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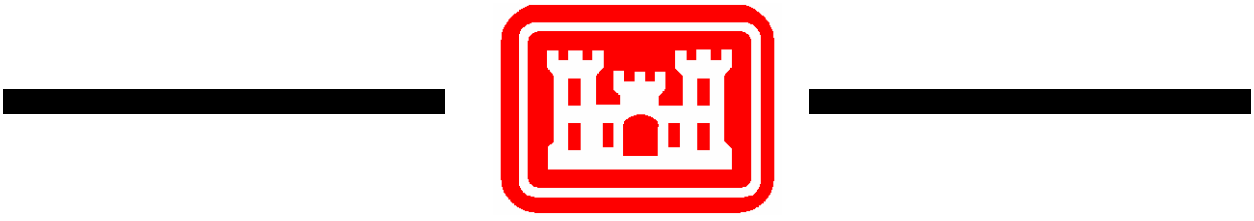
17 November 2006

DIRECT SALE OF RECYCLABLES



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CEMP-R

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FACILITIES ENGINEERING
Utilities

DIRECT SALE OF RECYCLABLES

1. Purpose. The focus of the Public Works Technical Bulletin (PWTB) is on marketing recyclables and sales contracts. It builds on previous documents such as the Army Installation Recycling Guide and the DoD QRP Guide which describe the procedural and technical aspects of setting up a recycling program.

2. Applicability. This PWTB applies to all U.S. Army facilities engineering activities.

3. References.

a. Army Regulation 420-49, Utilities Services, Chapter 3, Solid Waste Management, 28 April 1997.

b. Army Regulation 200-1, Environmental Protection and Enhancement, 21 February 1997.

c. Executive Order 12873, Federal Acquisition, Recycling, and Waste Prevention, October 1993.

d. Installation Recycling Guide, PWTB 420-46-13.

e. DoD Non-Hazardous Solid Waste Measure of Merit, DUSD-ES Memorandum, 13 May 1998.

f. Department of Defense Instruction 4715.4, 18 June 1996.

4. Discussion.

a. Recent DoD guidance encourages installations to sell consumer recyclables directly to the private sector, instead of through the Defense Reutilization and Marketing Organization (DRMO) system. This guidance is contained in Department of Defense Instruction (DoDI) 4715.4 and is reproduced at the end of this document.

b. The DoD has a Measure of Merit directly related to recycling. By the end of CY 1999, establish a 40% solid waste diversion rate. "Diversion" includes source reduction, recycling, composting, and incineration with energy recovery.

The waste diversion program must cost the same amount or less than not diverting waste from landfills or incinerators.

c. This document explains policies and procedures for marketing recyclable material directly to the private sector, per recent DoD guidance. It discusses recycling collection, processing, marketing, and gives sample contract language.

d. Appendix A outlines basic issues regarding creation of a recycling program.

e. Appendix B explains general concepts relating to the marketing of recycled material.

f. Appendix C gives a sample invitation for bid for spot sale of recyclables.

g. Appendix D provides a sample request for proposals and contracts.

h. Appendix E shows a sample term contract.

i. Appendix F contains a sample performance work statement for recycling collection.

j. Appendixes G, H, and I reprint the DOD Instruction on pollution prevention; DOD Interim Guidance for direct sales; and U.S. Code (USC) 2577, governing "Exchange of Material and Disposal of Obsolete, Surplus, or Unclaimed Property," respectively.

k. Appendix J lists points of contact for many recycling-related organizations.

l. Appendix K identifies relevant recycling-related publications.

m. Appendix L is a glossary of related terms.

n. Appendix M spells out acronyms used throughout this bulletin.

o. Appendix N lists common volume-to-weight conversion factors for recyclables.

p. Appendix O includes memoranda regarding the recycling of fired brass.

Points of Contact. HQUSACE is the proponent for this document. The POC at HQUSACE is Mr. Malcolm E. McLeod, CEMP-RI, 202-761-0206, or email: malcolm.e.mcleod@usace.army.mil.

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APPENDIX A

Outline of Recycling Program

A.1 Community Issues, Size, Type, Proximity to Cities.

Recycling can help Army installations to achieve local and national environmental goals, and also to fulfill another national and Department of Defense (DOD) objective -- of environmental enhancement. Waste reduction prevents the problems associated with disposal and is the most favorable of the three "environmentally friendly" waste management tools: reduction, recycling, and reuse. Recycling diverts wastes from incinerators and landfills and provides for the reuse of resources. (Almost 75 percent of the waste materials sent to incinerators and landfills are potentially recyclable.) Recycling can also yield economic and environmental benefits. Recycling reduces solid waste, which can help installations avoid costs associated with the collection, handling, and disposal of solid wastes. Also, recyclable materials can be sold in the private sector. In short, installation recycling programs can "pay for themselves," even bring in a profit.

The marketing of recyclables to the private sector is influenced by many economic factors, including "economies of scale." Businesses naturally tend to congregate at population centers. Sellers of recyclable commodities will find better prices (due to competition) and lower transportation fees the closer they are to metropolitan areas. The proximity to end users (e.g., paper mills) is also a large factor. The marketing strategy for Fort Irwin (located in the California desert) will be markedly different from that for Fort McPherson (located near Atlanta).

The relative size of the host community is also an important factor. For example, if the installation is very large in comparison with the host community (e.g., Fort Riley vs. Junction City, KS), the installation may need to provide its own recycling collection and marketing services, and may even assist the host community. However, if the installation is part of a major metropolitan area (e.g., Fort Meade, MD near Washington, DC), it is likely that the host community will have an established network for recycling collection, processing, and marketing. In this case, the installation will likely have many more sales outlets.

Recycling program managers should be thoroughly familiar with the local issues and conditions at the installation and host community.

Some typical local issues that might affect the need or possible scope for recycling collection and marketing efforts are:

- Local nonprofit groups that have already established recycling programs
- Existing State, regional, and local recycling programs
- Small or large housing areas
- Near capacity landfill
- Military commanders who do not support recycling
- Lack of building space for processing or storage
- Lack of potential recyclable markets nearby.

A successful recycling program must have the support of the entire installation community. Making the program highly visible, well organized, and well managed will help ensure that the program starts off well and stays strong. If the program does not appear credible, it may not gain support. Some general suggestions for promoting a good recycling program are:

- Be creative. Do not overlook any opportunity to educate or publicize, and take advantage of unusual ways to solicit support from local recycling, environmental, or other organizations.
- Incorporate mechanisms for feedback to evaluate the program's success.
- Plan early. Education, training, and advertisement should begin before program startup. Allow plenty of time for purchasing promotional items and printing publications.

The universally acknowledged key to successful recycling is command support. Before implementing a recycling program, ensure that the installation commander has a good knowledge of program plans, the benefits of the program, and operational strategies.

A.2 Waste Stream Composition.

To determine the feasibility of a recycling program, a first step is to determine the composition of the installation's waste stream. By estimating the amounts available and combining with current local market prices, one can roughly calculate expected gross revenues from recycling sales. Table A1 lists typical recyclable materials and their locations on post.

The survey of recyclable materials involves both identifying materials and estimating the amount of material that is generated and the proportion that can reasonably be recovered for recycling. Practically speaking, any identification or quantification of available recyclables will involve some "dumpster diving." Physically weigh or measure the volume of

different types of discarded materials. It is important to take these measurements on more than one occasion to account for seasonal variability, weekly patterns, or military training cycles. The American Society for Testing and Materials (ASTM) has developed a standardized method measuring the composition of unprocessed municipal solid waste (MSW) by manual sorting (ASTM D5231-92).

Once potentially recyclable materials have been identified, estimate the amounts of these materials that will be available for recycling purposes. One method of estimating the generating rates of recyclable material is to examine, if available, incoming and outgoing receipts of materials. Based on the type of material and its usage, estimates can be made of the quantity of materials reaching the waste stream and the generation rate.

Table A1

Typical Recyclable Materials and Their Locations on Post.

Materials	Location on Post
Aluminum cans	Offices, lounges, clubs, motor pools, family housing
Old corrugated cardboard (OCC)	Clubs, commissary, exchanges, stores, supply issue points, motor pools
Copper wire, other metal scrap	Renovation, demolition projects; O&M shops
Fired brass*	Ranges, training areas, ammunition supply points
Glass (container)	Mess halls, offices, lounges, clubs, family housing
Newspapers	Offices, clubs, mess halls, family housing
Office Paper, computer paper	Offices, schools, warehouses
Plastic	Cafeteria, clubs, mess halls, motor pools, cleaning areas, family housing
Rubber scrap, tires	Motor pools, service stations, auto hobby shops
Steel cans	Cafeteria, mess halls, family housing
Waste oil	Motor pools, shops, auto hobby shops, rebuild facilities
*Both DoD and ACSIM have specific guidance on selling fired brass through a QRP. Policy memos are reproduced here in Appendix O.	

Recycling industry representatives provide free technical and infrastructure development information (videos, literature, market specifications). Contact information for trade groups and nonprofit groups are provided in Appendix J. Recyclable materials are largely those items removed from the waste stream, or "materials" that are normally discarded (e.g., scrap and waste) and that may be reused only after undergoing some kind of physical or chemical processing.

Items that may not be recycled and directly sold under a QRP include:

- Precious metal scrap
- Scrap generated from Industrial Funded (Working Capital Fund, or "WCF") activity that is routinely used to offset overhead and customer costs
- Items that must be demilitarized at any time during its life cycle
- Hazardous wastes
- Commissary store wastes (food, scraps, cardboard) and exchange store wastes (cardboard), unless these activities choose to let the QRP handle their recyclable wastes
- Items that can be reused for original purpose without special processing
- Used vehicles
- Vehicle or machine parts
- Repairable items not processed through the disposal cycle
- Electrical components
- Unopened containers of oil, paints, or solvents
- Fuels
- Ships, planes, or weapons that must undergo demilitarization or mutilation prior to sale
- Munitions List Items or Strategic List Items.

Nonferrous scrap metals (e.g., aluminum and brass) usually command much higher market value than other common recyclables.

A.3 Methods of Collection.

Well-labeled and/or conspicuous containers for use at the participant level will increase participation. The program manager should provide these containers if the collection function is performed in-house. If the collection of recyclables is contracted, the program manager may include the

provision of collection containers as a contractor responsibility. The Installation Recycling Guide (PWTB 420-49-13) and relevant recycling periodicals, listed in Appendix B, Section B2, are good sources of information on current collection methods.

The recycling center may be operated as a drop-off facility, which requires participants to transport their recyclables to the center. Although this option eliminates the need for collection vehicles and personnel, much greater participation usually results from a curbside pick-up service. To initiate curbside collection, the program manager must arrange for the necessary vehicles and crews (personnel requirements are addressed in the next section). There are a variety of vehicle designs on the market that are very effective for collecting recyclables. If economically feasible, the program manager may be able to procure or lease specialized collection vehicles. If costs make this prohibitive, recyclables may be collected using standard refuse collection trucks or other truck types.

Recyclables can be collected by contract personnel as part of solid waste or janitorial contracts. Contractors can deliver materials directly to a recycling center operated by installation civilian personnel.

A.4 Receiving, Processing, and Storage.

During the planning phase of the recycling program, some consideration should be given to the logistical needs for operation of the program. At most Army installations, funds will not be available to build a sophisticated recycling center. However, operation of an installation-wide recycling program will require a certain amount of building space and equipment. The Installation Recycling Guide (PWTB 420-46-13) and relevant recycling periodicals, listed in Appendix B, Section B2, are good sources of information on current recycling practices.

Due to funding limitations, the program manager will usually select an existing building for the new recycling center. The first priority will be a covered receiving area and permanent bins for storing the collected materials. Glass and metal can be stored outside, but paper products should be stored in a covered area. Where processing of recyclables is performed, sufficient building space will be needed for equipment, and for movement of materials from collection bins to the processing area and to a storage area before shipment to buyers.

For larger scale recycling projects, the building layout, equipment selection, etc., should be done by an industrial engineer with relevant experience. This will help ensure that the various systems are compatible, and the recyclable materials will flow efficiently through the facility. At least consult

the operator of a similar recycling center to learn from their experience.

Equipment requirements will be determined based on the types of materials to be recycled, volumes the center will process, and specifications of the buyers.

Processing recyclables begins with sorting. Good source separation by participants in the program will reduce the amount of sorting required at the recycling center. Therefore, proper sorting of recyclables should be stressed in the promotional program. Sorting can be accomplished with various types of mechanical equipment, such as magnets, conveyors, and air classifiers. However, hand sorting is used most frequently.

One of the most common pieces of equipment used at recycling centers is the baler. Paper, plastic, aluminum, and other light metals can be baled. There are several different types of balers. One should be selected based on volumes to be handled and ease of use. Vertical balers are best suited for lower volume programs, or at a separate site. For example, a vertical baler might be used at a grocery store to bale cardboard. Horizontal balers are typically used at higher volume recycling centers. These can be quite sophisticated (and expensive) devices, some capable of automatically loading, baling, and tying.

Other equipment needs include large storage boxes, forklifts, dollies, or conveyors. Lastly, if sales are not accomplished by the DRMO, some means to weigh materials being sold is needed. The recycling program manager should procure a scale(s) or arrange for weighing of materials off-post.

Sources for the above equipment types can be found in current trade journals (e.g., Waste Age, Resource Recycling, Recycling Today), which publish equipment guides regularly.

It is also important to have extra storage space to use as a buffer in times of lower market value. Space should also be allocated for employee facilities and an office. The program manager should consult the installation legal office and fire department to ensure that all necessary permits, variances, or other legal approvals are obtained before proceeding to design or construct a recycling center.

The amount of inventory to be accumulated before sale is a management decision based on:

- Available storage space
- Rising/falling markets for specific commodities

- Viability of offering full truck/container loads to get the maximum return for a fixed handling/transportation cost.

A.5 Direct Sales Programs That Incorporate Fired Brass.

Direct sales programs can incorporate fired brass, but they must observe strict controls as explained in recent policy letters. (See Appendix O.)

Only firing-range scrap consisting of expended brass and mixed metals gleaned from firing range clearance that have been certified as safe may be recycled through a QRP. All other scrap from ammunition, explosives, and dangerous articles (AEDA), even if certified safe, shall be sold through the DRMO. Fired brass must be certified safe by appropriate authority before QRPs accept the material for recycling. Such scrap shall be certified as safe only when there is no longer any danger of detonation or explosive reaction.

The QRP manager should maintain a list of personnel authorized to certify firing-range scrap as safe so they can call upon that personnel as needed.

Firing range scrap materials should be stored separately from other recyclables to allow absolute accounting and identification of such materials.

Direct sales contracts for fired brass must include the following "Dangerous Property" 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, suits, actions, or claims arising from or otherwise relating to the purchase of this material.

Army personnel with questions on direct sales requirements for fired brass, the required training, or QRPs in general, should contact Mr. William Eng, DAIM-FDF-E, DSN 328-7078, (703) 428-7078, or E-mail: William.Eng@hqda.army.mil

DA has developed a required training program for installation personnel to become certified to inspect fired brass. The course is hosted by the USACE Professional Development Support Center at Hunstville, AL. The program title is "Qualified Recycling Program AEDA Workshop." This workshop consists of

classroom instruction that focuses on identification of all types of ordnance and explosives, safety, and QRP requirements. Remember that a certified person must inspect all brass before recycling.

For more information about AEDA training, including registration and dates, contact:

Ms. Joy Rodriguez
(256) 895-7448
rebecca.j.rodriguez@usace.army.mil
http://www.hnd.usace.army.mil/to/tdindex.htm

The DECSIM tracking system for solid waste, SWAR-Base, contains warnings and reminders of AEDA requirements when entering recycling data for fired brass and range metals. It includes installation-generated picklists of certified AEDA Inspectors.

APPENDIX B

Marketing

B.1 General Concepts.

A recycling planning committee should assess the overall market for targeted recyclables. The program manager should confirm that satisfactory market agreements are in place and scheduled in conjunction with the program "kick-off."

Program managers should never rely on a single buyer for a given material. 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. One should strive to avoid interrupting recycling services, as this causes community participants to lose interest, get out of the recycling habit, and become disillusioned.

Sales contracts may be managed either by the Directorate of Public Works (DPW) in conjunction with the Directorate of Contracting (DOC); the local DRMO; or the NAF (non-appropriated fund) contracting office.

Recyclable materials are marketed in one of six general methods:

- Collectors
- Processors
- Contracts with brokers or dealers
- Contracts with end users
- Open Market Trading -- sell to highest bidder
- Marketing cooperative.

Collectors are typically refuse haulers who have expanded their business. They will offer convenient service, but offer low prices. They will deliver to a processor or broker.

Processors collect and "process" source separated recyclables from a variety of sources. They will sell to a broker or end-user.

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 could. 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, are 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.

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 that it saves broker's fees. End users may have more strict quality requirements -- which means more emphasis on sorting and processing for the recycling center. Long-term contracts with end users are best used for high volume, homogenous commodities, such as cardboard OCC. The wide variation in other items (e.g., scrap metals) would make it difficult, if not impossible, to write long-term contract such that it would be advantageous to the Government.

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

Marketing cooperatives allow multiple, small recyclable generators to combine their output before marketing to an end user 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.

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 tied to published values (see section B.2). 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. 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 may come out ahead, in the long run, by performing its own marketing.

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

A goal of a 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 get paid for the amount of materials accepted by the buyer.

When evaluating bids from these different types of buyers, it is very important to evaluate the proposals using the offered price as just one of the criteria. In general, selling closer to the end-user, eliminates the "middlemen" and gives you a better price for your materials. However, selling directly to the middlemen will require less processing, shorter transportation distances, and offer more convenient service. All of these factors should be considered to determine the best overall approach for the recycling program.

B.2 Information Sources.

The marketing of recyclables to the private sector is a very "free market" enterprise -- there are many buyers and sellers and the price of commodities can fluctuate dramatically. It is therefore important to learn about market mechanisms and keep track of trends in the price of commodities: initially for business plan cost estimates, then to plan sales strategies. For example, if market conditions predict a downturn in the price of OCC, you might want to quickly sell your stockpile of cardboard. Conversely, if the price of steel cans is increasing, you may want to stock pile this item (within the limits of storage space and safety) until the price plateaus, then sell.

There are many available sources of this market information.

B.2.1 Waste News is a relatively recent weekly periodical. It focuses on the business aspects of solid waste disposal and recycling, relevant regulations, and policy. It also has a markets page that list the prices (low, average, and high) of several commodities in six metropolitan areas across the country. Often, articles in Waste News will have a strong regional or local focus, more so than other national publications.

Waste News
Subscription Department
965 East Jefferson Avenue

Detroit, MI 48207
(800) 678-9595
(313) 446-0450
(313) 446-6777 (fax)
http://www.wastenews.com

B.2.2 Resource Recycling.

Resource Recycling is a monthly journal that features more in-depth articles on recycling technologies, policies, and case studies.

Resource Recycling
1206 NW 21st Avenue
Portland, OR 97296-0540
(503) 227-1319
(503) 227-6135 fax
<mailto:resrecycle@aol.com>

B.2.3 The PaperMatcher.

The *PaperMatcher* is a directory of paper recycling mills, published by the American Forest and Paper Association. The current version (4th ed., February 1996) lists all the paper and paperboard mills in the United States that consume (i.e., purchase) recovered paper. The State-by-State listings give the names and addresses of the companies, and the type of recovered paper products they consume.

Note that each of the entries are end users of the waste paper, not brokers. Therefore, they will likely require larger loads, but may give a better price by avoiding the "middleman."

This document should prove useful in marketing paper products.

American Forest & Paper Association, Inc.
1111 19th Street, NW
Suite 800
Washington, DC 20036
(800) 878-8878

B.3 Quality Control Issues.

Quality control in terms of avoiding contamination in recycling processing is critical to winning markets and commanding top dollar. Many types of automated sorting equipment are available that can detect and reject unwanted material. However, in the context of a military recycling program (and overall) inspection, some hand sorting will be necessary. The best

measures for improving incoming material quality is an effective community education program. It should be very clear what to put in and what to leave out of those recycling bins. "If in doubt, leave it out." Each market will provide the specifics of what is acceptable and what is not.

In terms of marketing specifications, each type of recyclable material has many different grades assigned. The Institute of Scrap Recycling Industries (ISRI) recognizes over 50 grades of waste paper alone. It is these grades on which sales contracts are based.

Each grade has two or more subdivisions that are based on physical properties. An important facet of specifications are limits to contamination. Two basic types are "outthrows" and "prohibitive materials." Outthrows are contaminants that are acceptable in small amounts, such as colored paper in a batch that should be all white. Prohibitive materials are contaminants that can cause a shipment to be entirely rejected. This would include glass fragments in paper.

Incoming materials should be inspected thoroughly before mixing with stored material. If any contaminants are found, try to determine the source. You may need to revisit your public education practices. Prior to loading process materials for shipment, make sure the truck, or other container, is swept out and clean.

B.3.1 Aluminum.

Aluminum beverage cans are easily "negatively sorted" from steel-containing cans. This means that the steel, or ferrous metals, are removed with a magnet and the aluminum remains on the conveyor belt. Aluminum can also be actively removed from a mixed waste stream with an "eddy current separator," which uses electric fields to cause aluminum to jump off a conveyor.

Other aluminum products such as used foil, food containers, storm doors, siding, etc. are generally recyclable as well. These other forms may need to be separated from the beverage cans. Check with your buyer for specifics.

Common contaminants in aluminum include:

- ferrous metals
- other non-ferrous metals (e.g., copper, lead, brass)
- multi-layered foils which combine aluminum with paper or plastics
- residue in cans
- dirt, dust, sand, glass.

Keep collected aluminum indoors and on pallets to minimize contamination.

B.3.2 Glass.

There are many different types of glass used for various purposes. Glass recycling usually only applies to food and beverage containers.

In general, glass containers should have all lids, caps, and neck rings removed prior to recycling. They should be rinsed and stored by color: clear (flint), green, and amber (brown). Any beverage containers made of blue glass can be mixed with the green.

Common contaminants include:

- Caps and other metals
- Non-container glass, e.g., windows and mirrors, Pyrex, light bulbs, ceramics, automotive glass.

Glass stored outside should be kept on a concrete pad to minimize contamination with dirt or gravel.

The buyer will determine whether or not the recycling center should crush collected glass. Crushed glass is more dense and therefore cheaper to transport, but some buyers want whole containers (or larger pieces), which makes it easier to verify proper color sorting.

B.3.3 Paper.

There are many different grades of paper that end-users want. The most prevalent are old newspapers (ONP), OCC, office paper, and mixed paper. Buyers will be very specific about their requirements and acceptable contaminants.

Some common contaminants that should be generally avoided include:

- rubber bands
- waxed paper, "wet strength" cardboard
- plastics
- envelopes with plastic windows
- glues or other adhesives.

Sorting is done at the generation source and manually and the recycling center. Other than sorting, the most important quality control measure is to keep collected paper indoors, out of the rain and elements.

B.3.4 Plastics.

Manufacturers of plastic containers have made it easy for consumers and processors to segregate plastics by type. Most food and beverage containers, and some plastic bags have imprinted or molded a number and letter code with the familiar recycling symbol of three chasing arrows (Table B-1).

Table B-1

Food and Beverage Container Codes.

Code Number	Code Letters	Name	Common uses
1	PET	polyethylene terephthalate	soft drinks, cooking oil, liquor, peanut butter
2	HDPE	high density polyethylene	milk, juice, laundry products
3	V	polyvinyl chloride	cooking oil, water, health and beauty products, plastic wrap
4	LDPE	low density polyethylene	grocery bags, tubs for ice cream, margarine
5	PP	polypropylene	yogurt cups, ketchup bottles
6	PS	polystyrene	rigid and clear for convenience food containers; foam for food service trays and cups
7	other	assorted other resins	--

Common contaminants of recycled plastics are:

- mixing plastics
- caps and neck rings.

Caps are often a composite of paper, wax, and plastic (different from the main container).

While the coding scheme has made it easy to identify plastic types, some manual sorting, or visual inspection at the recycling center is still necessary. There are automated plastic sorting machines used in the industry, but these are complex, expensive, and probably not practical for a local level recycling program.

B.3.5 Steel.

Steel containers are easily separated from mixed recyclables using a magnet. A handheld magnet can be used to check larger pieces of scrap metal if there is a doubt.

The most common contaminant for steel containers would be residual contents. Scrap metal stored outdoors may pick up dirt and gravel while handling.

Some buyers now accept steel cans used for paint, aerosol paint, and oil. The Steel Recycling Institute is proactive in helping it find buyers for specific items, and generally encouraging the recycling of more types of steel.

B.4 Transportation.

Getting processed materials to market is a critical part of marketing considerations. The best overall market may not be one offering the highest prices, but the one that nets the highest return after transportation costs. Transportation options include:

- self haul
- contract hauling
- buyer hauling.

To decide which is best, perform a cost calculation balancing the cost of trucks and government labor for self-haul, vs. the increased price from the buyer. Conversely, if the buyer hauls, the buying price will be lower, but the recycling center saves on labor and vehicles.

The contract must identify if the quoted price is Free On Board (FOB) the recycling center dock, or FOB the buyer's receiving dock.

Although most recyclables are hauled by truck, do not discount the possibility of shipment by train, especially to distant markets. The shipping cost may be decreased by half. In special cases, barge shipment may be an option, for even lower costs.

B.5 Sales, Contracts, Other Methods.

B.5.1 General Requirements.

The procedures you should use when selling recyclable materials depend on the amount of proceeds anticipated from the sales and whether the material will be provided to the DRMO for sale or to be sold directly by the installation. Sales contracts will be managed either by the installation DRMO (for military or non-QRP items) the NAF (nonappropriated fund) contracting office, or the installation DOC. This section will address direct sales by the installation.

Direct Sales with anticipated gross proceeds exceeding $15,000 must be conducted using procedures described in 40 USC 484 and 41 CFR Parts 101-45 and 101-46. These procedures include public advertising, bidding, and award.

For sales less than $15,000, at a minimum, use the following procedures:

1. Establish and maintain a list of qualified recyclers and brokers.
2. Obtain a minimum of three quotes where possible from independent buyers on sales of material, and document the quotes.
3. Choose the bid most advantageous to the Government and execute a sales contract.
4. Create a file to document the sale.

B.5.2 Scope of Work Contents.

The scope of work (SOW) for a recycling sales contract (or "request for proposals" or "invitation to bid") must contain certain key elements that spell out the who, what, when, and how.

The SOW should clearly specify the quantity and type of material offered. For a term sale contract, the SOW should estimate the quantities on a time basis, e.g., 5 tons per month. This is neatly done in a tabular format.

Of course, one crucial point is the transportation, i.e., who does the transporting. Will the contractor pick up from the installation, or will the recycling center deliver to the market? Who will load and unload trucks? Any restrictions on the type or size of vehicles on-post should be listed. Who, where, and when must be explicitly spelled out.

While not mandatory, it is strongly recommended that the buyer be required to physically inspect the recyclables offered. This will eliminate much chance of confusion later on. The buyer will know exactly what they are buying and perhaps offer a better price. This also offers the opportunity to work out logistical details such as accessibility for trucks, dock height, etc.

As recyclables are usually sold on a weight basis, trucks used to transport recyclables to the buyer should cross a certified scale to determine the actual weight for payment. The SOW should state which scale to use and who should provide weight tickets to the program manager.

For a spot sale contract (Appendix C), the buyers will each bid their best price, which the program manager uses as a selection criteria. However for a term sale(Appendix E), unit prices paid

by the buyer will fluctuate over time with the markets. The SOW should state how this price will be determined. Usually, it is tied to prices published in a specific periodical.

The SOW should also contain administrative details, such as:

- method and timing for accepting offers
- acceptable forms of payment
- installation POCs, phone numbers, and business hours.

B.5.3 Request for Proposals.

The request for proposals (RFP) is one contracting method used for the direct sale of recyclables. The RFP process avoids public bid openings; 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 (see Appendix D) allows the manager to issue the RFP in a matter of minutes.

Before issuing an RFP, the program manager must compile a source list (bidders list). It must be updated at the request of a new vendor, and reviewed annually to delete offerors who have not responded to at least three previous RFPs over the past year. The DRMO may share their list, and you can find other potential bidders in the phone book or in the information sources listed above. In general, the larger the source list the better. However, with experience, you may wish to tailor your list to specific companies based on the particular commodity being offered.

When you wish to issue an RFP, you must open a log book and record the RFP, date of issue, and date returned. The RFP and pursuant contract should be assigned a number. The RFP package includes the cover letter, the solicitation, the schedule listing the items up for bid, and the instructions and conditions of the contract.

A cover letter is sent with the RFP that explains the terms in general, giving important dates. The example in Appendix D to this PWTB (Figure D-1, p D-1) emphasizes that the prospective offeror should arrange to inspect the lots in person before making an offer. This will ensure that the buyer understands the exact nature of the material, gives an accurate bid, and may settle ahead of time, any logistical problems, such as vehicle access, trailer size, etc.

The schedule listing materials for sale should be broken up into "Lots" by material type. The materials should be sorted and segregated as much as possible. This will bring the highest return. Well segregated material will also allow a wider range of companies to bid (smaller companies may not have the ability to perform extensive sorting).

RFPs can be modified before receipt of offers. This should only be done for relatively minor changes. All prospective offerors must receive notice of the change. This will push back the date for bid opening.

An RFP can be canceled at any time prior to the actual contract award, including after bids are received, but in this case, you must notify the offerors and return their offers. Include a cover letter explaining that the RFP has been canceled, and that their offer is being returned without action.

Once proposals are received, it is very important that they are properly recorded and safeguarded. The person receiving the offers should be a disinterested third party who keeps the offers confidential. This person, plus another disinterested witness, prepares an abstract of offers after the submission deadline. The abstract and the offers are then delivered to the contracting officer.

B.5.4 Spot Sale Contract.

The sample spot sale contact shown in Appendix C gives an example of a contract that would be used to sell materials in a batch or lot to one private company on a one-time basis.

B.5.5 Term Sale Contract.

The sample term sale contract shown in Appendix E could be used for a long-term sales agreement between a recycling program and an end user.

B.6 Use of Funds Received.

B.6.1 Administrative Issues.

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

Money from the proceeds of sales comes to your QRP from two main sources: Defense Reutilization and Marketing Service/ Defense

Reutilization and Marketing Organization (DRMS/DRMO) following sales of turned-in material, or from direct sales to a buyer.

Typically, DRMS/DRMO processes proceeds through the Defense Finance and Accounting Service (DFAS) for deposit to the QRP account. They may also send you a check. If you receive a check from DRMS/DRMO, submit the check with a Funds Transfer Document to the finance office for deposit into the QRP account.

If you receive a check from a recycler through direct sales, be sure it is payable to the installation finance office. Checks must not be made payable to the QRP. Again, submit the check with a Funds Transfer Document to your finance office for deposit into the QRP account. Do not accept cash.

Ensure that QRP bills are paid from the QRP account using the local finance office and accounting procedures.

B.6.2 Specific Uses.

Proceeds generated through a QRP must first be used to reimburse the costs of the recycling program. Recycling program costs include, at a minimum, the purchase of new or replacement equipment for recycling, overhead, and salary costs for civilian personnel working for the recycling program. Military personnel expenses may not be reimbursed from the proceeds. Note that civilian personnel who split their time between the QRP and another directorate may be paid proportionately out of QRP funds.*

After reimbursement of the recycling program, proceeds may be spent at a rate of not more than 50 percent for pollution abatement projects, energy conservation projects, occupational safety and health projects, with the remainder for morale and welfare activities, as outlined in 10 USC 2577 (included as Appendix I to this PWTB).

B.6.3 Expenses.

Ensure that QRP bills are paid from the QRP account using the local finance office and accounting procedures. Table B-2 lists the QRP expenses that are paid through O&M dollars and that are paid through QRP revenues.

Appropriated funds shall be used to pay for the cost of pickup and delivery of recyclable items to the QRP. If it costs more to bring it to the QRP than solid waste disposal costs, the QRP pays the difference.

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*Author fonecon with W. Eng, DAIM-FDF-E, DSN 328-7078, (703) 428-7078, or e-mail: william.eng@hqda.army.mil. (8 Sep 99).

Pollution Prevention equipment purchased by appropriated funds, i.e., purchased under a pollution prevention management plan are not reimbursable by the QRP. For example, a corrugated cardboard baler, can crushers, shredders, etc., that were purchased for waste disposal compliance are not reimbursable by the QRP. Equipment obtained from DRMO or other donated equipment is not reimbursable by the QRP.

Recycling of construction and demolition debris is encouraged by the DoD Measure of Merit. Construction and Demolition debris may be recycled in many innovative ways, such as: using recycling to offset the cost of the demolition contract, recycling through your QRP, and donating to your local community.

Table B-2

Use of O&M Funds vs. QRP Funds To Pay for QRP Expenses.

Installation O&M Pays For	**QRP Pays For**
Collection, transportation, and disposal of solid waste. (Disposal on or off the installation.)	Applicable QRP facility, utility maintenance costs (determined locally), Also leased transportation and maintenance equipment costs
Collecting recyclable materials from installation and housing areas and delivering to a central location (installation recycling facility or an off installation recycling facility)	Costs of doing direct sales
Compost operation on the installation	QRP workers' and managers' salaries allocated to the QRP
Landscaping. If landscaping is by contract, contractor takes waste to a composting facility on or off the installation.	Equipment purchased by QRP and used exclusively by the QRP (examples are blue bins, balers, forklifts)
Janitorial contract, which includes collecting recyclable items and depositing it to a central location.	Applied Overhead Costs
Cost of misc. recycling that takes place outside the QRP.	Awards and Incentives
Cost of recycling construction and demolition debris	

APPENDIX C

Sample Invitation for Bid; Spot Sale of Recyclables

This appendix gives a sample "invitation for bid" used at Fort Belvoir to solicit bids from private contractors to purchase and remove recyclable materials.

The spot sale contract is used to sell a specific quantity of a specific material to one vendor. For example, the recycling center has accumulated 40 bales of a certain plastic and does not have an established buyer. A spot sale contract could be used to sell that material on a one-time basis

The examples presented in this and the following appendixes are included to suggest the content of recycling sales scopes of work. They are not meant to be used verbatim. The exact language to be used will depend on the contracting requirements and practices at a given installation.

SALE OF RECYCLABLE MATERIALS BY THE U.S. ARMY FORT BELVOIR RECYCLING PROGRAM

A. Invitation for Bid/ Contract Form.

1. Type of Contract: It is anticipated that this Invitation for Bids will result in a firm fixed price, definite delivery contract with estimated quantities, subject to an increased quantity option.

a. The quantities available may vary by 50% over or under the estimated amount specified in the bid. The Government (U.S. Army Fort Belvoir Recycling Program) has the option to increase the quantities offered herein up to 35% of the quantity in each item (lot) in the schedule by the same process specified in the acceptance of bid (contract). The Contracting Officer may exercise this option at any time or times within 30 calendar days after contract award by giving notice to the Contractor. Delivery/pick-up of the quantities of items added by exercise of this option may be further increased by mutual agreement, in writing, of both contracting parties at any time up to 60 calendar days after contract award.

B. Persons Authorized to Conduct Negotiations: The offeror is requested to list below the names and telephone numbers of persons authorized to conduct negotiations (if other than the person signing the Invitation for Bids).

NAME TELEPHONE NUMBER

_____ _____

_____ _____

_____ _____

C. Invitation for Bids.

The following items are offered for bid, subject to the terms of this Invitation for Bids/Contract. Prices quoted should be in the unit specified, based on the type of contract specified in section A1 above. Estimated quantities are provided as a guideline only, and the Government makes no representation that these quantities are correct. Prices paid by successful contractor shall be based on the actual weight of the commodity removed, specified as follows:

Item Name	Est. Generation	Unit of Measure	Term of Contract	Bid Price per unit
heavy steel	8000	pounds	30 days	$
scrap aluminum	2000	pounds	30 days	$
misc. scrap metal (tin and steel)	6000	pounds	30 days	$

Specific Requirements

The following conditions will apply to this Invitation for Bids. Any costs or benefits associated with these conditions should be incorporated by the Bidder into the BID PRICE above.

__X__Contractor will provide all equipment necessary to load and remove material, including a crane and skid-steer

_____Government will provide container; Contractor will pick-up material on site and return container (see below)

_____Government will deliver commodity to Contractor, Contractor will unload

__X__Contractor will provide certified weight tickets for shipments including gross, net, and tare weights (see D1 below)

_____Contractor will weigh in and out at the DRMO scales on Fort Belvoir

__X__Other: Items are all or none; contractor must remove all material specified from the designated location.

__X__Other: Material is located in an outdoor storage yard located behind Building 1108. Inspection is **required** before submitting bids.

D. Packaging and Marking.

1. Weight of Merchandise: The Purchaser (Contractor) and the Contracting Officer will accept scale weights using a certified scale located in the greater Metropolitan Washington, DC area at the option of the Contracting Officer (at Contractor's expense). Contractor shall furnish copies of weight tickets with net, gross, and tare weights to the U.S. Army Fort Belvoir Recycling Program.

E. Recyclable Merchandise Inspection and Acceptance.

1. Offerors are required to inspect the merchandise offered for sale and to satisfy themselves as to the merchandise quality and all general and local conditions that may affect the offer 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 Invitation for Bids.

2. Recyclable materials may be inspected by appointment at the Fort Belvoir Recycling Center, Building 1089, at the intersection of Gunston and Pohick Roads, or other location as appropriate. Appointments may be made by contacting Ms. Terri Meade, Recycling Program Coordinator, at (703) 806-4007. No inspections will be scheduled on weekends or Federal holidays.

3. Inspection and acceptance of the recyclable merchandise to be furnished under this contract shall be made at the location indicated above by the successful offeror unless otherwise agreed to in writing by both parties. Directions to the site are available from the Recycling Program Coordinator, at (703) 806-4007.

4. Title to the property sold hereunder will be vested in the Purchaser (Contractor) as and when removal is effected and all required scrapping has been accomplished. No right, title, or interest in or to any property offered for sale hereunder shall be vested in the purchaser prior to its removal from Fort Belvoir.

F. Deliveries and Performance.

1. Material will be loaded by the Contractor at Contractor expense.

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 materials shall be stacked, tied, or otherwise secured by the Contractor to prevent any portion of said load from being dislodged in any manner while said vehicle is on Government property. It is the sole responsibility of the Contractor to ensure that the vehicles are properly loaded in the aforementioned manner.

3. Insurance Requirements: The Contractor agrees to furnish necessary vehicle and other insurance as provided for in the regulations of the Commonwealth of Virginia and Fort Belvoir.

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.

G. Contract Administration Data.

(text omitted)

H. Special Contract Requirements.

(text omitted)

I. Contract Clauses.

(text omitted)

J. Instructions, Conditions, and Notices to Offerors.

(text omitted)

K. Evaluation Factors for Award of Contracts.

(text omitted)

APPENDIX D

Sample Request for Proposals

This appendix shows examples of documents used and typical steps taken in utilizing a Request for Proposals (RFP) for soliciting offerors. These forms assist in tracking a material sale from initial offer to final payment:

- Cover letter
- Summary form (note that a detailed RFP or Invitation for Bids, as shown in Appendix C, should accompany the summary form)
- Abstract of offers received
- Notice to unsuccessful offerors
- Vendor pick-up report
- Payment log.

D.1 Cover Letter.

The cover letter is a brief introduction the to the sale offered, which emphasizes the expected timeline. It can also mention the types of materials offered. Figure D-1 shows a sample RFP cover letter.

To the Recycled Material Buyer:

Attached to this letter is a Request for Proposals issued by *(installation, recycling program name)*, a business operation of our *(Directorate name, e.g., DPW)*.

Please read the Request for Proposals carefully, then ask any questions you may have regarding this sale. I also urge you to personally inspect the scrap materials offered for sale so that you will see exactly what you may wish to make an offer on. To inspect the materials offered, you will need to make an appointment so that we may arrange your entrance through installation security. You may make an appointment between *(dates and times)*.

You have a relatively short time in which to submit your proposal. I must receive your signed proposal not later than (date and time). You may submit your proposal via mail, fax (xxx) xxx-xxxx, or hand deliver. Instructions for submitting your proposal are included in the Request for Proposal.

Sincerely,

Name of Contracting Officer

Address

Figure D-1. Sample RFP cover letter.

D.2 Sample RFP Form.

Figure D-2 shows an sample RFP form. Your installation may (likely) use a different standard form. The purpose of this example is to show the type of information contained in an RFP.

1. Solicitation, Offer, and Award

2. Contract No.	3. Solicitation No.	4. Type of Solicitation ☐ Sealed Bid ☒ Negotiated (RFP)	5. Date Issued	6. Requisition No.

7. Issued by	8. Address Offer to (if other than item 7)
Army Recycling Program 123 Easy Street Camp Swampy, USA 12345	

SOLICITATION

9. Sealed offers for purchasing the recyclables listed in the schedule will be received at the place specified in Item 8, or if hand carried, in the depository located in Bldg 789, 123 Easy Street, Camp Swampy, USA until 1400 local time 22 April 1998.

10. For information call:	A. Name	B. Telephone Number
	Joe Smith, Recycling Program Manager	(123)555-1212 FAX (123) 555-1213

11. Table of Contents

(3)	SEC	DESCRIPTION	(3)	SEC	DESCRIPTION
PART I -- THE SCHEDULE			PART II -- CONTRACT CLAUSES		
X	A	Solicitation/Contract Form	X	I	Contract Clauses
X	B	Supplies or Services and Prices/ Costs	PART III -- LIST OF DOCUMENTS, EXHIBITS, AND OTHER ATTACHMENTS		
	C	Description/Specs/Work Statement		J	List of Attachments
X	D	Packaging and Marking	PART IV -- REPRESENTATIONS AND INSTRUCTIONS		
X	E	Inspection and Acceptance	X	K	Representations, Certifications, and Other Statements of Offerors
X	F	Deliveries or Performance	X	L	Instructions, Conditions, and Notices to Offerors
X	G	Contract Administration Data	X	M	Evaluation Factors for Award
X	H	Special Contract Requirements			

OFFER (Must be fully completed by offeror)

12. In compliance with the above, the undersigned agrees, if this offer is accepted within _____ calendar days (or 7 calendar days if no period is inserted by the offeror) from the date for receipt of offers specified above to buy any or all items upon which prices are offered at the price set opposite each item, pickup at the designated point(s), within the time specified in the schedule.

13. Discount for Prompt Payment (Not Applicable)	10 Calendar Days (n/a) %	20 Calendar Days (n/a) %	30 Calendar Days (n/a) %	Calendar Days (n/a) %

14. ACKNOWLEDGEMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated:	AMENDMENT NO.	DATE	AMENDMENT NO.	DATE

15A. Name and Address of Offeror	Bob's Paper Mill 2001 Main Street Anytown, USA	16. Name and Title of Person Authorized to Sign Offer Bob, President

15B. Telephone No (123) 555-4321	FAX Number: (123) 555-5678	17. Signature	18. Offer Date 1 April 1998

AWARD (to be completed by the Government)

19. Accepted as to Items Numbered Lot #s	20. Amount $	21.

22. Authority for Using other than full and open competition: ☒ 10USC2304(c) ☐ 41USC253(c)	23. Materials to be picked up by the contractor not later than: 15 May 1998

24. Administered by:	25. Payment will be made by Cashiers check/money order Payable to: Camp Swampy Recycling Program

26. Name of Contracting Officer	27. United States of America (Signature of Contracting Officer)	28. Award Date

Figure D-2. RFP form for the sale of Army recycling program materials.

D.3. Abstract of Received Proposals.

This form provides an easy method of tracking the submitted offers and comparing the prices offered for each material. Of course, as discussed in Appendix B, price should not be the sole criteria on which you select a buyer.

Posted by_____ Date_____

RFP#_____ Date Issued_____ Date RFPs Received_____ Date Opened _____

Vendors Required _____ # RFPs Received_____

Lot #	Item Description	Estimated Quantity (weight)	Vendor 1 (Name) Price Offered	Vendor 2 (Name) Price Offered	Vendor 3 (Name) Price Offered	Vendor 4 (Name) Price Offered
1						
2						
3						
4						
5						
6						
7						
8						
9						

D.4 Notice to Unsuccessful Offerors.

After selecting a buyer, use this form letter to alert the unsuccessful offerors.

Memorandum

FROM: Recycling Program

TO: Interested Parties/Contract File

DATE:

SUBJ: Successful offers on Request For Proposals #_____

1. A total of ___ contracts have been awarded for the sale of recyclables listed in Request for Proposals # _____. There were _____ offers submitted. The winning prices for the specific lots are as follows:

Lot #	Unit price ($/lb)
1	
2	
3	
4	

2. This information will be made available to all interested parties who request it. It may be obtained by fax, telephone, or by mail upon receipt of a written request.

Signed,

(Contracting Officer)

D.5 Vendor Pick-Up Report.

This form allows simple tracking of the materials picked-up by the contractor and the recorded weights. The signatures on the form effectively transfer the ownership of the materials from the government to the contractor.

Pick-up Date_____

Vendor Name_____ Vehicle License #

Lot #	Items Picked-Up	Gross weight	Weight of Container or pallet	Net weight

Shipped by:_____

"I have received the items listed above"

_____

(Signature of Vendor's Representative)

D.6 Payment Log.

The recycling manager can use this form to track payments received for each contract.

Date	Vendor	Contract #	$ Amount	Remarks

APPENDIX E

Sample Term Sale Contract

A term sale contract allows the recycling program to write one sales contract for an entire year (or other period) for a specific material. One buyer will pick-up the material periodically and pay based on market rates. The contract contains estimates of quantities over the year and how the price will be decided. This process can also be used if delivering materials directly to an end-user.

Sale of recyclable materials by the _____.

A. Solicitation/Contract Form.

This contract, made and entered into this (date), by and between (installation name) 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:

1. Contract period: the period of performance for this contract will be for (desired contract duration), from the commencement date. The contract service period shall begin (date). The nonappropriated fund instrumentality (NAFI) may extend the term of this contract for (up to four) successive periods of one (1) year at the option of the government. 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.
2. Payment cycle: in consideration for the materials rendered, the contractor agrees to pay the NAFI 30 days from the presentation of invoice of said material, or on expiration of this contract, whichever occurs first.
3. Invoices: the NAFI will submit invoices to (buyer name) 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.
4. 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 all of this contract, the contractor will continue to be held responsible for all provisions of the contract in total.
5. Payment rates: contractors will bid fixed net price per ton based on a percentage of the price indexed from (published price in applicable periodical). All material picked up after

the second issue shall be billed on that cycle until the next month issue.

6. Deposit: a 20% deposit of estimated three (3) 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.

7. Weight of merchandise: contractor shall use the scales (on the military installation, or a specified commercial facility).

8. Contractor bids (certain percentage of published market value) of market.

B. Description/Material Specifications.

1. (Name and description of material).

2. Quantity of (material name) will be (number of tons) (net or gross) tons with a margin of 50% over or 50% under for the one (1) year term.

3. All material will be stored (indicate storage conditions, e.g., indoors or outdoors).

4. Prohibitive materials (i.e., contaminants that can cause an entire shipment to be rejected, for example, glass fragments in a shipment of paper) will not be permitted.

5. Total outthrows will not exceed ___%.

C. Packaging and Marking.

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 (location on military installation). Appointments may be made by contacting (name of contracting officer), contracting officer (or COR) at (phone number). As a matter of information, 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 (list preferred business hours). Contractor agrees to pick up material no later than 3 days after a request for pick up has been made by the NAFI.
3. Contracting officers representatives responsibility: to schedule all deliveries with the contractor's facility and ensure all paper work is submitted correctly.

Authorized COR's telephone: _____

F. Contract Administration Data.

G. Special Contract Requirements.

H. Contract Clauses.

I. Instructions and Conditions And Notices to Offerors.

APPENDIX F

Sample Performance Work Statement for Recycling Collection

1. GENERAL

   A. Scope of Work: The Contractor shall be responsible for:

      i) Collection of recyclables consisting of office mix paper products, aluminum beverage cans, tin and bimetal food and beverage containers, plastic containers, corrugated cardboard, glass bottles, jars, and newspapers separately from Family Housing.

      ii) Pickup of recyclable material at collection throughout the installation and its subparts, to include Family Housing areas, as defined in Item 7 (Recycling Collection Sites and Schedules) to this Performance Work Statement (PWS).

      iii) Weighing, removing, and disposal operations based on workload provided at Item 6.

      iv) Fifty percent of the collection sites are located within buildings at central areas established by the building occupants.

   B. The Contractor shall fully comply with all Federal, State and local laws, ordinances, statutes and regulations pertaining to the collection, transportation and disposal of recyclables, including all permits, licenses, or other required authorizations. Recycling and disposal services shall be performed IAW AR 200-1 and AR 420-49.

   C. Personnel Security Clearances: Clearances will be required for this function IAW Part 1, Section C, paragraph 4.3, and Section H, paragraph H.138.

   D. Occupational Safety and Health (OSH): The Contractor shall comply with the requirements as specified in Part I, Section C, paragraph 5.0.

   E. Policies and Procedures: The Contractor shall provide written policies and Standing Operating Procedures (SOPs) for all functional areas covered by this PWS. Policies and SOPs shall be submitted to the Contracting Officers Representatives (COR) NLT 30 days after start of the contract.

2. ABBREVIATIONS AND DEFINITIONS

3. GOVERNMENT FUNISHED PROPERTY (GFP)

   A. The Government will not furnish any GFP under this PWS with the exception of expendable recycling containers.

4. CONTRACTOR FURNISHED PROPERTY

A. The Contractor shall furnish all the equipment, tools, materials and supplies, except as specified herein as GFP, to perform the requirements under this PWS.

5. SPECIFIC TASKS

A. The Contractor shall:

i) Comply with all applicable Federal, State and local environmental laws and regulations, applicable directives and guidelines issued by agencies including, but not limited to, the U.S. Environmental Protection Agency and the (State environmental agency).

ii) Comply with all provisions of the Resource Recovery and Recycling Program at Fort _____, AR 200-1 and AR 420-49.

iii) Pickup and remove from the installation all office mix paper products, newspapers, aluminum cans, corrugated cardboard, tin and bimetal food and beverage containers, plastic containers, glass bottles and jars from specified collection sites throughout the installation to include Family Housing areas. Total number of buildings shall not exceed _____ and the total number of collection sites shall not exceed _____.

a) When a collection day coincides with an official holiday or a curtailment day, collection shall be made on the next workday.

iv) Ensure that recyclable products at the designated collection sites are picked up in accordance with the schedule provided by the Government at Item 7. Frequency of pickup shall be determined by the amount of material generated so as not to cause severe cluttering and/or safety and fire violations. Emergency pickups shall be made when directed by the COR.

v) Ensure that recyclable material being transported throughout the installation is properly secured to prevent littering. Contractor shall also be responsible for retrieving any litter caused by his employees during the performance of their duties.

vi) Ensure that vehicles used in recycling collections are weighed prior to and immediately after collection at the scale house (Building ____). Incoming and outgoing vehicle weights shall be recorded on a Certified Weighmaster Weight Ticket for each vehicle processed.

vii) Ensure that recycling vehicle drivers turn in completed Certified Weighmaster Weight Tickets to their supervisor on a daily basis.

viii) Bundle the Certified Weighmaster Weight Tickets prepared each day and submit them to the COR, or his designated representative by 0900 hours of the next workday. Weights recorded on the weight tickets will be used for actual payment for refuse collection dumping fees.

ix) Upon discovery of any classified material in a recycling container, notify the COR immediately and dispose of this material as directed.

x) Upon discovery of contaminated material in recyclable containers, prior to removal from the installation, notify the COR and dispose of this material as directed. Once material is removed from the installation, the Contractor is responsible for disposal.

6. COLLECTABLE WORKLOAD DATA

Recyclable Item	Estimated Tons Collected Annually
Paper (office mix/cardboard/newspaper) (Family Housing newspapers bundled separately)	
Aluminum beverage cans	
Glass, commingled	
Plastics(Family Housing only)	
Bimetal cans	
Corrugated cardboard (Family Housing only)	
Emergency pickups	

7. RECYCLING COLLECTION SITES AND SCHEDULES

a. SCHEDULE A: Recyclable pickup sites (administrative type building)

Inside or loading dock pickup sites

(insert list of buildings and desired collection frequency)

b. SCHEDULE B: Family Housing (curbside pickup)

(insert list of buildings and desired collection frequency)

c. SCHEDULE C: Seasonal pickup for recyclables (glass/aluminum/plastic)

The glass/aluminum/plastic recycling pickup shall be conducted seasonally during the period from Memorial Day through the weekend following Labor Day as indicated below:

(insert list of buildings and desired collection frequency)

d. SCHEDULE G: Corrugated Cardboard (Family Housing only)

The curb side pickup of corrugated cardboard relocation (moving) boxes in Family Housing areas shall be picked up on an on call - basis as requested by the COR.

APPENDIX G

Direct Sales Authority Document (DODI 4715) (EDITED)

Department of Defense

INSTRUCTION

SUBJECT: Pollution Prevention

References:

(a) DoD Directive 4715.1, "Environmental Security," 24 February 1996

(b) DoD Instruction 4715.5, "Management of Environmental Compliance at Overseas Installation," 22 April 1996

(c) Overseas Environmental Baseline Guidance Document, October 1992

(d) DoD Directive 5000.1, "Defense Acquisition," 15 March 1996

(e) through (jj) see enclosure 1

A. PURPOSE

This Instruction:

1. Implements policy, assigns responsibility, and prescribes procedures under reference (a) for implementation of pollution prevention programs throughout the Department of Defense.

2. Designates Executive Agents to lead DoD implementation of key pollution prevention programs. Executive Agents are specified in enclosure 2.

F. PROCEDURES

2. The Secretaries of the Military Departments, the Directors of the Defense Agencies and the DoD Field Activities shall:

(3) Establish recycling programs and procedures that:

(a) Ensure, where cost effective, that all installations and activities have, or participate in, qualified recycling programs, and that installation recycling programs are available to serve all host and

tenant organizations occupying space on the installation, including leased space.

(b) Ensure, where cost effective, that contracts, awarded after the effective date of this Instruction, that provide for contractor operation of a government-owned or leased facility located within the United States, its territories, or possessions, include provisions that obligate the contractor to participate in a recycling program. Where cost effective, existing contracts covering GOCO facilities should be modified to incorporate recycling provisions. The DoD Components should require participation by contractors operating government-owned or leased facilities overseas where recycling programs are available.

(c) Ensure that qualified recycling program procedures address recyclable materials, excluded materials, and other qualified recycling program materials. See definitions.

(d) Divert recyclable materials (see definition) from the nonhazardous solid waste stream where economically feasible. Individual types of recyclable materials that make up a substantial percentage of the nonhazardous 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 (reference (v)).

(e) Establish controls that ensure excluded materials (see definition), including those listed in 32 C.F.R. 172.2(b)(3) (reference (w)), are not sold through a qualified recycling program.

(f) Authorize installation commanders, as appropriate, to sell directly recyclable and other qualified recycling program materials, or to consign them to the DRMS for sale.

[1] Installations must implement Component procedures that ensure U.S. trade security control policies are followed in accordance with DoD Instruction 4160.27 (reference (x)) and DoD 4160.21-M-1 (reference (y)), 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). Expended brass shall be crushed, shredded, or otherwise destroyed prior to public sale.

[2] Reuse Screening: Prior to selling directly other qualified recycling program materials, installations shall implement Component

procedures for local reuse screening to consider reutilization, transfer, and donation programs in accordance with DoD 4160.21-M (reference (v)).

[3] Ensure that outside the United States, disposition of recyclable and other qualified recycling program materials, derived from goods that have been imported duty-free, is accomplished, if at all, consistent with the provisions contained in status of forces, surplus or excess property agreements, or other international agreements with host nations

(g) Ensure that distribution of recycling proceeds is consistent with 10 U.S.C. 2577 (reference (t)).

[1] Sale proceeds shall first be used to cover the costs directly attributable to all installation recycling programs, including, but not limited to, manpower, facilities, equipment, overhead, and other capital investments. After these costs are recovered, installation commanders may use up to 50% of the remaining proceeds for pollution abatement, pollution prevention, composting, and alternative fueled vehicle infrastructure support and vehicle conversion, energy conservation, or occupational safety and health projects, with first consideration given to projects included in the installation's pollution prevention plan. Any remaining proceeds may be transferred to the non-appropriated Morale, Welfare and Recreation account for any approved programs.

[2] An accounting and control system shall be established 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 Morale, Welfare, and Recreation programs. Integrity of the audit trail will be a priority concern.

[3] Materials: Ensure that appropriate management controls are in place for recyclable materials that may be hazardous, such as lead-acid batteries.

[4] Operate a composting program or participate in a regional composting program, if it is practicable to do so.

H. EFFECTIVE DATE

This Instruction is effective immediately.

Paul Kaminski
Under Secretary of Defense

for Acquisition and Technology

DoD Pollution Prevention Measures of Merit

(part of DoDI 4715)

By the end of FY2005, ensure the diversion rate for non-hazardous solid waste is greater than 40%, while ensuring integrated non-hazardous solid waste management programs provide an economic benefit when compared with disposal using landfilling and incineration alone .

Appendix H

DoD Interim Guidance For Direct Sales

MEMORANDUM FROM

Assistant Chief Of Staff For Installation Management
Department Of The Army (DAIM-ZA)

Chief Of Naval Operations
Director, Environmental Protection
Safety And Occupational Health Division (N45)

Headquarters United States Air Force
Office Of The Civil Engineer

Commandant Of The Marine Corps
Assistant Deputy Chief Of Staff For Installations
And Logistics (Facilities)

Chief Of Systems
United States Coast Guard

Director
Defense Logistics Agency

SUBJECT: Combined Services Interim Guidance for Direct Sales

REFERENCES: (a) DUSD(ES) Memorandum, 28SEP1993
(b) DoD Instruction 4715.4 (Pollution Prevention)
(c) 10 USC 2577, Disposal of Recyclable Materials

ENCLOSURES: (1) DoD Instruction 4715.4 (Pollution Prevention)
(2) Combined Services Recycling Working Group Contact List

1. Background

It is Department of Defense (DoD) intent to encourage the growth of recycling at all installations and support practices that increase recycling rates. As a result of field interest and recommendations, DoD concurs that greater profitability, true market value, and more immediate proceeds may be obtained from recycling when field level activities have authority to directly sell their recyclable commodities.

In the past, installations were required to sell recycled materials originally purchased with appropriated funds through the Defense Reutilization and Marketing Service (DRMS) unless specific direct sales authority was granted by the Defense Logistics Agency (DLA), per specification of reference (a). Reference (b) (also provided as enclosure (1)), directs each head of service to establish recycling programs and procedures that authorize installation commanders to sell directly recyclables and other QRP materials.

2. Purpose

The purpose of this memorandum is to provide interim guidance for conducting direct sales of recyclable materials for commands with or without Qualified Recycling Programs (see reference (c)).

3. Action

Installation Commanders or Commanding Officers shall ensure compliance with the provisions of this guidance memorandum.

4. Authority

Installations are hereby granted authority, subject to major command or major claimant approval, to conduct direct sales of recyclable materials in accordance with reference (b).

5. Conditions

The conditions of reference (b) shall apply. In addition:

(a) Sales of recyclable materials over $15,000 shall be conducted in accordance with procedures contained in 40 USC 484, or other appropriate regulations as they may apply.

(b) Direct sale is expected to result in:

(1) Increased proceeds (net of cost), increased efficiency, or cost effectiveness, or;

(2) The direct return of a usable product containing that material.

(c) Those installations or activities that do not have a QRP are directed to review their service component QRP Guide before engaging in direct sales.

6. Management Controls

All transactions shall be promptly recorded, properly classified, and available for examination in accordance with reference (b).

Table 1 summarizes the items that may or may not be recycled and directly sold by a QRP.

Distribution of recycling proceeds from direct sales shall comply with references (b) and (c).

7. Alternatives

Installations may continue to use DRMOs, conduct local direct sales, or outsource direct sales.

8. Summary

This memorandum is interim guidance for direct sales as provided in reference (b). This interim guidance will be superseded by the combined services qualified recycling program guide now in development.

Individual service questions can be addressed to the members of the combined services recycling working group as outlined in enclosure (2).

Frank L. Miller, Jr.
Major General, General Staff, U.S. Army
Assistant Chief of Staff for Installation Management

L.F. Schriefer
Rear Admiral, U.S. Navy
Chief of Naval Operations
Director, Environmental Protection, Safety and Occupational Health Division

Robert D. Wolff, P.E.
Deputy Civil Engineer
Headquarters U.S. Air Force

E.B. Hailston
Brigadier General, U.S. Marine Corps
Assistant Deputy Chief of Staff for Installations and Logistics (Facilities)

E.J. Barrett
Rear Admiral, U.S. Coast Guard
Chief of Systems

Edward M. Straw
Vice Admiral, Supply Corps, U.S. Navy
Director, Defense Logistics Agency

APPENDIX I

10 USC 2577

TITLE 10 - ARMED FORCES

Subtitle A - General Military Law

PART IV - SERVICE, SUPPLY, AND PROCUREMENT

CHAPTER 153 - EXCHANGE OF MATERIAL AND DISPOSAL OF OBSOLETE, SURPLUS, OR UNCLAIMED PROPERTY

Sec. 2577. Disposal of recyclable materials

(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 section 203 of the Federal Property and Administrative Services Act of 1949 (40 U.S.C. 484) 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 operations 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).

(2) If after such funds are credited, a balance remains available to a military installation and such installation has a qualifying recycling program (as determined by the Secretary of the military department concerned or the Secretary of Defense), not more than 50 percent 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 an amount greater than 50 percent of the amount established by law as the maximum amount for a minor construction project.

(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 is in excess of $2,000,000, the amount of that excess shall be covered into the Treasury as miscellaneous receipts.

Table I-1

Items That May/May Not Be Recycled and Directly Sold Under a QRP

Items that May be Recycled and Directly Sold Under a QRP	Items that May Not be Recycled and Directly Sold Under a QRP
Industrial scrap metal from non-WCF (non-working capital fund) Activity	Precious metal scrap
Industrial scrap metal from WCF activities (if installation determines that it is uneconomical for WCF to recycle.)	Scrap generated from Industrial Funded (WCF) activity that is routinely used to offset overhead and customer costs.
Expended firing range brass and gleanings- not requiring demilitarization that have been crushed, shredded, or otherwise destroyed prior to public sale	Items that must be demilitarized at any time during its life cycle
Beverage containers (metal, glass & plastic)	Hazardous wastes
Office paper (High quality, bond, computer, mixed, telephone books and Federal register)	Commissary store wastes (food, scraps, cardboard) and Exchange store wastes (cardboard), unless activities choose the QRP
Newspaper	Items that can be reused for original purpose without special processing
Cardboard / Pressboard	Used vehicles
Glass	Vehicle or machine parts
Plastics	Repairable items not processed through the disposal cycle
Scrap wood	Electrical components
Rags / Textile wastes	Unopened containers of oil, paints, or solvents
Used oil (under review)	Fuels
Lead acid batteries (unless prohibited by State law)	Ships, planes, or weapons that must undergo demilitarization or mutilation prior to sale.
Automotive tires	Munitions List Items or Strategic List Items
Food wastes from dining facilities	

APPENDIX J

Points of Contact: Army, Federal, National, Regional, and State

1. Army

Construction Engineering Research Laboratory (CERL)
PO Box 9005
Champaign, IL 61826-9005
ATTN: S. Cosper
(217) 398-5569, e-mail: cosper@cecer.army.mil

Assistant Chief of Staff, Installation management (ACSIM), ATTN: W. Eng, DAIM-FDF-E, DSN 328-7078, (703) 428-7078, or e-mail: william.eng@hqda.army.mil.

Headquarters, US Army Corps of Engineers, 20 Massachusetts Ave., NW., Washington, DC 20314-1000, ATTN CEMP-RI: M. McLeod tel. (202) 761-0206, e-mail: malcolm.e.mcleod@usace.army.mil

2. Federal, National

Air and Waste Management Association - AWMA
1 Gateway Ctr, 3rd Fl
Pittsburgh, PA 15222
(412) 232-3444
FAX: 412/232-3450

Aluminum Association
900 - 19th St NW, Ste 300
Washington, DC 20006
(202) 862-5100
FAX: 202/862-5164

American Coal Ash Association, Inc.
2760 Eisenhower Ave, Ste 304
Alexandria, VA 22314
(703) 317-2400
FAX: 703/317-2409

American Forest and Paper Association
1111 - 19th St NW, Ste 800
Washington, DC 20036-3603
(202) 463-2700, (800) 878-8878
FAX: 202/463-2708

American Forest and Paper Association
260 Madison Ave
New York, NY 10016
(212) 340-0600

American Iron and Steel Institute
1101 - 17th St NW, Ste 1300
Washington, DC 20036-4700
(202) 452-7100
FAX: 202/463-6573

American Petroleum Institute
1220 "L" St NW
Washington, DC 20005
(202) 682-8000
FAX: 202/682-8115

American Public Works Association/Institute for Solid Wastes
1301 Pennsylvania Ave NW, Ste 501
Washington, DC 20004
(202) 393-2792
FAX: 202/737-9153

Appliance Recycling Information Center
701 Pennsylvania Ave NW, Ste 900
Washington, DC 20004
(202) 434-7492
FAX: 202/434-7400

Aseptic Packaging Council
2111 Wilson Blvd, Ste 700
Arlington, VA 22201
(703) 351-5062

FAX: 703/351-9750

Asphalt Recycling and Reclaiming Association
Three Church Circle, Ste 250
Annapolis, MD 21401
(410) 267-0023
FAX: (410) 267-7546

Association of Municipal Recycling Coordinators
25 Douglas St
Guelph, ON N1H 2S7
(519) 823-1990

Composting Council
114 S Pitt St
Alexandria, VA 22314
(703) 739-2401
FAX: 703/739-2407

Container Recycling Institute
1400 - 16th St NW, Ste 250
Washington, DC 20036-2217
(202) 797-6839
FAX: 202/797-5411

Copper and Brass Fabricators Council, Inc.
1050 - 17th St NW, Ste 440
Washington, DC 20036
(202) 833-8575
FAX: 202/331-8267

Council for Textile Recycling
7910 Woodmont Ave, Ste 1212
Bethesda, MD 20814
(301) 718-0671
FAX: 301/656-1079

Environmental Industry Association - EIA
4301 Connecticut Ave NW, Ste 300
Washington, DC 20008-2304
(202) 244-4700
FAX: 202/966-4818

Food Service Packaging Institute
1901 N Moore St, #1111
Arlington, VA 22209
(703) 527-7505

Glass Packaging Institute
1627 "K" St, Ste 800
Washington, DC 20006
(202) 887-4850
FAX: 202/785-5377

Institute for Local Self-Reliance
2425 - 18th St NW
Washington, DC 20009-2096
(202) 232-4108
FAX: 202/332-0463

Institute of Scrap Recycling Industries, Inc. - ISRI
1325 "G" St NW, Ste 1000
Washington, DC 20005-3104
(202) 737-1770
FAX: 202/626-0900

International Titanium Association
1871 Folsom St, Ste 100
Boulder, CO 80302-5791
(303) 443-7515
FAX: 303/443-4406

Lead Industries Association
295 Madison Ave, Ste 808
New York, NY 10017
(212) 578-4750
FAX: 212/684-7714

National Association of Demolition Contractors - NADC
16 N Franklin St, Ste 200-B
Doylestown, PA 18901
(215) 348-4949
FAX: 215/348-8422

National Recycling Coalition - NRC
1727 King St, Ste 105
Alexandria, VA 22314-2720
(703) 683-9025
FAX: 703/683-9026

National Wooden Pallet and Container Association
1800 N Kent St, Ste 911
Arlington, VA 22209-2104
(703) 527-7667
FAX: 703/527-7717

North American Recycled Rubber Association
160 Baseline Rd
Bowmanville, ON L1C 1A2
(905) 623-8919
FAX: 905/623-1791

Plastic Lumber Trade Association, c/o Plastic Lumber Co.
540 S Main St, Bldg 7
Akron, OH 44311-1010
(216) 762-8989, (800) 886-8990
FAX: 216/762-1613

Plastics Recycling Foundation, Div. SPI
1275 "K" St NW, Ste 400
Washington, DC 20005
(202) 371-5200
FAX: 202/408-0736

Polyisocyanurate Insulation Manufacturers Association
1001 Pennsylvania Ave NW
Washington, DC 20004
(202) 624-2709

Polystyrene Packaging Council, Div. SPI
1275 "K" St NW, Ste 400
Washington, DC 20005
(202) 371-5200
FAX: 202/408-0736

Polyurethanes Recycle & Recovery Council
355 Lexington Ave
New York, NY 10017
(212) 351-5422
FAX: 212/697-0409

Portable Rechargeable Battery Association
1000 Parkwood Circle, Ste 430
Atlanta, GA 30339
(404) 612-8826, (800) 8-BATTERY
FAX: 404/612-8841

Professional Cartridge Remanufacturers Institute
P.O. Box 42002
Washington, DC 20015-0602
(301) 588-6781
FAX: 301/589-0600

Solid Waste Association of North America - SWANA
P.O. Box 7219
Silver Spring, MD 20907-7219
(301) 585-2898
FAX: 301/589-7068

Steel Recycling Institute - Federal & State Relations
1667 "K" St NW, Ste 460
Washington, DC 20006
(202) 496-9686

Steel Recycling Institute - National Headquarters
680 Andersen Dr, Foster Plaza 10
Pittsburgh, PA 15220-2700
(412) 922-2772, (800) 876-7274
FAX: 412/922-3213

The Vinyl Institute - National Vinyl Environmental Resource Center
65 Madison Ave
Morristown, NJ 07960
(201) 898-6699, (800) 969-8469

Tire Retread Information Bureau
900 Weldon Grove
Pacific Grove, CA 93950
(408) 372-1917
FAX: 408/372-9210

Used Building Materials Association
501-428 Portage Ave
Winnipeg, MB R3C 1N6
(204) 925-3777

Waste Equipment Technology Association
4301 Connecticut Ave NW
Washington, DC 20008-2304
(202) 244-4700

FAX: 202/966-9841

State Recycling Associations

GREAT LAKES

Great Lakes Committee of
Recycling Officials
c/o PA DER
Box 2063
Harrisburg, PA 17105
717-787-7382

MIDWEST

Midwest Recycling Coalition
2753 41st Ave, South
Minneapolis, MN 55406-1809
612-649-5793

NORTHEAST

Northeast Recycling Council
139 Main Street
Suite 401
Brattleboro, VT 05301
802-254-3636

SOUTHWEST

Southwest Public Recycling
Association
PO Box 27210
Tucson, AZ 85726
602-791-4069

ALABAMA

Alabama Recycling Coalition
SWDA
PO Box 2619
Huntsville, AL 35804
205-880-6054

ARKANSAS

Arkansas Recycling Coalition
13701 Rivercrest Drive
Little Rock, AR 72221-5734
501-227-6979

ARIZONA

Arizona Recycling Coalition
PO Box 2533
Phoenix, AZ 85002-2533
602-207-4144

CALIFORNIA

California Resource Recovery
Association
4395 Gold Trail Way
Loomis, CA 95659-8901
916-652-4450

NORTHERN CALIFORNIA

Northern California Recycling
Association
PO Box 5581
Berkeley, CA 95705
510-547-1074

COLORADO

Colorado Recycles
8745 W. 14th Ave, #216
Lakewood, CO 80215
303-231-9972

CONNECTICUT

Connecticut Recyclers
Coalition
P.O. Box 759
Dayville, CT 06241-1253
203-774-1253

FLORIDA

Recycle Florida Today
PO Box 150127
Altamonte Springs, FL 32715
404-774-7880

GEORGIA

Abby Goldsmith
c/o Roy F. Westin, Inc.
1880-H Beaver Ridge Circle
Norcross, GA 30071
404-263-5445

HAWAII

Recycling Association of
Hawaii

162 North King Street
Honolulu, HI 96817
808-599-1976

ILLINOIS

Illinois Recycling Association
9400 Bormet Drive, Suite 5
Mokena, IL 60448
708-479-3800

INDIANA

Indiana Recycling Coalition
P.O. Box 20444
Indianapolis, IN 46220-0444
317-283-6226

IOWA

Iowa Recycling Association
2742 Southeast Market Street
Des Moines, IA 50317
515-265-0889

KENTUCKY

Kentucky Recyclers Association
2207 Eastern Avenue
Covington, KY 41014
606-356-8555

MARYLAND

Maryland Recyclers Coalition
PO Box 6097
Annapolis, MD 21401
410-269-5684

MASSACHUSETTS

MassRecycle
60 Temple Place
Boston, MA 02111
617-338-0244

MICHIGAN

Michigan Recycling Coalition
P.O. Box 10240
Lansing, MI 48901
517-371-7073

MINNESOTA

Recycling Association of Minnesota
9409 Parkside Circle
Champlin, MN 55316
612-422-8788

MISSOURI

Missouri State Recycling Association
PO Box 10220
Kansas City, MO 64111
816-561-1087

MONTANA

Associated Recyclers of Montana
450 Charles Street
Billings, MT 59101
406-252-5721

NEBRASKA

Nebraska State Recycling Association
1941 42nd St, Suite 512
Omaha, NE 68105
402-444-4188

NEVADA

Nevada Recycling Coalition
P.O. Box 70393
Reno, NV 89507-0393
702-786-5401

NEW HAMPSHIRE

Northeast Resource Recovery Association
P.O. Box 721
Concord, NH 03302
603-224-6996

NEW JERSEY

Association of New Jersey Recyclers
120 Finderne Avenue
Bridgewater, NJ 08807
908-722-7575

NEW YORK

New York State Association
for Recycling
DSW; 46 East Bridge Street
Oswego, NY 13126
315-349-8329

NORTH CAROLINA

North Carolina Recycling
Association
7330 Chapel Hill Road - Suite
207
Raleigh, NC 27607
919-851-8444

NORTH DAKOTA

North Dakota Recyclers
Association
P.O. Box 1196
Bismarck, ND 58502
701-223-6850

OHIO

Association of Ohio Recyclers
520 West Point Drive
Akron, OH 44333-2652
216-665-1559

OREGON

Association of Oregon
Recyclers
P.O. Box 15279
Portland, OR 97215
503-255-5087

PENNSYLVANIA

Pennsylvania Resources
Council
3606 Providence Road
Newton Square, PA 19073
610-353-1555

Public Recycling Officials of
PA (PROP)
RD 2, Box 165B
Kittaning, PA 16201
412-350-5862

RHODE ISLAND

Rhode Island Recycling
Association
51 Bridge Street
Newport, RI 02840
401-847-7242

SOUTH CAROLINA

South Carolina Recycling
Association
PO Box 7464
Columbia, SC 29202
803-734-0143

SOUTH DAKOTA

Recycling Coalition of South
Dakota
P.O. Box 90358
Sioux Falls, SD 57105-9063
605-336-0213

TENNESSEE

Tennessee Recycling Coalition
PO Box 787
Lebanon, TN 37088
615-443-9530

TEXAS

Recycling Coalition of Texas
823 Congress Avenue
Suite 1104
Austin, TX 78701
512-472-3276

VIRGINIA

Virginia Recycling
Association
c/o Div. of Waste Mgt
Municipal Center
Virginia Beach, VA 23456
804-430-2450

VERMONT

Association of Vermont
Recyclers
P.O. Box 1244
Montpelier, VT 05601-1244

802-229-1833

WISCONSIN

Associated Recyclers of Wisconsin
1340 East Waterford
St. Francis, WI 53235
414-744-1688

WASHINGTON

Washington State Recycling Association
203 East Fourth Street - Suite 422
Olympia, WA 98501
206-352-8737

WYOMING
Wyoming Recycling Association
122 West 25th St.
Room 4220
Cheyenne, WY 82002
307-632-1245

Waste Exchanges

Arizona Waste Exchange
4725 E Sunrise Dr, Ste 215
Tucson, AZ 85718
(520) 299-7716
FAX: 520/299-7716

AR Industrial Development Commission
1 Capitol Mall
Little Rock, AR 72201
(501) 682-1370

California Materials Exchange - CALMAX
8800 Cal Center Dr
Sacramento, CA 95826-3286
(916) 255-2369, (916) 448-1198
FAX: 916/448-8246

California Waste Exchange
P.O. Box 806
Sacramento, CA 95812
(916) 322-2507

Southern Waste Information Exchange
P.O. Box 960
Tallahassee, FL 32302
(904) 386-6280, (800) 441-7949
FAX: 904/385-4020

Hawaii Materials Exchange
P.O. Box 121
Wailuku, HI 96793
(808) 667-7744

Industrial Materials Exchange Service
P.O. Box 19276
Springfield, IL 62794-9276
(217) 782-0450
FAX: 217/782-9142

Indiana Materials Exchange
P.O. Box 1877
Noblesville, IN 46060
(317) 773-1625
FAX: 317/773-1604

Iowa Waste Reduction Center - University of Northern Iowa
75 Biology Research Complex
Cedar Falls, IA 50614-0185
(319) 273-2079, (800) 422-3109
FAX: 319/273-2926

Transcontinental Materials Exchange
1419 CEBA
Baton Rouge, LA 70803
(504) 388-4594
FAX: 504/388-8652

Minnesota Materials Exchange Alliance
1313 - 5th St SE, Ste 207
Minneapolis, MN 55414
(612) 627-4555
FAX: 612/627-4769

SEMREX
171 - W 3rd St
Winona, MN 55987
(507) 457-6464

MISSTAP

P.O. Box 9595
Mississippi State, MS 39762
(601) 325-8454
FAX: 601/325-8616

Waste Exchange Service
EIERA, P.O. Box 744
Jefferson City, MO 65102
(314) 751-4919
FAX: 314/635-3486

Montana Materials Exchange
MSU Extension Service, Taylor Hall
Bozeman, MT 59717
(406) 994-1748

Waste Information Exchange
50 W State St, Ste 1310
Trenton, NJ 08608
(609) 989-7888
FAX: 609/989-9696

Northeast Industrial Waste Exchange
P.O. Box 2171
Annapolis, MD 21404-2171
(410) 280-2080
FAX: 410/280-0025

Southeast Waste Exchange
UNC Charlotte's Urban Institute
Charlotte, NC 28223-0001
(704) 547-2270
FAX: 704/547-3178

Safewaste
140 Wooster Pike
Milford, OH 45150
(513) 248-0012
FAX: 513/248-1094

OK State Solid Waste Management Services - 0206
1000 - NE 10th St
Oklahoma City, OK 73117-1212
(405) 271-5338

RENEW
P.O. Box 13087
Austin, TX 78711-3087
(512) 239-3171
FAX: 512/239-3165

Industrial Materials Exchange
506 - 2nd Ave, Rm 201
Seattle, WA 98104
(206) 296-4899
FAX: 206/296-3997

National Materials Exchange Network
8621 N Div, Ste "C"
Spokane, WA 99208
(509) 466-1532, (509) 466-1019 (Modem #)
FAX: 509/466-1041

Keep Nebraska Beautiful Material Exchange
3201 Pioneers Blvd, Ste 306
Lincoln, NE 68502
(402) 486-4562

New Hampshire Materials Exchange
122 N Main St
Concord, NH 03301
(603) 224-5388
FAX: 603/224-2872

Industrial Materials Exchange, Inc.
6401 Congress Ave, Ste 200
Boca Raton, FL 33487
(800) 541-9444
FAX: 407/995-7818

Vermont Business Materials Exchange
P.O. Box 935
Brattleboro, VT 05302
(800) 985-1930

Chicago Board of Trade Recyclables Exchange
141 W Jackson
Chicago, IL 60604-2994
(312) 345-3620

Alaska Materials Exchange
441 - W 5th Ave, Ste 300
Anchorage, AK 99501
(907) 272-2401
FAX: 907/272-4117

Hawaii Materials Exchange
P.O. Box 1048
Paia, HI 96779
(808) 579-9109
FAX: 808/579-9109

Indiana Waste Exchange
P.O. Box 454
Carmel, IN 46032
(317) 574-6505
FAX: 317/844-8765

Industrial Fabric Products Review Exchange
345 Cedar St, Ste 800
Saint Paul, MN 55101-1088
(612) 222-2508
FAX: 612/222-8215

Northeast Industrial Waste Exchange
620 Erie Blvd W, Ste 211
Syracuse, NY 13202
(315) 422-6572
FAX: 315/422-4005

Rhode Island Department of Environmental Management
Brown University, Box 1943
Providence, RI 02912
(401) 863-2715

APPENDIX K

Relevant Publications

American Glass Review

Published by Doctorow Communications
P.O. Box 2147
Clifton, NJ 07015
(201) 779-1600

American Metal Markets

Daily ferrous and nonferrous, primary and scrap prices, newsbriefs, and articles.
Publisher: John Lindsey
Editor-in-Chief: Michael Botta.
American Metal Markets
825 - 7th Ave
New York, NY 10019
(212) 887-8551

American Papermaker

A monthly trade magazine for the pulp and paper industry.
Published by MacLean Hunter
57 Executive Pk S
Ste 310
Atlanta, GA 30329
(404) 325-9153.

American Recycling Market - Annual Directory/Reference Manual

Over 1,200 pages containing 20,000+ cross-referenced company and agency listings: scrap metals, auto dismantlers, demolition, paperstock, glass, oil, textiles, equipment/special services, composting, wood waste, and references sections. Published in three volumes by
Recycling Data Management Corp.
P.O. Box 577
Ogdensburg, NY 13669-0577
(800) 267-0707.

American Waste Digest

A monthly magazine published by:
Charles Moody
226 King St,
Pottstown, PA 19464
(610) 326-9480.

Biocycle - Journal of Composting & Recycling

Publisher/Editor: Jerome Goldstein. A monthly magazine published
by
The JG Press, Inc.
419 State Ave
Emmaus, PA 18049
(610) 967-4135.

Environmental Update

A quarterly publication of army environmental news, published by the U.S. Army Environmental Center Public Affairs Office, Bldg E4461T
Edgewood Area
Aberdeen Proving Ground, MD 21010-5401,

(410) 671-2556

Fibre Market News & Fibre Market News Update

Publisher: Richard Foster. Published by
GIE Publishers Inc.,
4012 Bridge Ave
Cleveland, OH 44113
(216) 961-4130
Fax: 216/961-0364.

Iron Age Scrap Price Bulletin

Ferrous and nonferrous prices.
Iron Age
191 S Gary Ave
Carol Stream, IL 60188
(800) 247-8080.

Mill Trade Journal's Recycling Markets

A bi-weekly newsletter on market prices, trends, articles, and more. Editor: Jim Curley. Published by
N.V. Business Publishers Corp
43 Main St
Avon-By-The Sea, NJ 07717
(908) 502-0500.

Official Board Markets

A weekly publication on paperboard and paperstock prices and
trends. Publisher: Robyn Smith. Editor: Mark Arzoumanian.
Published by
Advanstar Communications
312 Randolph, Ste 600,
Chicago, IL 60606
(312) 553-8900.

Paper Recycler

A monthly newsletter that covers and forecasts changes in supply and demand and price for grades in all scrap paper categories.
Published by Miller Freeman
600 Harrison St
San Francisco, CA 94107
(415) 905-2263.

The Paper Stock Report

News and trends of the paper recycling markets published biweekly. Publisher/Editor: Ken McEntee. Published by
McEntee Media Corp.
13727 Holland Rd
Cleveland, OH 44142-3920,
(216) 362-7979.

Recycling Manager

The independent guide to secondary materials markets. A bi-weekly fax only newsletter. For subscription information, call (212) 887-8532, or write to
875 - 7th Ave
New York, NY 10019.

Recycling Today

Publisher: Richard Foster. Published by GIE Publishers Inc.,
4012 Bridge Ave
Cleveland, OH 44113-3320
(216) 961-4130
Fax: (216) 961-0364.

Resource Recovery Report

A monthly newsletter published by
Resource Recovery
5313 - 38th St NW
Washington, DC 20015
(202) 362-6034.

Resource Recycling - North America's Recycling and Composting Journal

A monthly publication on general recycling, waste management, and recovery programs. Publisher: Judy Roumpf. Editor-in-Chief: Jerry
Powell. Published by
Resource Recycling Inc.
1206 - 21st Ave NW,
(P.O. Box 10540, 97210-0540)
Portland, OR 97209-1609
(503) 227-1319
Fax: (503) 227-6135
E-Mail <resrecycle@aol.com>.

1995 Textile Recycling Buyers Guide & Directory

Published by the
Council for Textile Recycling
7910 Woodmont Ave
Ste 1212
Bethesda, MD 20814
(301) 718-0671.

Waste Age

The authoritative voice of waste systems and technology.
Publisher: Jerry Schwartz.
Editor in Chief: John Aquino.
Published monthly by EIA
4301 Connecticut Ave NW
Washington, DC 20008
(202) 244-4700.

Waste Handling Equipment News

A monthly publication dealing with the equipment needed in operating landfills, recycling facilities, transfer stations, composting facilities, salvage yards, etc.
P.O. Box 121
Palatine Bridge, NY 13428
(518) 673-3237.

Waste News

A weekly publication reporting on solid-waste management.
Crain Communications
Subscriptions Department
P.O. Box 3086
Northbrook, IL 60065-3086
(708) 564-8912
(800) 281-7713
Fax: (708) 291-4816.

Waste Recovery Report - Recycling, Reprocessing and Reusing Resources

A monthly publication on waste management and recovery, waste-to-energy, biomass, and recycling. Publisher/Editor: Alan Krigman.
Published by Icon/Information Concepts, Inc., 211 - S 45th St,
Philadelphia, PA 19104
(215) 349-6500
Fax: (215) 349-6502,
E-Mail < wasterec@aol.com>.

World Wastes - The

Independent Voice

A monthly publication on the recycling marketplace including articles, trends, events, and more. Publisher/Editor: Bill Wolpin. For subscriber service, write to
World Wastes,
Fulfillment Department
P.O. Box 41369
Nashville, TN 37204-1094
(615) 377-3322.

APPENDIX L

Glossary

Activity -- a unit, organization, or installation that performs a function or mission.

Appropriated Funds -- money set aside by Congress through a formal process for a specific use.

Combined Services Recycling Working Group -- a working group formed by the DoD Pollution Prevention Committee to develop joint service Qualified Recycling Program (QRP) policy. The group includes all services (including Coast Guard), the Defense Logistics Agency (DLA), the Office of the DoD Inspector General, and the National Security Agency (NSA).

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 excluding asbestos-containing materials.

Cullet - furnace-ready, crushed glass, usually added to new raw materials to facilitate melting when making glass.

Working Capital Fund (WCF) -- the management of a working capital fund, or industrial, commercial, and support-type activities by the Secretary of Defense through separate accounting, reporting, and auditing. These activities include the Defense Finance and Accounting Service, the Defense Commissary Agency, and the Defense Reutilization and Marketing Service. Proceeds routinely used to offset customer costs.

Defense Reutilization and Marketing Office (DRMO) -- provides technical assistance to generating activities, receives excess material and authorized turn-ins from generating activities.

Defense Reutilization and Marketing Service (DRMS) -- exercises program management and staff supervision of DoD Personal Property Reutilization and Marketing Program.

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 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.

Detinning - the process of removing the thin coating of tin on steel food cans.

End User - Mills and other industrial facilities where secondary materials are converted into new products. Examples include paper mills, steel mills, detinners, and glass manufacturing plants.

Feedstock - a processed material used in manufacturing.

Ferrous metal - a metal containing iron. Ferrous metals are separated from others by magnetic sorting.

Fiber or Fiberboard Boxes -- boxes made from containerboard, with either solid fiber or corrugated paperboard, or boxes made from solid paperboard of the same material throughout.

Ledger Paper -- type of paper generally used in a broad variety of recordkeeping-type applications such as accounting machines.

Mill Broke -- any paper waste generated in a paper mill prior to completion of the papermaking process. It is usually returned directly to the pulping process. Mill broke is excluded from the definition of "recovered materials."

Non-Appropriated Funds (NAF) -- funds generated by DoD military and civilian personnel and their families. Used to augment funds appropriated by Congress to provide a comprehensive, morale-building, welfare, religious, educational, and recreational program. Designed to improve the well-being of military and civilian personnel and their dependents.

Outthrows - amount of contaminants collected or processed recyclables, expressed as a percent by weight or volume. A small percentage of outthrows is usually acceptable, and written into sales contracts.

Qualified Recycling Program -- organized pursuant to 10 U.S.C. §2577. A DoD Component program to recover recyclable materials from waste streams, and identify, segregate, and maintain or enhance marketability of the recyclable materials.

Recyclable Material -- such materials would otherwise be sold as scrap or discarded as waste, but are capable of being reused after undergoing some type of physical or chemical processing.

APPENDIX M

Acronyms

ADF	Advance disposal fee
AEDA	Ammunition, Explosives, and other Dangerous Articles
ALMC	Army Logistics Management College
APF	Appropriated Funds
APP	Affirmative Procurement Program
BCE	Base Civil Engineer
C&D	Construction and demolition (waste)
CFR	Code of Federal Regulations
CPO	Computer Print-out
DLA	Defense Logistics Agency
DoD	Department of Defense
DoDI	Department of Defense Instruction
DPW	Director of Public Works
DRMO	Defense Reutilization and Marketing Office
DRMS	Defense Reutilization and Marketing Service
DSD	Duales System Deutschland
DTID	Disposal Turn--In Document
DUSD(ES)	Deputy Under Secretary of Defense for Environmental Security
EPA	U.S. Environmental Protection Agency
FOB	Free On Board. This means that the cost of loading material at the point of departure is included in the sale price.
HDPE	High Density Polyethylene
HHW	Household hazardous waste
LDPE	Low Density Polyethylene
LLDPE	Linear Low Density Polyethylene
MRF	Materials recovery facility
MWR	Morale, Welfare and Recreation
NAF	Non-Appropriated Funds
NAFI	Non-Appropriated Funds Instrumentality
OCC	Old Corrugated Cardboard
OMG	Old magazines
ONP	Old Newspapers

OTD	Old telephone directories
OWP	Office waste paper
PE	Polyethylene
PET	Polyethylene Terephthalate
PP	Polypropylene
PS	Polystyrene
PVC	Polyvinyl Chloride
PWO	Public Works Officer
QRP	Qualified Recycling Program
RCRA	Resource Conservation and Recovery Act
RDF	Refuse derived fuel
RMP	Residential mixed paper
SWAR	Solid Waste Annual Report
tpd	tons per day
UBC	used beverage container
USC	United States Code
WCF	Working Capital Fund

APPENDIX N

Volume-to-Weight Conversion Factors for Recyclables

Material*	**Volume**	**Weight in lb**
Newsprint, loose	1 cubic yard	360-800
Newsprint, compacted	1 cubic yard	720-1,000
Newsprint	12" stack	35
Glass, whole bottles	1 cubic yard	600-1,000
Glass, semi crushed	1 cubic yard	1,000-1,800
Glass, crushed (mechanically)	1 cubic yard	800-2,700
Glass, whole bottles	1 full grocery bag	16
Glass, uncrushed to manually broken	55 gallon drum	125-500
PET, soda bottles, whole, loose	1 cubic yard	30-40
PET, soda bottles, whole, loose	Gaylord**	40-53
PET, soda bottles, baled	30" x 62"	500
PET, soda bottles, granulated	Gaylord	700-750
PET, soda bottles, granulated	semi-load	30,000
Film, baled	30" x 42" x 48"	1,100
Film, baled	semi-load	44,000
HPDE (dairy only), whole, loose	1 cubic yard	24
HPDE (dairy only), baled	32" x 60"	400-500
HPDE (mixed), baled	32" x 60"	900
HPDE (mixed), granulated	Gaylord	800-1,000
HPDE (mixed), granulated	semi-load	42,000
Mixed PET and dairy, whole, loose	1 cubic yard	average 32
Mixed PET, dairy and other rigid, whole, loose	1 cubic yard	average 38
Mixed rigid, no film or dairy, whole, loose	1 cubic yard	average 49

* Source: DRAFT National Recycling Coalition Measurement Standards and Reporting Guidelines, presented to the NRC Membership (31 October 1989).

** A gaylord is a standard size corrugated cardboard shipping container with a volume of about 1.5 cu yd.

Material*	**Volume**	**Weight in lb**
Mixed rigid, no film, granulated	gaylord	500-1,000
Mixed rigid and film, densified by mixed plastic mold technology	1 cubic foot	average 60
Aluminum cans, whole	1 cubic yard	50-74
Aluminum cans, flattened	1 cubic yard	250
Aluminum cans	1 full grocery bag	1.5
Ferrous cans, whole	1 cubic yard	150
Ferrous cans, flattened	1 cubic yard	850
Corrugated cardboard, loose	1 cubic yard	300
Corrugated cardboard, baled	1 cubic yard	1,000-1,200
Leaves, uncompacted	1 cubic yard	250-500
Leaves, compacted	1 cubic yard	320-450
Leaves, vacuumed	1 cubic yard	350
Wood chips	1 cubic yard	500
Grass clippings	1 cubic yard	400-1,500
Used motor oil	1 gallon	7
Tire -- passenger car	one	12
Tire -- truck	one	60
Food waste, solid and liquid fats	55 gallon drum	412

APPENDIX O

Policy Memoranda Regarding the Recycling of Fired Brass

ACQUISITION AND TECHNOLOGY

OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON

WASHINGTON, DC 20301-3000

15 MAY 1998

MEMORANDUM FOR INSPECTOR GENERAL OF THE DEPARTMENT OF DEFENSE

DEPUTY UNDER SECRETARY OF DEFENSE (LOGISTICS)

DIRECTOR OF ADMINISTRATION AND MANAGEMENT

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

ASSISTANT SECRETARY OF THE NAVY (INSTALLATIONS & ENVIRONMENT)

ASSISTANT SECRETARY OF THE AIR FORCE (MANPOWER, RESERVE AFFAIRS, INSTALLATIONS & ENVIRONMENT)

DIRECTORS OF THE DEFENSE AGENCIES

SUBJECT: Recycling of Firing-Range Scrap Consisting of Expended Brass and Mixed Metals Gleaned from Firing-Range Clearance Through Qualified Recycling Programs

DoD Instruction 4715.4, "Pollution Prevention," authorizes Qualified Recycling Programs (QRP) to recycle firing-range scrap consisting of expended brass and mixed metals gleaned from firing range clearance through direct sales. The Inspector General of the Department of Defense in Report 97-213, "Evaluation of the Disposal of Munitions Items," recommended clarification of DoD regulations covering recycling of these items through QRPs.

All DoD components shall ensure that QRPs and direct sales programs follow the procedures contained in DoDI 4715.4, "Pollution Prevention," (June 18, 1996), and this memorandum, when recycling firing-range scrap consisting of expended brass and mixed metals gleaned from firing range clearance. Mixed metals gleaned from firing range clearance is defined as material (e.g., shrapnel) which is in a form that is unrecognizable from its original configuration and does not require further demilitarization, and which is not a Munitions List Item or Commerce Control List Item. Only firing-range scrap consisting of expended brass and mixed metals gleaned from firing range clearance that have been certified as safe may be recycled through a QRP. All other scrap from ammunition, explosives, and dangerous articles (AEDA), even if certified safe, shall be sold through the Defense Reutilization and Marketing Service. All firing-range scrap consisting of expended brass and mixed metals gleaned from range clearance shall be certified as safe by appropriate authority before QRPs accept the material for disposal. Such scrap shall be certified as safe only when there is no longer any danger of detonation or explosive reaction. Other requirements include:

* QRPs shall maintain a list of personnel authorized to certify firing-range scrap consisting of expended brass and mixed metals gleaned from range clearance as safe. This list shall include both names and sample signatures. QRPs shall update this list as necessary;

* QRPs shall segregate from other mixed metals during storage and sale all firing-range scrap consisting of expended brass and mixed metals gleaned from firing range clearance;

* QRPs conducting direct sales shall include the "Dangerous Property" clause (attached) in all contracts for sale of firing-range scrap consisting of expended brass and mixed metals gleaned from range clearance;

* Components shall ensure that QRP personnel are appropriately trained to accept, store, and sell firing-range scrap consisting of expended brass and mixed metals gleaned from range clearance. At a minimum, QRP personnel shall be trained to accomplish the following tasks:

* How to determine which AEDA material cannot be disposed of through a QRP;

* How to check both the name and signature on all turn-in documents (DD Form 1348-1) against the current list of personnel authorized to certify firing-range scrap consisting of expended brass and mixed metals gleaned from range clearance as safe;

* How to visually inspect firing-range scrap consisting of expended brass and mixed metals gleaned from range clearance certified as safe to recognize potential explosive safety hazards; and

* How to report any turned-in firing-range scrap consisting of expended brass and mixed metals gleaned from range clearance that is found not to be safe.

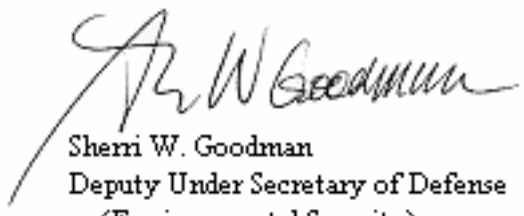
In addition, all DoD components shall conduct frequent compliance reviews of QRPs to ensure established procedures are followed.

In response to the DoD IG report, the Under Secretary of Defense (Acquisition & Technology) has formed an integrated process team (IPT) to develop standard DoD-wide policy, procedures,

and training for AEDA material. More guidance on this issue may be forthcoming once the IPT finishes its work.

My POC for questions regarding this issue is Mr. Karl Weiss at 703-604-1846, or DSN: 664-1846.

Attachment



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

Attachment

(to be included in all contracts for the sale of AEDA scrap)

"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, suits, actions, or claims arising from or otherwise relating to the purchase of this material."

DEPARTMENT OF THE ARMY

ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT

600 ARMY PENTAGON

WASHINGTON, DC 20310-0600

S: 23 Oct 98

DAIM-FD

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Recycling of Firing-Range Scrap Consisting of Expended Brass and Mixed Metals Gleaned from Firing-Range Clearance Through Qualified Recycling Programs

1. References:

a. Department of Defense Instruction (DoDI) 4715.4, Pollution Prevention, 18 Jun 1996.

b. Combined Services Qualified Recycling Program (CSQRP) Memorandum, Combined Services Interim Guidance for Direct Sales, 2 Jan 1997.

c. Deputy Under Security of Defense (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 (Enclosure).

2. Reference 1a directed the Service Secretaries to establish recycling programs and procedures that authorize installation commanders to directly sell recyclables and other Qualified Recycling Program (QRP) materials. Pending the issuance of permanent DoD implementing guidance, the DoD Combined Services Recycling Working Group (CSRWG) issued reference 1b to implement the DoDI.

3. The improper inspection and disposition of range residue, which had tragic consequences, caused the DoD Inspector General to issue Report 97-213, "Evaluation of the Disposal of Munitions Items." This report recommended that DoD clarify the regulations covering the recycling of firing-range scrap through QRPs. Effective immediately, all installation QRPs will follow the guidance provided in the above references. Reference 1c further defines the term "firing range scrap consisting of expended brass and mixed metals gleaned from ranges" and states that this is the only type of firing range scrap that QRPs are authorized to recycle. This memorandum also provides QRP procedures and QRP personnel training requirements.

4. A two-day training course that meets these QRP requirements is under development for all DoD QRP personnel by the Huntsville Center of Expertise for Ordnance and Explosives, Army Corps of Engineers. The first course will be conducted in November 1998; subsequent training will be scheduled to meet requirements. MACOMS are requested to submit their prioritized training requirements to the OACSIM POC by 23 October 1998. Travel expenses and tuition

(approximately $275-375) are authorized installation recycling expenses. A QRP may not directly sell "firing range scrap consisting of expended brass and mixed metals gleaned from ranges" unless the specific personnel performing these inspections are adequately trained to accept, store, and sell this type of material. At least one person at each QRP program must receive this required training within the first 6 months of class availability and all remaining QRP personnel who will conduct these inspections, within 1 year. Installations failing to meet these training requirements by FY2000 will not be authorized to directly sell firing range scrap as defined by the DUSD(ES) memorandum.

5. MACOMs will monitor installation QRPs to ensure that recycling programs are in compliance with all Army and DoD policies, and all applicable regulatory requirements. MACOMs will also ensure that installations QRPs either refrain from selling directly any firing-range scrap, or institute measures that ensure that every load of this material is certified to be safe and is re-inspected by QRP personnel.

6. My POC is Mr. William Eng, DAIM-FDF-E, DSN 328-7078, (703) 428-7078, or E-mail: william.eng@hqda.army.mil.

/Signed/

Encl DAVID A. WHALEY

Major General, GS

Assistant Chief of Staff

for Installation Management.

DISTRIBUTION:

PWTB 420-49-18
17 November 2006