost cooperation in insuring that this recycling program exemplifies maximum free and open competition among offerors is solicited and appreciated.

(3) Notice to contractor of certain drug detection procedure.

(a) Pursuant to DoD policy applicable to government and contractor personnel, measures will be taken to prevent the introduction and utilization of illegal drugs and related paraphernalia into government work areas.
(b) In furtherance of DoD’s drug control program, installation security authorities may conduct unannounced periodic on base inspections. Random inspections of vehicles upon entry or exit of the installation may be conducted with drug interdiction dog teams as available; thereby, eliminating a safe haven for storage of trafficking of illegal drugs.

(c) When there is probable cause to believe that a contractor employee on an installation has been engaged in use, possession, or trafficking of drugs, the installation authorities may detain said employee until the employee can be removed from the installation, or can be released to the local authorities having jurisdiction.

(d) Trafficking in illegal drugs and drug paraphernalia by contractor's employees while on a military installation may lead to possible contract termination and/or referral for prosecution by appropriate law enforcement authorities.

(e) The contractor is responsible for the conduct of his/her employees performing work under this contract and is, therefore, responsible to insure that employees are notified of these provisions prior to assignment.

(f) The removal of contractor personnel from a government installation as a result of drug offenses shall not be cause for excusable delay, nor such action be deemed a basis for an equitable adjustment to price, delivery or to other provisions of this contract.

(4) Removal from the list of prospective offerors. At the option of the contracting officer individuals or firms that fail to respond to three or more requests for proposals issued by this Recycling Program, or are in default regarding a contact issued by this Recycling Program, may be removed from the list of prospective offerors (commonly referred to as bidders list) and not be sent further requests for proposals from this organization until they are reinstated by the contracting officer.

(5) Acknowledgment of amendments to requests for proposals. Receipt of an amendment to a request for proposals by an offeror must be acknowledged by (a) signing and returning the amendment, (b) by annotation of block #14 entitled “acknowledgment of amendments” on the solicitation/offer form (Standard Form 33), or (c) by letter, telegram, or facsimile. Such acknowledgment must be received prior to the hour and date specified for the receipt for proposals.

(6) Explanation to offerors. Any explanation desired by an offeror regarding the meaning or interpretation of the request for proposals, specifications, conditions, etc., must be requested in writing and received by the contracting officer in sufficient time to allow for a reply to reach offerors before the submission of their proposals. Oral explanations or instructions given before the award of a contract(s) will not be binding. Any information given to a prospective offeror as
an amendment to the request for proposals will be furnished to all prospective offerors.

(7) Late proposals. Any proposal received at the office designated in the solicitation (request for proposals) after the exact time specified for the receipt will not be considered unless it is received before award is made; and (a) it was sent by registered or certified mail not later than the fifth calendar day prior to the date specified for receipt of offers; (b) it was sent by mail/telegram/facsimile and it is determined by the government that the late receipt was due solely to mishandling by the government after receipt at the government installation; or (c) sent by controlled dispatch via nationally known U.S. courier (e.g., Emery, Federal Express, etc.) not later than three calendar days prior to the date proposals were due; or, (d) it was the only proposal received.

L. Evaluation Factors for Award of Contract(s):

(1) Single award by lot. An award will generally be made to a single responsive responsible offeror for all items for each lot. However, the Recycling Program reserves the right to split lots or to award by item when the contracting officer determines that to be more advantageous to the Recycling Program.

(2) Contract(s) will be awarded to those responsible offerors whose proposals (conforming to the request for proposals) will be most advantageous to the Recycling Program, price and other factors considered.

(3) The Recycling Program reserves the right to reject any or all proposals and to waive informalities and minor irregularities in proposals received. In addition, the Recycling Program reserves the right to withdraw or not award a contract for any lot(s) for which the contracting officer determines the price(s) received are not fair and reasonable.

(4) The Recycling Program may accept any item or lot or group of items or lots in any proposal unless the offeror qualifies his/her proposal by specific limitations. “all or none” proposals will normally be rejected unless the contracting officer deems them to be more advantageous to the recycling program than other offers received.

(5) Award of contract(s)/acceptance of proposal. An “acceptance of proposal” signed by the contracting officer and mailed (or otherwise furnished) to the successful offeror(s), within the time for acceptance specified in the proposal, shall be deemed to result in a binding contract proposal if signed by the contracting officer and mailed (or otherwise without further action by either party). No binding contract shall result without such issuance of a signed “acceptance of proposal” by the contracting officer.
B-7  Term Sales Contract

Sale of recyclable materials by the Recycling Program, ________________________.

A. SOLICITATION/CONTRACT FORM

(1) This contract, made and entered into this _____ day of ______, 20__, by and between Recycling Program and ______________________________ ___________________________ (hereinafter called contractor), is for the sale of recycled scrap material subject to the provisions set forth hereunder. The parties agree to contract for the purchasing of the recycled scrap material as more specifically described in section c hereto. The parties agree as follows:

(2) Contract period. The period of performance for this contract will be for one (1) year, from the commencement date. The contract service period shall begin ________________ 20__. The recycling program may extend the term of this contract for successive periods of one year by mutual agreement. The contracting officer will advise the contractor in writing at least 30 calendar days before the contract period expires of the activity’s desire to extend the period of the contract. The total duration of this contract, including any extension pursuant to the option exercised under this clause will not exceed five years from the date of the original contract.

(3) Payment cycle. In consideration for the materials rendered, the contractor agrees to pay the recycling program 30 days from the presentation of invoice of said material, or on expiration of this contract, whichever occurs first.

(4) Invoices. The recycling program will submit invoices to ________________ after the close of each monthly cycle. Each cycle shall begin and end on the second issue date. Payment of invoice will be accomplished within 30 days of presentation of the invoice.

(5) Subcontracts. With prior approval of the contracting officer, a subcontractor may be used to fulfill the terms of the contract. If a subcontractor executes part or this entire contract, the contractor will continue to be held responsible for all provisions of the contract in total.

(6) Payment rates. Contractors will bid fixed net price per ton based on a percentage of the price indexed from the “high end” of the 2nd edition of the current month of the ________________, utilizing prices posted for the “______________” under the heading of ___________________. All material picked up after the second issue shall be billed on that cycle until the next month issue.

(7) Deposit. A 20% deposit of estimated three months generation, to be retained and applied to final billing, will be required from the contractor before the first ________________.
shipment. The contracting officer reserves the right to waive any and all deposits before the first load is delivered.

(8) Weight of merchandise. The contractor shall utilize the scales on base ______________ at building ______________.

(9) Contractor bids ______________% of market.

B. DESCRIPTION/MATERIAL SPECIFICATIONS:

(1) Name and description of material

(2) Quantity of _______ will be _______ (net or gross) tons with a margin of 50% over or 50% under for the one year term.

(3) All material will be stored (indoors or outdoors).

(4) Prohibitive materials will not be permitted.

(5) Total out-throws will not exceed ___percent.

C. PACKAGING AND MARKING:

(1) Material will be picked up in a ____________ container by the contractor, FOB origin. Contractor shall provide said standard ______________ containers at contractor’s expense.

D. INSPECTION AND ACCEPTANCE:

(1) Recyclable merchandise inspection. Offerors are expected to inspect the merchandise offered for sale and to satisfy themselves as to merchandise quality and all general and local conditions that may affect the offers proposed. In no event will the failure to inspect the recyclable merchandise constitute grounds for a claim after award of a contract resulting from this solicitation (request for proposals).

(2) Recyclable merchandise may be inspected on an appointment basis at building _______, base, ______________. Appointments may be made by contacting ______________, contracting officer (or COR) at (000) 000-0000. No inspections will be scheduled on Saturdays, Sundays, or on federal holidays.

E. DELIVERIES AND PERFORMANCE:

(1) Sales of recyclable materials are on FOB origin. FOB origin is defined as being loaded by the recycling program, at the recycling programs expense,
onto the contractor’s or subcontractor’s trailer and transported at contractor’s expense to contractor’s facility.

(2) Removal of recyclable materials purchased by the contractor. All material must be picked up between Monday and Friday during normal business hours (Note: insert hours of operation). Contractor agrees to pickup material no later than three days after a request for pickup has been made by the Non-Appropriated Fund Instrumentality (NAFI).

(3) It is the contracting officer’s representative’s responsibility to schedule all deliveries with the contractor’s facility and insure all paper work is submitted correctly.

(4) Authorized COR’s telephone: __________________  _____________

F. CONTRACT ADMINISTRATION DATA:

(1) The contractor assumes complete liability for all taxes applicable to its property, income, and all of its transactions arising out of or in connection with the performance of this contract. The contractor will not be reimbursed for any direct or indirect tax imposed on it by reason of this contract or otherwise.

(2) The contracting officer may, at his/her option, impose a $25.00 (Note: Tailor to suit local requirements) administrative charge on dishonored checks received from the contractor for the payment of recyclable materials.

G. SPECIAL CONTRACT REQUIREMENTS:

(1) Indemnity. The contractor agrees to indemnify and hold harmless the recycling program, the (military department) and the United States (including its agencies and instrumentalities), and their officers, agents and employees against liability and against any and all claims for loss, death, injury, or property damage (including costs and expenses incidental thereto), arising out of or in connection with (1) the performance of this contract, (2) any of the activities or actions of the contractor’s subcontractors, representatives, agents, or employees while performing this contract, or (3) any of the contractor’s activities or actions.

(2) Damage to government property. Any damage to government property during the contractor’s removal operations is the responsibility of the contractor, if deemed by the contracting officer that the contractor or his/her employee was at fault, will be repaired at the contractor’s expense, to its original state or a reasonable facsimile thereof to the satisfaction of the contracting officer.

(3) Dangerous property. The purchaser (contractor) is cautioned that articles or substances of a dangerous nature may remain in the property notwithstanding the care exercised to remove same.
The government assumes no liability for damages to the property of the purchaser (contractor) or for personal injuries, disabilities or death to the purchaser (contractor), his/her employees or to any other reason arising from or incident to the purchase of this recyclable material or its use, or suits, actions, or claims of whatsoever nature arising from or out of the purchase of this recyclable material.

H. CONTRACT CLAUSES:

(1) Definitions. As used throughout this contract, the following terms and abbreviations have the meanings set forth below:

(a) The term “contract” means this agreement and any modifications hereto.

(b) The term “contracting officer” means the person executing or responsible for administering this contract on behalf of the recycling program which is a party hereto, or his successor or successors.

(c) The term “contractor” means the party responsible for buying recyclable materials at a certain price or rate from this recycling program under this contract.

(2) Advertisements. The contractor agrees that none of its nor its agents’ advertisements, to include publications, merchandise, promotions, coupons, sweepstakes, contests, sales brochures, etc., shall state, infer or imply that the contractor’s products or services are approved, promoted or endorsed by the Recycling Program. Any advertisement, including cents off coupons, which refers to a NAFI, will contain a statement that the advertisement is neither paid for nor sponsored in whole or in part by the particular activity.

(3) Assignment. The contractor may not assign his right or delegate his obligations under this contract without prior written consent of the contracting officer.

(4) Disputes:

(a) Except as otherwise provided in this contract, any dispute or claim concerning this contract which is not disposed of by agreement shall be decided by the contracting officer, who shall state his decision in writing and mail or otherwise furnish a copy to the contractor. Within 90 days from the date of receipt of such copy the contractor may appeal by mailing or otherwise furnishing to the contracting officer a written appeal addressed to the Armed Services Board of Contract Appeals and the decision of the board shall be final and conclusive. The contractor shall be afforded an opportunity to be heard and offer evidence in support of any appeal under this clause. Pending final decision of such a dispute, however, the contractor shall proceed diligently with the performance of the contract.
and according to the decision of the contracting officer unless directed to do otherwise by the contracting officer.

(b) The "disputes" clause does not preclude consideration of law questions in connection with decisions provided for in paragraph "a" above, providing that nothing in this contract shall be construed as making final the decision of any administrative official, representative, or board on a question of law.

(5) Examination of Records:

(a) This clause is applicable if the amount of this contract exceeds $10,000 and the contract was entered into by means of negotiation. The contractor agrees that the contracting officer or his duly authorized representative shall have the right to examine and audit the books and records of the contractor directly pertaining to the contract during the period of the contract and until the expiration of three years after the final payment under the contract.

(b) The contractor agrees to include the clause in paragraph "a" above in all subcontracts thereunder that exceed $10,000.

(6) Gratuities:

(a) The Recycling Program may by written notice to the contractor, terminate the right of the contractor to proceed under this contract if it is found after notice and hearing, by the secretary of the (military department) or his duly authorized representative, that gratuities (in the form of entertainment, gifts, or otherwise) were offered or given by the contractor, or any agent or representative of the contractor, to any officer or employee of the government or the Recycling Program with a view toward securing favorable treatment with respect to the awarding, amending, or the making of any determinations with respect to the performing of such contract.

(b) In the event this contract is terminated as provided for in paragraph "a" hereof the recycling program shall be entitled (i) to pursue the same remedies against the contractor as it could pursue in the event of a breach of contract by the contractor and (ii) as a penalty in addition to any other damages to which it may be entitled by law to exemplary damages in an amount (as determined by the secretary of the (military department) or his duly authorized representative), which shall be not less than three nor more than ten times the cost incurred by the contractor in providing any such gratuities to any such officer or employee.

(c) The rights and remedies of the recycling program provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract.
(7) Hold and save harmless. The contractor shall indemnify, save harmless and
defend the recycling program from any liability, claimed or established for
violation or infringement of any patent, copyright or trademark right asserted
by any third party with respect to goods or merchandise hereby sold or any
part thereof. The contractor further agrees to hold the Recycling Program
harmless from all claims or judgments for damages resulting from the use of
products listed in this contract. Also, the contractor shall at all times hold and
save harmless the Recycling Program, its agents, representatives and
employees from any and all suits and expenses which arise out of acts or
omissions of the contractor, its agents, representatives, or employees.

(8) Law governing contracts. In any dispute arising out of this contract, the
decision requires consideration of law questions; the rights and obligations of
the parties shall be interpreted and determined according to the substantive
laws of the United States.

(9) Legal status. The recycling program is an integral part of the DoD and is an
instrumentality of the U.S. government. Therefore, Recycling Program
contracts are U.S. government contracts; however, they do not obligate
appropriated funds of the United States. No appropriated funds of the United
States shall become due or be paid a contractor by reason of this contract.

(10) Modifications. No agreement or understanding to modify this contract will
be binding upon the recycling program unless made in writing and signed
by a contracting officer from the office that issued the contract or its
successor.

(11) Order of precedence. In the event of an inconsistency between provisions
of this solicitation/award, the inconsistency shall be resolved by giving
precedence in the following order:

(a) Supplies and prices,

(b) special contract requirements,

(c) contract clauses,

(d) other provisions of the solicitation/award.

(12) Termination for convenience. The contracting officer by written notice may
terminate this contract, in whole or in part when it is in the best interest of
the Recycling Program.

(13) Termination for default. The contracting officer may terminate the contract
by written notice, in whole or in part, for failure of the contractor to perform
any of the provisions hereof. In such event the contractor shall be liable for
damages including the excess cost of resoliciting offers for sales of
recyclable merchandise; however, if it is determined that the contractor’s failure to perform is without his/her or his/her subcontractor’s control, fault or negligence, the termination must be deemed to be a termination for convenience. As used in this provision, the term “subcontractor” means subcontractor at any tier.

(14) Clauses incorporated by reference. The provisions of the following clauses set forth in the FAR are hereby incorporated into this solicitation/award by reference with the same force and effect as though herein set forth in full. As used in the following clauses the term “government” is deleted and recycling program is substituted in lieu thereof. The date of each clause shall be the current date set forth in the far on the issuance date of the contract(s) awarded as a result of this solicitation (request for proposals). Clauses made inapplicable by the reference or by the kind of order or contract (e.g., contracts for services or purchase of supplies) instead of for sale of recyclable materials are self-deleting. The complete text of any clause incorporated in this solicitation/contract by reference may be obtained from the contracting officer.
Table B-4. Clauses Incorporated by Reference

<table>
<thead>
<tr>
<th>Clause No.</th>
<th>Reference</th>
<th>Clause Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>52.203-1</td>
<td>Officials not to benefit</td>
</tr>
<tr>
<td>24</td>
<td>52.203-5</td>
<td>Covenant against contingent fees</td>
</tr>
<tr>
<td>26</td>
<td>52.222-20</td>
<td>Walsh-Healy public contracts act (supply contracts over $10,000 not with foreign contractors)</td>
</tr>
<tr>
<td>27</td>
<td>52.222-26</td>
<td>Equal Opportunity (supply contracts over $10,000)</td>
</tr>
<tr>
<td>28</td>
<td>52.222-35</td>
<td>Affirmative Action for special disabled veterans and Vietnam Era Veterans (supplies over $10,000)</td>
</tr>
<tr>
<td>29</td>
<td>2.222-36</td>
<td>Affirmative Action for handicapped workers (supplies over $2,500)</td>
</tr>
</tbody>
</table>

I. INSTRUCTIONS, CONDITIONS, AND NOTICES TO OFFERORS

(1) Telegraphic or facsimile offers. In keeping with standard scrap markets industry practice and in consort with the Defense Logistics Agency (DLA) policy of allowing submission of facsimile offers in response to requests for proposals for the sales of recyclable materials, facsimile or telegraphic offers may be submitted in response to this request for proposals. Telegraphic or facsimile offers must be received at the place designated by the contracting officer prior to the time specified for the receipt of offers in the request for proposals. Such offers must specifically refer to this request for proposals, must include the item(s) or lot(s), estimated quantities, and the unit prices for which the offer is submitted. Additionally, the offer must contain all the representations and other information required by the request for proposals together with a statement that the offeror agrees to all the terms, conditions, and provisions of the solicitation. Failure of the offeror to furnish in the telegraphic or facsimile offer the representations and information required in the request for proposals may necessitate rejection of the offer. Facsimile responses must be signed by a person authorized to conduct negotiations and sent to the recycling program (ATTN:___________________ at __________________).

(2) Collusion warning. Offerors are cautioned to submit their offers without consultation, communication, or agreement with any other offeror for the purpose of restricting competition. Offer (bid) rigging is a federal felony criminal offense under section 1 of the Sherman Anti-Trust Act (15 U.S.C. 1). Conviction carries with it a fine of up to $1,000,000 for corporations and up to $100,000 or three years imprisonment (or both) for individuals. Contractors are encouraged to report suspected violations of this criminal law to the contracting officer at (000) 000-0000. This matter is of the greatest importance to this program and your utmost cooperation in insuring that this

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recycling program exemplifies maximum free and open competition among offerors is solicited and appreciated.

(3) Removal from the list of prospective offerors. At the option of the contracting officer, individuals or firms that fail to respond to three or more requests for proposals issued by this recycling program, or are in default regarding a contact issued by this Recycling Program may be removed from the list of prospective offerors (commonly referred to as “bidders list”) and not be sent further requests for proposals from this organization until they are re-instated by the contracting officer.

(4) Acknowledgment of amendments to requests for proposals. Receipt of an amendment to a request for proposals by an offeror must be acknowledged by:

(a) Signing and returning the amendment,

(b) by annotation of block #14 entitled “Acknowledgment of Amendments” on the solicitation/offer form (Standard Form 33), or

(c) by letter, telegram, or facsimile. Such acknowledgment must be received prior to the hour and date specified for the receipt for proposals.

(5) Explanation to offerors. Any explanation desired by an offeror regarding the meaning or interpretation of the request for proposals, specifications, conditions, etc., must be requested in writing and received by the contracting officer in sufficient time to allow for a reply to reach offerors before the submission of their proposals. Oral explanations or instructions given before the award of a contract(s) will not be binding. Any information given to a prospective offeror as an amendment to the request for proposals will be furnished to all prospective offerors.

(6) Late proposals. Any proposal received at the office designated in the solicitation (request for proposals) after the exact time specified for the receipt will not be considered unless it is received before award is made; and

(a) It was sent by registered or certified mail not later than the fifth calendar day prior to the date specified for receipt of offers; or

(b) It was sent by mail/telegram/facsimile and it is determined by the government that the late receipt was due solely to mishandling by the government after receipt at the government installation; or

(c) Sent by controlled dispatch via nationally known U.S. courier (e.g., Emery, Federal Express, etc.) not later than three calendar days prior to the date proposals were due; or,
(d) It was the only proposal received.

J. EVALUATION FACTORS FOR AWARD OF CONTRACT(S):

(1) Single award by lot. An award will generally be made to a single responsive responsible offeror for all items for each lot. However, the recycling program reserves the right to split lots or to award by item when the contracting officer determines that to be more advantageous to the recycling program.

(2) Contract(s) will be awarded to those responsible offerors whose proposals (conforming to the request for proposals) will be most advantageous to the recycling program, price and other factors considered.

(3) The recycling program reserves the right to reject any or all proposals and to waive informalities and minor irregularities in proposals received. In addition, the recycling program reserves the right to withdraw or not award a contract for which the contracting officer determines the price(s) received are not fair and reasonable.

(4) Award of contract(s)/acceptance of proposal. An “acceptance of proposal,” signed by the contracting officer and mailed (or otherwise furnished) to the successful offeror(s), within the time for acceptance specified in the proposal, shall be deemed to result in a binding contract proposal,” signed by the contracting officer and mailed (or otherwise without further action by either party). No binding contract shall result without such issuance of a signed “acceptance of proposal” by the contracting officer.
## Turn-In Document, DD Form 1348-1A

**Figure B-1. DD Form 1348-1A**

<table>
<thead>
<tr>
<th>27. ADDITIONAL DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>26. NSN (4-8)</td>
</tr>
<tr>
<td>UI (25-26)</td>
</tr>
<tr>
<td>QTY (26-29)</td>
</tr>
<tr>
<td>COMP CODE (71)</td>
</tr>
<tr>
<td>DIST (55-56)</td>
</tr>
<tr>
<td>UP (74-80)</td>
</tr>
</tbody>
</table>

| 26. NATIONAL STOCK NO. & ADD (8-22) |

| 24. DOCUMENT NUMBER & SUFFIX (30-44) |

**PerFORM (DLA)**

**PREVIOUS EDITION MAY BE USED**
MPPEH Situation Report (SITREP)

MATERIAL POTENTIALLY PRESENTING AN EXPLOSIVE HAZARD
SPECIAL SITUATION REPORT

REPORTING OFFICIAL:
___(Activity Name)
___(Time of Report)
___(Date of Report)
___(Activity Code/Symbol)
___(Name of Person Submitting Report)
___(Position/Title)
___(DSN)

STATUS: ________________(Open/Closed)

SUMMARY COMMENTS:

a. Type of incident: (discovery, explosion, etc.)
b. Custodian’s branch of service:
c. Custodian’s location:
d. Custodian’s name:
e. Custodian’s address:
f. Was the base commander notified? Yes/No
g. Base commander’s name:
h. Base commander’s address/phone number:
i. Brief description of discovery and subsequent actions:
j. Documentation numbers (e.g., DD Form 1348-1A), when applicable:
k. Noun name and NSN of material/item:
l. Other identifying information regarding material/item:
m. Serial/lot numbers, if any:
n. Name, rank, organization, phone number of individual making the discovery:
o. EOD/UXO actions taken:
p. Was material certified as safe/inert? Yes/No
q. If yes, name, rank, activity and DSN of individuals having signed certification:
r. Was there involvement by the servicing DRMO? (Include DRMO name and point of contact)
s. Number of people killed or injured:

¹ DoD 4160.21-M (Draft), 116, ATT 2, Chap 4
APPENDIX C FEASIBILITY STUDY GUIDELINES

Objectives of the feasibility study are to identify potential recyclable materials, estimate generation rates, determine if adequate markets exist, and conduct an economic analysis for each material.

Identify Recyclable Materials

The first step in conducting a feasibility study is to find out what materials are available and eligible for recycling. The installation should coordinate closely with DRMO when collecting this information. Materials to consider recycling are those identified by applicable federal, state, local, and DoD regulations. They may include scrap metal; high-grade paper; corrugated containers; and aluminum cans, glass, plastics, and newspapers from housing areas.

The only exceptions to recycling the above materials are:

a. Market analyses conducted by DRMO or the managing activity indicate that the recovered materials cannot be sold; or
b. The cost analysis shows that recycling the material is too costly. In other words, the added costs exceed the sum of recycling revenues plus avoided disposal costs.

Note that under the DRMS “Sale By Reference” document, Part 7, contractors who buy high-grade paper containing information covered by the Privacy Act are subject to the provisions of this Act. Therefore, contractors must exercise every care necessary to ensure compliance with respect to the handling and disposal of protected information.

Other wastes qualified for sale under the program are materials that normally have been or would be discarded, and that may be reused after undergoing some type of physical or chemical processing. Unless specifically excluded, any material that meets this definition may be sold under this program.

Note that the definition of recyclable materials specifically excludes the following materials:

a. Precious metal-bearing scrap.
b. Items that may be used again for their original purposes or that function without any special processing (e.g., used vehicles, vehicle or machine parts, bottles (not scrap glass), electrical components, unopened containers of unused oil/solvent/paint, furniture, filing cabinets).
c. Ships, planes, weapons, or any discarded material that must undergo demilitarization or mutilation.

Estimate Generation Rates

Determine the approximate quantity of materials that will be source separated, locations where each type of material would be stored for pickup, and frequency of required pickup as influenced by economic, environmental, hygienic, aesthetic, and safety requirements. Sources of this information include weight tickets, contractor billings, and shop interviews.
Determine if Adequate Markets Exist

A number of factors affect the market value of a material. First, the quality of the waste material must be considered. The quality of a material is generally determined by how clean it is, or how well materials are segregated. DRMO will not segregate materials for an installation, but will advise on the degree of segregation for the most cost-effective operation. (See chapter 5 for waste segregation options.) To enhance marketability, quality control of source separation techniques is essential. For example, when recycling mixed paper, it is important that employees do not throw paper clips, carbons, and other trash into collection boxes.

Packaging is also important in recycling markets; for example, because of bulk storage and transportation problems, cardboard cannot be economically recycled unless it is baled. Some materials also need to be packaged according to certain specifications.

Dollar values fluctuate frequently and may vary significantly from the listed values based on various economic factors. Whether a waste may or may not be cost-effectively recycled depends on local conditions. Some areas may not have a market for certain materials, or an installation may not generate enough of a particular material to make recycling cost effective. Installations may have to pay for removal of some recyclable materials but could save money through avoided costs for incineration or landfill disposal. Some potentially recyclable materials are provided in table D-1; prices listed in the table may vary greatly depending on location and quality of the material.

A DRMO market analysis can identify which wastes are marketable in any area. Request a determination from DRMO of local markets for high-grade paper, corrugated containers, newspapers, and all other materials that you are considering for recycling. Information to be obtained from DRMO includes the following: market price, prognosis of price future, pickup point changes, any preparation required (such as baling), and special tying.

Information can also be obtained from local brokers and end users of recyclable materials in addition to DRMO. After receiving the market analysis report and the estimated sales revenue, the installation conducts an economic analysis to determine if recycling the material would be cost-effective. If no market exists for the material, no further analysis is necessary. For additional information, refer to appendix F, Information Sources.
Conduct an Economic Analysis for Each Material
Selling recyclable materials can raise revenue but may not always be cost effective because the costs of operating the program may exceed revenues generated. Therefore, before any recycling of a specific material can be officially approved, an economic analysis must be performed for each material considered for recycling.

Recycling of a material is economically feasible if:

\[
\text{Added Costs} < \text{Avoided Costs} + \text{Revenue}
\]

**Added Costs**
Added costs are the increased time, effort, and possibly equipment associated with removing a recyclable material from the waste stream and subsequently preparing it for sale.

**Avoided Costs**
Estimate avoided costs by determining the weight or volume of each recyclable material diverted from the waste disposal stream by the QRP. Calculate tipping fees, surcharges, labor, prorated maintenance, hauling fees, permit fees, and generator “taxes” saved by recycling that quantity of material instead of disposing it. This may or may not be a significant factor, depending on the material. An example of avoided costs at Navy, Marines, Army, and Air Force facilities are reductions in tipping fees. Savings can be realized by less frequent pickups such as once per week instead of twice per week. The total avoided cost savings can be calculated on a monthly or annual basis.

**Revenue**
For each recyclable material, estimate annual sales revenue. Use DRMO market survey data for these estimates.

Appendix E provides a worksheet for documenting an economic analysis and example. The example economic analysis is specific to recycling of tab cards and is based on a source separation program. The procedure for evaluating other materials would be quite similar.

**Make a Decision**
If the economic analysis shows promise and the item is qualified, recycling personnel should begin collecting and segregating the material. If the economic analysis is not positive, you may still be required by your state solid waste regulations to recycle.

Waste Segregation Options
The mechanics of segregating recyclable materials falls into two categories: source separation and disposal site separation. Source separation is defined as the setting aside of one or more recyclable materials, such as paper, cans, or glass, from refuse. This must be done at the point of generation by the discarding unit before the materials become mixed into the solid waste stream. Disposal site separation generally uses mechanical equipment to separate recyclable materials from other post consumer wastes. Separation of materials at final disposal sites generally requires PPE, a large investment in equipment, and a large, steady supply of raw material to justify the equipment. Likewise, markets for the recovered materials must exist. For these reasons, few military installations practice disposal site separation.

Source Separation
DoD Instruction 4715.4 and Army Regulation 420-1, Chapter 23 stress the recovery and recycling of solid and other waste materials to the maximum extent practicable. Source separation is one of the simplest methods of compliance with this requirement. Separation of other materials for which there is a market is also encouraged. A source separation program may be instituted at an installation only after a determination has been made that markets exist for the separated materials. If markets do not exist, source separation is not required. The minimum requirements for source separation considerations are:

a. High-grade office paper: any installation employing over 100 office workers.
b. Newspapers: installations with more than 500 family housing units.
c. Corrugated containers (cardboard): installations where commercial establishments collectively generate more than 10 tons per month.

Disposal Site Separation
This type of recovery is distinguished from source separation in that recoverable materials enter the waste stream as commingled recyclables, municipal wastes, and non-recoverable solid wastes. This method will generally require the use of specialized equipment machines not normally found in the military supply system. This mechanical equipment is used to separate recyclable materials from other post-consumer wastes. The simplest form is a conveyor belt operated by laborers who do the actual separation.

The overall success of a mechanized material recovery facility depends on the technologies used. Ferrous metal recovery has been proven effective at several locations, whereas aluminum recovery has achieved a less successful track record. For economic and health reasons, mechanically recovered paper is currently used almost exclusively for the production of refuse-derived fuel rather than fiber recovery. As a result, technologies designed to recover fiber have received relatively less attention. Glass recovery technologies have achieved limited success.
The technology for separation of materials from military post-consumer solid waste generally used in conjunction with energy recovery systems. The more common methods are:

a. Hand-picking of recyclables from conveyors prior to discharge into transfer trailers or processing machinery is frequently practiced.

b. Magnetic separators, use a belt, drum, or pulley with a magnet used to attract and remove magnetic materials from refuse or other materials. At military industrial installations, cranes with electromagnetic hooks can be used to separate magnetic materials into large sorting bins.

c. Eddy current separators are used to separate aluminum and other nonmagnetic metals using the properties of a magnetic field as a method of sorting. An alternating current is passed through a piece of metal causing it to become temporarily magnetic and thus deflected and separated.

d. Heavy media separators use a suspension of finely ground dense minerals in water. When the mixture of glass, aluminum, and other nonferrous metals is immersed in the liquid, the fluid density can be controlled so that the aluminum and glass float while the other metals sink.

e. Equipment used in the paper industry can pulp waste paper and separate foreign matter. Hot water and agitation are used for pulping rather than chemicals. This process has been incorporated into certain resource recovery systems to recover paper fibers from municipal solid waste.

Source separation is usually preferred over separation of materials at the final disposal site because it is easier, less expensive, requires limited equipment, and generally results in a higher grade of recovered material. Disposal site separation does, however, yield concentrated separation and collection options.

**Potential Recyclable Materials**

Below are selected ranges of prices by item (i.e., disposal costs and potential recycling revenues that may be generated). Negative numbers indicate cost to dispose. Numbers vary due to market differences, local economies, and individual state and local regulations.
Table C-1. Price Ranges by Recyclable Item.

<table>
<thead>
<tr>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PAPER</strong></td>
<td></td>
</tr>
<tr>
<td>Computer paper</td>
<td>20 to 125</td>
</tr>
<tr>
<td>Mixed paper</td>
<td>(-40) to 40</td>
</tr>
<tr>
<td>Cardboard</td>
<td>(-25) to 35</td>
</tr>
<tr>
<td><strong>METAL</strong></td>
<td></td>
</tr>
<tr>
<td>Aluminum</td>
<td>(-.40) to .46</td>
</tr>
<tr>
<td>Steel cans</td>
<td>.50 to .116</td>
</tr>
<tr>
<td>Stainless Steel</td>
<td>(-.35) to .30</td>
</tr>
<tr>
<td><strong>GLASS</strong></td>
<td></td>
</tr>
<tr>
<td>Clear</td>
<td>0 to 100</td>
</tr>
<tr>
<td>Broken, mixed</td>
<td>(-5) to 100</td>
</tr>
<tr>
<td><strong>PLASTIC</strong></td>
<td></td>
</tr>
<tr>
<td>Clear, PET</td>
<td>(-5) to 100</td>
</tr>
<tr>
<td>Mixed, HDPE</td>
<td>0 to 200</td>
</tr>
<tr>
<td><strong>MISCELLANEOUS</strong></td>
<td></td>
</tr>
<tr>
<td>Auto Batteries</td>
<td>.025 to 1.35</td>
</tr>
</tbody>
</table>

\[1\] See Appendix F- Information Sources for Current Market Pricing.
### Table D-1. Recycling Economic Analysis Worksheet.

<table>
<thead>
<tr>
<th>Installation: ____________________________________</th>
<th>Date: ________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparer: _________________________________________</td>
<td></td>
</tr>
<tr>
<td>Location: _________________________________________</td>
<td></td>
</tr>
</tbody>
</table>

**Formula:** Estimated Return = Avoided Cost + Revenue – Added Cost

#### ESTIMATED ADDED COST

1. **Source separation and material preparation:**
   - a. Equipment (amortize over life of equipment) $__________/Yr
   - b. Labor $__________/Yr
     - (1) Procurement (amortize over life of equipment) $__________/Yr
     - (2) Operations $__________/Yr
     - (3) Maintenance $__________/Yr
   - c. Other (materials, supplies) $__________/Yr

   **Subtotal (#1)** $__________/Yr

2. **Collection and storage:**
   - a. Equipment (amortize over life of equipment) $__________/Yr
   - b. Labor $__________/Yr
     - (1) Procurement (amortize over life of equipment) $__________/Yr
     - (2) Operations $__________/Yr
     - (3) Maintenance $__________/Yr
   - c. Other (materials, supplies) $__________/Yr

   **Subtotal (#2)** $__________/Yr

3. **Program administration:**
   - a. Instructions and operating procedures $__________/Yr
   - b. Fiscal Management $__________/Yr
   - c. Publicity $__________/Yr

   **Subtotal (#3)** $__________/Yr

4. **Facility Operation and Maintenance**
   - a. Utilities $__________/Yr
Installation: ___________________________  Date: ______________

b. Routine facility maintenance  $__________/Yr

Subtotal(#4)  $__________/Yr

TOTAL ADDED COST  $__________/Yr

ESTIMATED AVOIDED COSTS AND REVENUE

1. Savings resulting from reduced volume going to a disposal facility  $__________/Yr

2. Sales revenue  +  $__________/Yr

TOTAL ESTIMATED AVOIDED COSTS + REVENUE  $__________/Yr

TOTAL ADDED COST  $__________/Yr

ESTIMATED RETURN
(AVOIDED COSTS + REVENUE) - (ADDED COST)=  $__________/Yr
### PAYBACK PERIOD

<table>
<thead>
<tr>
<th>EXPENSE</th>
<th>ESTIMATED COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Salary of QRP manager for planning and coordination for a 3 month period</td>
<td>$________</td>
</tr>
<tr>
<td>2. ___ ea desk-side paper recycling containers @ $6.00 ea</td>
<td>$________</td>
</tr>
<tr>
<td>3. ___ ea 68-gallon mobile toters for papers and cans @ $110.00 ea</td>
<td>$________</td>
</tr>
<tr>
<td>4. ___ ea one-cubic yard heavy duty utility cart @ $620.00 ea</td>
<td>$________</td>
</tr>
<tr>
<td>5. ___ ea cardboard compactor(s)</td>
<td>$________</td>
</tr>
<tr>
<td>6. ___ ea horizontal baler(s) with conveyor for paper and cardboard</td>
<td>$________</td>
</tr>
<tr>
<td>7. Other equipment (i.e., forklift, scales)</td>
<td>$________</td>
</tr>
<tr>
<td>8. Recycling Center Warehouse (construction)</td>
<td>$________</td>
</tr>
<tr>
<td>9. Refuse compactor/collection truck</td>
<td>$________</td>
</tr>
</tbody>
</table>

The payback period is calculated by dividing the implementation cost by the difference between the recurring cost and the recurring cost savings plus revenue.

### Table D-2 Sample Recycling Economic Analysis Worksheet

<table>
<thead>
<tr>
<th>Installation: Fort Smith</th>
<th>Date: 1 Sep 05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparer: John Doe</td>
<td></td>
</tr>
<tr>
<td>Location: Materials Recovery Facility</td>
<td></td>
</tr>
</tbody>
</table>

Formula: Estimated Return = Avoided Cost + Revenue – Added Cost

### ESTIMATED ADDED COST

1. Source separation and material preparation:
   - $0 _______ /Yr
   - a. Equipment (amortize over life of equipment) $0 _______ /Yr
   - b. Labor $5,600 _______ /Yr

   (0.2 worker /yr) x ($25,000/worker) x (1.12 overhead)
   - (1) Procurement (amortize over life of equipment) $________ /Yr
   - (2) Operations $________ /Yr
   - (3) Maintenance $________ /Yr
   - c. Other (materials, supplies) $1,000 _______ /Yr

   Subtotal $6,600 _______ /Yr

2. Collection and storage: $________ /Yr
### Installation: Fort Smith

**Date:** 1 Sep 05

<table>
<thead>
<tr>
<th>Equipment (amortize over life of equipment)</th>
<th>Cost/Yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Flatbed Truck ($25,000)(1 day / wk) /20 yr</td>
<td>$2,220</td>
</tr>
<tr>
<td>2. Front end Loader ($30,000)(1 day / wk) /20 yr</td>
<td>$250</td>
</tr>
<tr>
<td>3. Warehouse (1335 ft^2) ($25/ft^2) / 20 yr</td>
<td>$300</td>
</tr>
</tbody>
</table>

| Warehouse (1335 ft^2) ($25/ft^2) / 20 yr | $1,670 |

**Labor**

<table>
<thead>
<tr>
<th>Labor</th>
<th>Cost/Yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>(0.2 workers/ yr)($25,000/worker/yr)(1.12 overhead)/20 yr</td>
<td>$280</td>
</tr>
<tr>
<td>(0.2 workers/ yr)($25,000/worker/yr)(1.12 overhead)/20 yr</td>
<td>$5,600</td>
</tr>
<tr>
<td>(0.1 workers/ yr)($25,000/worker/yr)(1.12 overhead)/20 yr</td>
<td>$2,800</td>
</tr>
<tr>
<td>(0.05 workers/ yr)($25,000/worker/yr)(1.12 overhead)</td>
<td>$2,000</td>
</tr>
</tbody>
</table>

Subtotal

$12,900/Yr

#### Program administration:

<table>
<thead>
<tr>
<th>Instructions and operating procedures</th>
<th>$2,800</th>
</tr>
</thead>
<tbody>
<tr>
<td>(0.1 worker / yr)($25,000 / worker / yr)(1.12 overhead)</td>
<td>$2,800</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fiscal Management</th>
<th>$1,400</th>
</tr>
</thead>
<tbody>
<tr>
<td>($25,000 / worker / yr)(1.12 overhead)</td>
<td>$1,400</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Publicity</th>
<th>$1,400</th>
</tr>
</thead>
<tbody>
<tr>
<td>(0.05 worker / yr) ($25,000 / worker / yr)(1.12)</td>
<td>$1,400</td>
</tr>
</tbody>
</table>

Subtotal

$5,600/Yr

## TOTAL ADDED COST

$25,100/Yr
<table>
<thead>
<tr>
<th>ESTIMATED AVOIDED COSTS AND REVENUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Savings resulting from reduced volume going to a disposal facility</td>
</tr>
<tr>
<td>($1,445 tons/yr) x ($45/ton)</td>
</tr>
<tr>
<td>2. Sales revenue</td>
</tr>
<tr>
<td>(500 tons/yr) x (30 /ton)</td>
</tr>
<tr>
<td>TOTAL ESTIMATED AVOIDED COSTS + REVENUE</td>
</tr>
<tr>
<td>TOTAL ADDED COST</td>
</tr>
<tr>
<td>ESTIMATED RETURN</td>
</tr>
<tr>
<td>(AVOIDED COSTS + REVENUE) - (ADDED COST)=</td>
</tr>
</tbody>
</table>
### Table D-2 Sample Recycling Economic Analysis Worksheet (Con’t)

**PAYBACK PERIOD**

<table>
<thead>
<tr>
<th>EXPENSE</th>
<th>ESTIMATED COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Salary of QRP manager for planning and coordination for a 3 month period</td>
<td>$12,500</td>
</tr>
<tr>
<td>2. 100 ea desk-side paper recycling containers @ $6.00 ea</td>
<td>$600</td>
</tr>
<tr>
<td>3. 20 ea 68-gallon mobile toters for papers and cans @ $110.00 ea</td>
<td>$2,200</td>
</tr>
<tr>
<td>4. 5 ea one-cubic yard heavy duty utility cart @ $620.00 ea</td>
<td>$3,100</td>
</tr>
<tr>
<td>5. 1 ea horizontal baler(s) with conveyor for paper and cardboard ea</td>
<td>$60,000</td>
</tr>
<tr>
<td>6. 1 ea cardboard compactor(s)</td>
<td>$9,000</td>
</tr>
<tr>
<td>7. Other equipment (i.e., forklift, scales)</td>
<td>$25,000</td>
</tr>
<tr>
<td>8. Recycling Center Warehouse (construction)</td>
<td>$150,000</td>
</tr>
<tr>
<td>9. Refuse compactor/collection truck</td>
<td>$125,000</td>
</tr>
</tbody>
</table>

The payback period is calculated by dividing the implementation cost by the difference between the recurring cost and the recurring cost savings plus revenue.

\[
\text{Payback Period (yrs)} = \frac{\text{Total Implementation Cost}}{\text{Estimated Annual Return}}
\]
APPENDIX E STANDARD VOLUME-TO-WEIGHT CONVERSION FACTORS

Table E-1. Standard Volume-to-Weight Conversion Factors

<table>
<thead>
<tr>
<th>Category</th>
<th>Recyclable Materials (u/c = uncompacted/ compacted &amp; baled)</th>
<th>Volume</th>
<th>Estimated Weight (in pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOOD SCRAPSES</td>
<td>Food scraps, solid and liquid fats</td>
<td>55-gal drum</td>
<td>412</td>
</tr>
<tr>
<td>GLASS</td>
<td>Bottles:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Whole bottles</td>
<td>1 yd³</td>
<td>500-700</td>
</tr>
<tr>
<td></td>
<td>Semi-crushed</td>
<td>1 yd³</td>
<td>1,000-1,800</td>
</tr>
<tr>
<td></td>
<td>Crushed (mechanically)</td>
<td>1 yd³</td>
<td>1,800-2,700</td>
</tr>
<tr>
<td></td>
<td>Uncrushed to manually broken</td>
<td>55-gal drum</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td>Refillable Whole Bottles:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refillable beer bottles</td>
<td>1 case = 24 bottles</td>
<td>10-14</td>
</tr>
<tr>
<td></td>
<td>Refillable soft drink bottles</td>
<td>1 case = 24 bottles</td>
<td>12-22</td>
</tr>
<tr>
<td></td>
<td>8 oz glass container</td>
<td>1 case = 24 bottles</td>
<td>12</td>
</tr>
<tr>
<td>LEAD-ACID BATTERIES</td>
<td>Car</td>
<td>1 battery</td>
<td>39.4</td>
</tr>
<tr>
<td></td>
<td>Truck</td>
<td>1 battery</td>
<td>53.3 lb. lead and plastic</td>
</tr>
<tr>
<td></td>
<td>Motorcycle</td>
<td>1 battery</td>
<td>9.5 lb. lead and plastic</td>
</tr>
<tr>
<td>METALS</td>
<td>Aluminum Cans:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Whole</td>
<td>1 yd³</td>
<td>50-75</td>
</tr>
<tr>
<td></td>
<td>Compacted (manually)</td>
<td>1 yd³</td>
<td>250-430</td>
</tr>
<tr>
<td></td>
<td>Uncompacted</td>
<td>1 full grocery bag</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 case = 24 cans</td>
<td>0.9</td>
</tr>
<tr>
<td></td>
<td>Ferrous (tin coated steel cans):</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Whole</td>
<td>1 yd³</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>Flattened</td>
<td>1 yd³</td>
<td>850</td>
</tr>
<tr>
<td></td>
<td>Whole</td>
<td>1 case = 6 cans</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Major Appliances:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Air conditioners (room)</td>
<td>1 unit</td>
<td>64.2</td>
</tr>
<tr>
<td></td>
<td>Dishwashers</td>
<td>1 unit</td>
<td>92</td>
</tr>
<tr>
<td></td>
<td>Dryers (clothes)</td>
<td>1 unit</td>
<td>130</td>
</tr>
<tr>
<td></td>
<td>Freezers</td>
<td>1 unit</td>
<td>193</td>
</tr>
<tr>
<td></td>
<td>Microwave ovens</td>
<td>1 unit</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Ranges</td>
<td>1 unit</td>
<td>181.1</td>
</tr>
<tr>
<td></td>
<td>Refrigerators</td>
<td>1 unit</td>
<td>267</td>
</tr>
<tr>
<td></td>
<td>Washers (clothes)</td>
<td>1 unit</td>
<td>177</td>
</tr>
<tr>
<td></td>
<td>Water heaters</td>
<td>1 unit</td>
<td>131</td>
</tr>
</tbody>
</table>

## PAPER

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Size (yds$^3$)</th>
<th>Weight (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Newspaper:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncompacted</td>
<td>1</td>
<td>1</td>
<td>360-505</td>
</tr>
<tr>
<td>Compacted/baled</td>
<td>1</td>
<td>1</td>
<td>720-1,000</td>
</tr>
<tr>
<td>12 in. stack</td>
<td></td>
<td></td>
<td>35</td>
</tr>
<tr>
<td><strong>Old Corrugated Containers:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncompacted</td>
<td>1</td>
<td>1</td>
<td>50-150 (300)</td>
</tr>
<tr>
<td>Compacted</td>
<td>1</td>
<td>1</td>
<td>300-500</td>
</tr>
<tr>
<td>Baled</td>
<td>1</td>
<td>1</td>
<td>700-1,100</td>
</tr>
<tr>
<td><strong>Computer Paper:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncompacted (stacked)</td>
<td>1</td>
<td>1</td>
<td>655</td>
</tr>
<tr>
<td>Compacted/baled</td>
<td>1</td>
<td>1</td>
<td>1,310</td>
</tr>
<tr>
<td>1 case</td>
<td></td>
<td>2,800 sheets</td>
<td>42</td>
</tr>
<tr>
<td><strong>White Ledger:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stacked (u/c)</td>
<td>1</td>
<td>1</td>
<td>375-465/755-925</td>
</tr>
<tr>
<td>Crumpled (u/c)</td>
<td>1</td>
<td>1</td>
<td>110-205/325</td>
</tr>
<tr>
<td>Ream of 20# bond; 8-1/2 in. x</td>
<td></td>
<td>1 ream = 500 sheets</td>
<td>5</td>
</tr>
<tr>
<td>11 in.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ream of 20# bond; 8-1/2 in. x</td>
<td></td>
<td>1 ream = 500 sheets</td>
<td>6.4</td>
</tr>
<tr>
<td>14 in.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White ledger pads</td>
<td>1</td>
<td>1 case = 72 pads</td>
<td>38</td>
</tr>
<tr>
<td><strong>Tab Cards:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncompacted</td>
<td>1</td>
<td>1</td>
<td>605</td>
</tr>
<tr>
<td>Compacted/baled</td>
<td>1</td>
<td>1</td>
<td>1,215-1,350</td>
</tr>
<tr>
<td><strong>Miscellaneous Paper:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yellow legal pads</td>
<td>1</td>
<td>1 case = 72 pads</td>
<td>38</td>
</tr>
<tr>
<td>Colored message pads</td>
<td>1</td>
<td>1 carton = 144 pads</td>
<td>22</td>
</tr>
<tr>
<td>Telephone directories</td>
<td>1</td>
<td>1</td>
<td>250</td>
</tr>
</tbody>
</table>

### Mixed Ledger/Office Paper

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Size (yds$^3$)</th>
<th>Weight (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flat (u/c)</td>
<td>1</td>
<td>1</td>
<td>380/755</td>
</tr>
<tr>
<td>Crumpled (u/c)</td>
<td>1</td>
<td>1</td>
<td>110-205/610</td>
</tr>
</tbody>
</table>

## PLASTIC

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Size (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PET (Soda Bottles):</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whole bottles (uncompacted)</td>
<td>1</td>
<td>30-40</td>
</tr>
<tr>
<td>Whole bottles (compacted)</td>
<td>1</td>
<td>515</td>
</tr>
<tr>
<td>Whole bottles (uncompacted) Gaylord</td>
<td></td>
<td>49-53</td>
</tr>
<tr>
<td>Baled</td>
<td></td>
<td>30 in. x 62 in.</td>
</tr>
<tr>
<td>Granulated</td>
<td></td>
<td>Semi-load</td>
</tr>
<tr>
<td>Granulated Gaylord</td>
<td></td>
<td>700-750</td>
</tr>
<tr>
<td>8 bottles (2 L size) 16 L</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

### HDPE (Dairy):

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Size (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole (uncompacted)</td>
<td>1</td>
<td>24</td>
</tr>
<tr>
<td>Whole (compacted)</td>
<td>1</td>
<td>270</td>
</tr>
<tr>
<td>Baled</td>
<td></td>
<td>32 in. x 60 in.</td>
</tr>
</tbody>
</table>

### HDPE (Mixed):

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Size (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baled</td>
<td></td>
<td>32 in. x 60 in.</td>
</tr>
<tr>
<td>Granulated</td>
<td></td>
<td>Gaylord</td>
</tr>
<tr>
<td></td>
<td>PLASTIC (con’t)</td>
<td>Granulated</td>
</tr>
<tr>
<td>----------</td>
<td>-----------------</td>
<td>------------</td>
</tr>
<tr>
<td>Other Plastic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncompacted</td>
<td>1 yd³</td>
<td>50</td>
</tr>
<tr>
<td>Compacted/baled</td>
<td>1 yd³</td>
<td>400-700</td>
</tr>
<tr>
<td>Mixed PET and HDPE (Dairy):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whole (uncompacted)</td>
<td>1 yd³</td>
<td>32</td>
</tr>
<tr>
<td>Film:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baled</td>
<td>Semi-load</td>
<td>44,000</td>
</tr>
<tr>
<td>Baled</td>
<td>30 in. x 42 in. x 48 in.</td>
<td>1,100</td>
</tr>
<tr>
<td>TEXTILES</td>
<td>Mixed Textiles</td>
<td>1 yd³</td>
</tr>
<tr>
<td>TIRES</td>
<td>Car Tires:</td>
<td></td>
</tr>
<tr>
<td>Whole tire</td>
<td>1 tire</td>
<td>21</td>
</tr>
<tr>
<td>Crumb rubber</td>
<td>1 tire</td>
<td>12</td>
</tr>
<tr>
<td>Truck Tires:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whole tire</td>
<td>1 tire</td>
<td>70</td>
</tr>
<tr>
<td>Crumb rubber</td>
<td>1 tire</td>
<td>60</td>
</tr>
<tr>
<td>WOOD</td>
<td>Wood Chips</td>
<td>1 yd³</td>
</tr>
<tr>
<td></td>
<td>Pallets</td>
<td>-</td>
</tr>
<tr>
<td>YARD TRIMMINGS</td>
<td>Grass Clippings:</td>
<td></td>
</tr>
<tr>
<td>Uncompacted</td>
<td>1 yd³</td>
<td>350-450</td>
</tr>
<tr>
<td>Compacted</td>
<td>1 yd³</td>
<td>550-1,500</td>
</tr>
<tr>
<td>Leaves:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncompacted</td>
<td>1 yd³</td>
<td>200-250</td>
</tr>
<tr>
<td>Compacted</td>
<td>1 yd³</td>
<td>300-450</td>
</tr>
<tr>
<td>Vacuumed</td>
<td>1 yd³</td>
<td>350</td>
</tr>
<tr>
<td>FURNISHINGS</td>
<td>Foam rubber mattress</td>
<td>1 mattress</td>
</tr>
<tr>
<td>MUNICIPAL SOLID WASTE</td>
<td>Residential waste</td>
<td>1 yd³</td>
</tr>
<tr>
<td>Commercial-industrial waste (uncompacted)</td>
<td>1 yd³</td>
<td>300-600</td>
</tr>
<tr>
<td>MSW (compacted in truck)</td>
<td>1 yd³</td>
<td>500-1,000</td>
</tr>
<tr>
<td>MSW (landfill density)</td>
<td>1 yd³</td>
<td>750-1,250</td>
</tr>
<tr>
<td>AUTOMOBILE²</td>
<td>Passenger vehicle</td>
<td>-</td>
</tr>
<tr>
<td>Light truck</td>
<td>-</td>
<td>4530</td>
</tr>
</tbody>
</table>

² Automotive Fuel Economy Program, Twenty Fourth Annual Report to Congress, Calendar Year 1999.
APPENDIX F INFORMATION SOURCES

F-1 World Wide Web Sites

General Environmental and Pollution Prevention Resources

Army Acquisition Pollution Prevention Support Office (AAPPSO), Headquarters, U.S. Army Materiel Command:
http://www.army.mil/amc

Army Environmental Policy Institute (AEPI):
http://www.aepi.army.mil

Air Force Center for Environmental Excellence (AFCEE):
http://www.afcee.brooks.af.mil/

Assistant Secretary of the Air Force (SAF/FM):
http://www.saffm.hq.af.mil

Department of the Army–Assistant Chief of Staff for Installation Management:

Department of the Navy–Environmental Programs:

Defense Environmental Network & Information Exchange (DENIX):
http://www.denix.osd.mil

Defense Logistics Agency:
http://www.dla.mil/

Defense Supply Center Richmond (links to catalogs with on-line ordering):
http://www.dscr.dla.mil/

Defense Reutilization and Marketing Service:
http://www.drms.dla.mil/

EPA's Office of Solid Waste and Emergency Response:
http://www.epa.gov/swerrims/

Environmental Law Institute:
http://www.eli.org

Environmental Working Group:
http://ewg.org

Government Printing Office:
http://www.access.gpo.gov/
Headquarters U.S. Army Corps of Engineers:  
http://www.usace.army.mil/

Navy Recycling Program:  

Naval Facilities Engineering Service Center:  

Oak Ridge National Laboratory:  
http://www.ornl.gov/ornlp2/recyinfo.htm

Office of the Deputy Undersecretary of Defense for Installations & Environmental–DUSD(I&E):  
http://www.acq.osd.mil/ie/index.htm  

PRO-Act: (Environmental research services to the U.S. Air Force).  
http://www.afcee.brooks.af.mil/pro-act

U.S. Army Solid Waste & Recycling:  
https://www.denix.osd.mil/portal/page/portal/SolidWaste

U.S. Army Corps of Engineers, Installation Support Division:  
http://www.usace.army.mil/CEMP/Pages/CoreMissions.aspx

U.S. Army Corps of Engineers, Public Works Technical Bulletins:  

U.S. Army Public Health Command:  
http://phc.amedd.army.mil/home/

U.S. Army Environmental Command:  
http://aec.army.mil/usaec/

U.S. Army Logistics Management College:  
http://www.almc.army.mil

U.S. Environmental Protection Agency (EPA):  
http://www.epa.gov/
Recycling Resources for Buyers and Sellers

Federal Business Opportunities:
http://www.fedbizopps.gov/

Global Recycling Net (includes Construction Materials Recycling Association):
http://www.grn.com/

Global Recycling Network (glossary of recycling terms):
http://www.grn.com/grn/library/gloss.htm

Green Building Products:
http://www.oikos.com/

Internet Consumer Recycling Guide:
http://www.obviously.com/recycle/

Manufacturing.net: (manufacturing industry portal)
http://www.manufacturing.net

Recycler’s World:
http://www.recycle.net/

Recycling Manager (independent guide to secondary materials prices):
http://www.amm.com/recman/

Solid Waste.com, A community for industry professionals:
http://www.solidwaste.com/

Solid Waste Association of North America:
http://www.swana.org/

The U.S. Green Building Council:
http://www.usgbc.org/

Waste News.com: (on-line industry magazine)
http://www.wastenews.com/

Waste Age: (on-line edition of industry magazine)
http://www.wasteage.com

U.S. General Services Administration Environmental Products Guide:
http://www.gsa.gov, then search for “Environmental Products Guide” for most current version
Recycling Links

American Chemical Society:
http://www.acs.org/

Brookhaven National Laboratory - Environment:

Earth’s Biggest Environmental Search Engine:
http://www.webdirectory.com/Recycling

National Archives and Records Administration:
http://www.nara.gov/

National Library for the Environment, Congressional Research Service Reports:
http://ncseonline.org/NLE/

National Pollution Prevention Roundtable:
http://www.p2.org/

National Technical Information Service:
http://www.ntis.gov/

Recycling Data
http://www.recyclingdata.com/reclinks.html
F-2  Solid Waste/Recycling Documents and Periodicals

*BioCycle Magazine* - a monthly journal covering composting and MSW recycling; $58 per year from The J. G. Press, PO Box 351, Emmaus, PA 18049; (610) 967-4135.

*Bottle/Can Recycling Update* - a monthly newsletter covering aluminum & steel can, glass bottle, and plastic container recycling; $75 per year, PO Box 10540, Portland, OR 97210; (503) 227-1319.


*MSW Management* - a bimonthly journal covering all aspects of MSW; $60 per year, published by Forester Communications, Inc., 5638 Hollister, Suite 301, Santa Barbara, CA 93117; (805) 681-1300.

*Plastic Recycling Update* - a monthly newsletter covering plastic recycling; $49 per year, PO Box 10540, Portland, OR 97210; (503) 227-1319.

*Recycling Times* - a biweekly newspaper that tracks recycling markets; published by the Environmental Industry Association; $99 per year (26 issues), PO Box 420186, Palm Coast, FL, 32142-9949, (800) 424-2869.

*Resource Recycling* - a monthly journal covering MSW recycling and the secondary materials markets; $42 per year, PO Box10540, Portland, OR 97210; (503) 227-1319.

*Resource Recovery Report* - a monthly newsletter that tracks waste-to-energy and recycling developments at the local, state, and federal level; $227 per year, 5313 38th Street, NW, Washington, DC 20015; (202) 362-6034.

*Scrap Tire News* - a monthly newsletter covering the scrap tire processing industry; $118 per year from Recycling Research, Inc., 133 Mountain Road, Suffield, CT 06078; (203) 668-5422 (RRI also publishes an annual report on State Scrap Tire Legislation).

*Solid Waste Technologies Magazine* - a bimonthly journal covering waste-to-energy, landfill gas recovery, and mechanical processing of MSW; $49 per year, Adams Publishing, 7221 W. 79th St, 3rd floor, Overland Park, KS 66204; (913) 642-6032.

**Waste Age** - the monthly journal of the Environmental Industry Association, tracks all aspects of municipal solid waste management; $45 per year, PO Box 420183, Palm Coast, FL 32142-9949; (800) 424-2869.

**Waste News** - weekly review of news, business, and regulation, plus a focus on a different region each issue; $38 per year; (800) 281-7713.

**World Wastes** - a monthly magazine about MSW; $48 per year from Communication Channels, Inc., PO Box 41369, Nashville, TN 37204-9913; (615) 377-3322
APPENDIX G TRAINING AND CERTIFICATION

G-1 Training

Training is an essential element of operating a successful recycling operation. The objective of a training program should be to ensure systematic development of essential skills of all personnel. Installations must develop and maintain the essential technical and professional competence for all installation recycling program employees from the manager to the materials processors. The following training requirements should be considered when preparing the Individual Development Plan (IDP) for employees:

a. Financial management
b. Sales contracting procedures
c. Marketing and sales writing
d. Scrap management
e. Metals identification and recovery
f. Inventory management
g. Accounting skills
h. Sales contracting officer (SCO)
i. Material handling equipment operator

Training for direct sales and operation of static and mobile equipment is important and must be formalized and ongoing.

Personnel training at installations vary with the level of responsibility. The individual development plan for the recycling program manager should include financial management, identification of recyclable materials and inventory management, marketing operations, and survey techniques as they apply to recyclables and coordination techniques.

Other personnel in DOL and DPW need training on the segregation of metals and identification of recyclable material. Contract inspectors should have, as a minimum, a working knowledge in the identification of recyclable materials and turn-in procedures to enforce contract obligations. Depending on the scope of recycling activities, additional training may be needed for office and janitorial personnel and housing residents. The program manager should incorporate military personnel training in existing environmental training.
G-2 Sources of Training

- **Air Force Institute of Technology, WENV 160 Qualified Recycling Program Management** ([http://www.afit.edu/cess/Course_Desc.cfm?p=WENV%20160](http://www.afit.edu/cess/Course_Desc.cfm?p=WENV%20160))

  To understand the Department of Defense requirements for operating a Qualified Recycling Program (QRP), it is recommended that QRP personnel attend this ISEERB designated course which emphasizes principles and techniques to assist students in implementing a sound Qualified Recycling Program. The course focuses on learning what products can be recycled, products prohibited from recycling, QRP regulations, necessary processing equipment, collection and sorting methods to maximize returns, working with your DRMO, establishing contracts, recording transactions, DoD recordkeeping, and estimating future budgets. This course is intended for Installation Qualified Recycling Program Managers and for Installation Pollution Prevention Program Managers who manage the QRP.

- **QRP/Ordnance and Explosives Recognition and Safety, Control Number 844** ([https://www.MyULN.net](https://www.MyULN.net)) Registration on the US Army Corps of Engineers Learning Network (ULN) is required before access can be granted to the training. Click on the "NEW USER - Click Here to Register" and follow the instructions to obtain an account. You do not have to be a USACE employee to register or take the training. Enter USER NAME and PASSWORD and enter the ULN Home Page. Select "Distributed Learning" on the left side of the page, then select "QRP/Ordnance and Explosive Recognition and Safety - 844". (The courses are listed in alphabetical order.) Click on the course and you will be registered.

  The course takes about 9 hours to complete. If you cannot complete the training in a single setting you will be "bookmarked" to the last segment you took. You can take each module in any order but it is suggested that start with Module 1 and move forward. You can also go back and review any modules later as a reference.

  This course has been designed for Qualified Recycling Program (QRP) personnel in accordance with training requirements identified in a Memorandum from the Office of the Under Secretary of Defense, dated 15 May 1998. The objectives of the course is to train QRP personnel in the recognition of unsafe, and unauthorized material called Material Potentially Presenting an Explosive Hazard (MPPEH) when recycling firing-range scrap consisting of expended brass and mixed metals gleaned from firing ranges through direct sales. The Primary Target Audience for this course are Installation Recycling Program Managers and QRP Managers where the program includes the recycling of expended small arms brass and gleanings from fire range clearance.

  Technical content includes military ordnance and explosives identification, explosives and military ordnance safety considerations, and QRP requirements. As well as Characteristics of Military Explosives and Chemical Agents, Ammunition Color Codes, Projected Munitions, Rockets and Guided Missiles, Placed Munitions, Thrown Munitions, Dropped Munitions, Pyrotechnics and Propellant Actuated Devices. The course contents are based on the 2-day resident course which is currently not offered. QRP Handbook • September 2010 G-3
Successful completion of this training is one of the requirements for an Army QRP to directly sell firing range scrap. A certificate of completion is provided for those who receive a passing grade on the final examination.

- **Solid Waste Association of North America (SWANA) – Various Courses**
  SWANA offers a variety of training opportunities that include construction and demolition debris management, recycling, and various aspects of landfill operations. For information call 1-800-467-9262 or view the Web site: [http://www.swana.org/](http://www.swana.org/).

- **The National Environmental Training Center for Small Communities**
  The National Environmental Training Center for Small Communities offers two recycling-related courses: *Reducing Commercial and Industrial Solid Waste* and *Economics and Marketing of Recyclables for Small Communities*. Further information is available at [http://www.nesc.wvu.edu/netcsc/netcsc_index.htm](http://www.nesc.wvu.edu/netcsc/netcsc_index.htm).

**G-3  Safety Training**

Training for personal protective equipment (PPE) use, shock hazard, safe working habits, and good housekeeping are also necessary. Use of the installation environmental and safety departments to conduct periodic surveys of recycling facilities is required. See AR 385-series.
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APPENDIX H CASE STUDIES

This appendix lists uniform resource locators (URLs) for World Wide Web sites that provide case studies of innovative solid waste and recycling programs. In addition to the case study sites listed below, the Pollution Prevention (P2) page (http://www.sustainability.army.mil/tools/programtools_pollution.cfm) of the U.S. Army Sustainability web site provides useful relevant information.

The following web site pages routinely publish examples of Army and DoD solid waste and recycling innovations.

a. ACSIM Facilities Policy Division—
   http://www.acsim.army.mil/operations/facilitiespolicy.htm

b. IMCOM Headquarters News (Public Works Digest (current and archive)—
   http://www.imcom.army.mil/hq/news

c. USAEC Sustainability—
   http://aec.army.mil/usaec/sustainability

d. Army Environmental Policy Institute Publications
   http://www.aepi.army.mil/

Following are example articles taken from the above listed and other sites.

a. Executive Order 13423 Technical Guidance – Construction Waste
   http://www.wbdg.org/references/fhpsb.php

b. Military Base Case Study: U.S. Army Signal Center – Fort Gordon, Georgia
   http://www.p2ad.org/documents/govt_pubs_gordon.html

c. Brass Recycling Profits Soldiers, Families
   http://aec.army.mil/usaec/newsroom/update/spr09/spr0910.html

d. Garrison Commander Links Recycling, Family Programs

e. Fort McPherson Trash Goes on a Diet

f. Korea Recycling Program Emphasizes Compliance, Education
   http://aec.army.mil/usaec/newsroom/update/fall08/fall0807.html

g. Demolition Process Reduces Community Carbon Footprint
   http://aec.army.mil/usaec/newsroom/update/fall08/fall0814.html
h. Army Recycling Programs in Germany Deliver Savings
   http://aec.army.mil/usaec/newsroom/update/fall08/fall0815.html

i. Project Saves Money, Thins Heidelberg Waste Stream
   http://aec.army.mil/usaec/newsroom/update/fall08/fall0816.html

j. Field Garbage-to-Energy Tested in Iraq

k. May/Jun 09 IMCOM Public Works Digest
   (1) Page 17, Camp Johnson.

l. Fort Carson Deconstruction Effort Recycles 93% of Material

m. Army Installation Sustainability Success: Fort Hood
   http://aec.army.mil/usaec/sustainability/grease00.html

n. Army Installation Sustainability Success: Fort Jackson

o. Army Installation Sustainability Success: Fort Lewis
   http://aec.army.mil/usaec/sustainability/trashcops00.html
APPENDIX I REFERENCES

Army Regulation 11-2
Management Control

Army Regulation 30-22
The Army Food Program

Army Regulation 200-1
Environmental Protection and Enhancement
http://www.apd.army.mil/

Army Regulation 215-1
Morale, Welfare, and Recreation Activities and Non-appropriated Fund Instrumentalities

Army Regulation 420-1
Army Facilities Management

22 CFR Parts 120-130
International Traffic in Arms Regulations

32 CFR Part 172
Disposition of Proceeds from DoD Sales of Surplus Personal Property
http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=2716f0130858608ff1d0ac647182bb97&rgn=div5&view=text&node=32:1.1.1.7.77&idno=32

40 CFR Part 243
Guidelines for the Storage and Collection of Residential, Commercial, and Institutional Solid Waste
http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=7c498abdb6994dbd1df9ff1697fac6b0&rgn=div5&view=text&node=40.24.0.1.4.31&idno=40
40 CFR 246.200-1
Source Separation for Materials Recovery Guidelines

40 CFR 261.1(c)(8)
Identification and Listing of Hazardous Waste
http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr;rgn=div5;view=text;node=40%3A25.0.1.1.2;idno=40;sid=5258ba833b17ba65e9a670a8ff76049d;cc=ecfr

40 CFR Part 262
Standards Applicable to Generators of Hazardous Waste
http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=/ecfrbrowse/Title40/40cfr262_main_02.tpl

40 CFR 266.200 Subpart M
Military Munitions

40 CFR Part 302
Designation, Reportable Quantities, and Notification
http://www.access.gpo.gov/nara/cfr/waisidx_03/40cfr302_03.html

41 CFR Part 101-45
Sale, Abandonment, or Destruction of Personal Property
http://www.access.gpo.gov/nara/cfr/waisidx_00/41cfr101-45_00.html

DoDD 7000.14-R
DoD Financial Management Regulation
http://www.dod.mil/comptroller/fmr/

DoDD 4160.21-M
Defense Materiel Disposition Manual

DoDD 4160.21-M-1
Defense Demilitarization Manual
http://www.dla.mil/dlaps/dod/416021m1/guide.asp

DoDD 4100.15
Commercial Activities Program

DoDI 1015.10
Military Morale, Welfare, and Recreation (MWR) Programs
**DoDI 4140.62**  
Material Potentially Presenting an Explosive Hazard  

**DoDI 4715.4**  
Pollution Prevention  

**DoDI 5010.36**  
Productivity Enhancing Capital Investment (PECI)  

**Executive Order 13423**  
Strengthening Federal Environmental, Energy, and Transportation Management”.  
http://www.gsa.gov/Portal/gsa/ep/contentView.do?contentType=GSA_BASIC&contntId=22395

**FMR Subchapter B – Personal Property, Part 102-38 –** Sale of Personal Property  
(replaces Federal Property Management Regulation 41 CFR Part 102-38)  
http://www.gsa.gov/Portal/gsa/ep/channelView.do?pageTypeId=17113&channelId=-24558&specialContentType=FMR&file=FMR/FMRTOC102-38.html

**5 USC Section 552a**  
Records Maintained on Individuals  
http://www4.law.cornell.edu/uscode/5/552a.html

**10 USC 2577**  
Disposal of Recyclable Materials  
http://www4.law.cornell.edu/uscode/10/2577.html

**10 USC Section 18231**  
Facilities for Reserve Components  
http://www4.law.cornell.edu/uscode/10/18231.html

**22 USC Section 2778**  
Control of Arms Exports and Imports”  
http://www4.law.cornell.edu/uscode/22/2778.html
31 USC Section 1342
Limitation On Voluntary Services
http://www4.law.cornell.edu/uscode/31/1342.html

40 USC 10
Management and Disposal of Government Property
http://frwebgate.access.gpo.gov/cgi-bin/usc.cgi?ACTION=BROWSE&TITLE=40USCSI&PDFS=YES

40 USC 545
Procedure for Disposal
http://www.law.cornell.edu/uscode/40/usc_sec_40_00000545----000-.html

42 USC 6901
Resource Conservation and Recovery Act, as Amended
http://www4.law.cornell.edu/uscode/42/ch82.html

42 USC Section 6901
Congressional findings on ‘Solid waste’
http://www4.law.cornell.edu/uscode/42/6901.html

42 USC 6961
Federal Facilities Compliance Act of 1992, as Amended
http://www.epa.gov/swerffrr/documents/federal_facility_compliance_act.htm

Assistant Chief of Staff for Installation Management Memorandum
Army Integrated (Non-Hazardous) Solid Waste Management Policy
15 Aug 08

Assistant Chief of Staff for Installation Management Memorandum
Sustainable Management of Waste in Military Construction, Renovation, and Demolition Activities
11 July 2006
http://www.acsim.army.mil/operations/docs/facilitiespolicy/Signed_revised_memo_110706.pdf and enclosure:

Assistant Chief of Staff for Installation Management Memorandum
Implementation of Solid Waste Annual Reporting System – SWARWeb
December 18, 2002
Assistant Chief of Staff for Installation Management Memorandum
Combined Services Interim Guidance for Direct Sales of Recyclables
25 February 1997

Assistant Deputy Under Secretary of Defense for Environment Memorandum,
Qualified Recycling Program Guidance
April 24, 2003

Comptroller for Defense Logistics Agency Memorandum
Revised Policy on Disposition of Proceeds
25 June 1998

Deputy Under Secretary of Defense (Installations and Environment)
(DUSD(I&E)) Memorandum
DoD Integrated (Non-Hazardous) Solid Waste Management Policy
1 Feb 08

Deputy Under Secretary of Defense for Environmental Security Memorandum,
Recycling of Firing Range Scrap Consisting of Expended Brass and Mixed Metals
Gleaned from Firing Range Clearance through Qualified Recycling Programs
15 May 1998

Office of Management and Budget Circular No. A-76 (Revised)
Performance of Commercial Activities,"
http://www.whitehouse.gov/omb/circulars_a076_a76_incl_tech_correction/

US Army Corps of Engineers Public Works Technical Bulletin (PWTB) 420-49-18,
Direct Sale of Recyclables