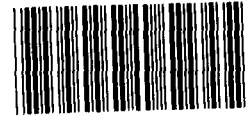


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Department of Defense and
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Management and Sales of
Hazardous Materials

Statement of
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Before the
Subcommittee on Environment, Energy
and Natural Resources,
Committee on Government Operations
House of Representatives



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Chairman Synar, Chairman Fazio, and Members of the Subcommittee:

I am pleased to be here today to discuss the management of hazardous materials by the Department of Defense (DOD) and the General Services Administration (GSA). Over the past 2-1/2 years, we have undertaken a series of reviews of DOD for your Subcommittee related to this issue. In two reports¹ issued last year, we reviewed DOD's efforts to minimize hazardous waste generation and DOD's inventory management practices which affect hazardous waste generation and disposal. We also have reviewed DOD's reuse and recycling of hazardous property and the use and disposal of the highly corrosive decontaminating agent, Decontamination Solution No. 2. At your request, my testimony provides highlights from these recently completed and ongoing reviews, and then focuses in some detail on the public sale of surplus hazardous materials by both DOD and GSA covered in the report² we are releasing today.

BACKGROUND

The two primary purchasing agencies for the federal government, GSA and DOD, bought over \$10 billion of supplies and equipment per year for the last three fiscal years. During this same time, over \$2.7

¹Hazardous Waste: DOD Efforts to Reduce Waste (GAO/NSIAD-89-35, Feb. 7, 1989) and Hazardous Waste: Attention to DOD Inventories of Hazardous Materials Needed (GAO/NSIAD-90-11, Nov. 6, 1989)

²Hazardous Materials: Inadequate Safeguards Over Sales Pose Health and Environmental Dangers (GAO/NSIAD-90-70, Feb. 12, 1990)

billion of material became excess to the needs of the using agency. The material became excess for a number of reasons including overbuying, changes in the agency's mission or requirements, and poor inventory control.

Some of the materials that become excess to the government's needs are hazardous. Hazardous materials may be corrosive, ignitable, reactive, or toxic, and include paints, sealants, adhesives, and solvents. Some of these hazardous materials, once used, become a hazardous waste under the Resource Conservation and Recovery Act (RCRA) of 1976, as amended. If the hazardous materials are released to the environment, they become hazardous waste under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (commonly called Superfund), as amended. Improper handling, use, or storage of hazardous materials may also cause them to become hazardous waste.

DOD purchases and uses a large quantity of hazardous materials in its industrial and maintenance operations. Because a significant percent of the hazardous materials become hazardous waste, DOD is considered a major generator of hazardous waste. It generates over 400,000 tons of hazardous waste each year from its industrial processes primarily used to repair and maintain weapon systems (e.g., F-16 aircraft) and equipment (e.g., trucks).

GSA's hazardous waste generations, although substantial, are not as large as DOD's. GSA does not have industrial activities, and most of its maintenance work is on vehicles such as automobiles that do not require the same type of chemicals as sophisticated weapons systems. Also, a large percent of the hazardous materials GSA buys is for other agencies to use.

Large quantities of hazardous materials and hazardous waste must be disposed of each year. Disposal procedures can be costly, because of procedures required to minimize the risk to humans and the environment. To avoid these costs, DOD and GSA have adopted a variety of programs to reduce hazardous waste generation and to limit hazardous materials and waste which must be sent to disposal.

HAZARDOUS WASTE REDUCTION

Since the mid-1980's, DOD has initiated some efforts, such as source reduction techniques and improved inventory management, to minimize the amount of hazardous materials sent to the disposal process. The services set a goal of reducing hazardous waste generations by 50 percent by 1992. Despite these efforts, hazardous materials still end up unnecessarily in the disposal process.

Source Reduction Techniques

In the mid-1980s, the Air Force, the Army, and the Navy began programs to minimize the amount of hazardous waste they generate through optimum use of hazardous materials. At the 19 installations we visited, officials made some changes to production, maintenance, and repair processes to minimize the amount of hazardous waste they produced. One installation, for example, had installed an on-line recovery process for solvents used during the production process. Others had also substituted less hazardous materials, such as using water-based paint primers rather than toxic primers.

The services will have difficulty monitoring their progress in meeting their goal to reduce hazardous waste generation levels by 50 percent because their generation data are unreliable. Methods for measuring and reporting waste generation vary among and within the services, and some installations are estimating, rather than measuring directly, the amounts or types of waste generated. Furthermore, reports of hazardous waste generated do not contain information regarding production increases or decreases or other factors that affect quantities generated, thus preventing a meaningful assessment of minimization efforts.

We recommended that DOD establish a standard methodology for collecting and reporting hazardous waste generation data so the

services would have more accurate, consistent, and comparable data to monitor their success in meeting their minimization goals. In response to our report, DOD initiated a study to determine how better to report on its hazardous waste minimization programs, including how well the services are accomplishing their goals.

Inventory Management Techniques

During fiscal years 1986-1988, DOD purchased an average of about \$250 million per year of hazardous materials in the 13 stock classes we reviewed, which include paints, adhesives, preservatives, batteries, and chemicals. If these materials are not properly stored and managed while in the inventory, they may become surplus to the services' needs, their containers may become damaged, or their shelf life may expire. In each of these cases the materials would be transferred to the disposal process. These hazardous materials have to be disposed of as hazardous waste if they are not used by another government agency or sold to the public.

We found that DOD's inventory management practices did not minimize the amount of unused hazardous materials that were transferred to the disposal process. At 10 installations, for example, we found that 40 percent of the hazardous materials transferred for disposal were unused. In particular,

-- Some hazardous materials had very short shelf life. When the materials were delivered to military users, they were often near the end of their useful life or their expiration date had already passed. If they were not used before their useful life expired, they would be transferred to the disposal process in an unused condition.

-- Even though DOD generally applies the first-in first-out inventory management technique, a number of exceptions permit newer materials in the inventory to be issued before some of the older materials. If the useful life of the older materials expires while they remain in the inventory, they are transferred to the disposal process.

-- The condition of hazardous materials was not always evaluated during extended storage or before the materials were transferred for disposal as required by DOD regulations. The materials' shelf life can be extended in some instances, and they would not have to be transferred to the disposal process. Materials stored for a long period without evaluation could deteriorate beyond usefulness or containers could be damaged, thus causing the materials to become hazardous waste.

In our November 1989 report, we recommended that the Secretary of Defense issue instructions to each service to provide special attention to inventory management procedures for hazardous

materials that will minimize the generation of hazardous waste from hazardous material inventories. These instructions should cover such matters as making greater use of direct delivery contracts for hazardous materials with short shelf life; making greater use of first-in first-out issue procedures for hazardous materials with shelf life and discouraging exceptions to this policy; and evaluating the condition of hazardous materials with shelf life through periodic testing or inspecting the hazardous materials before sending them to the disposal process.

REUSE, RECYCLING, AND TREATMENT
OF HAZARDOUS PROPERTY

DOD has implemented some efforts to reduce the amount of hazardous materials reaching landfills or other undesirable methods of final disposal. DOD's efforts include (1) segregating various kinds of hazardous materials and waste to increase the likelihood that they can be reused or recycled, (2) recycling hazardous waste to make it reusable, (3) treating hazardous waste to make it less hazardous, and (4) selling surplus hazardous materials to the public.

Segregation

The services have issued policies and procedures addressing the importance of properly segregating hazardous materials and waste to facilitate recycling and reuse. During 1987 and 1988, the services

reported that they were experiencing segregation problems that prevented the reuse or sale of used oil. However, neither the services nor the Defense Reutilization and Marketing Service (the part of the Defense Logistics Agency responsible for sales or disposal of hazardous materials) maintained summary data that identified the extent to which commingled wastes and materials affected recycling, reuse, and sales efforts. In 1989, officials from 14 Defense Reutilization and Marketing Offices indicated that segregation of the hazardous materials was not a problem. They stated that they are continually trying to provide better training on the benefits of proper segregation.

Recycling

The services require their installations to recycle hazardous materials and waste to the extent practicable. We visited some installations that were recycling some hazardous waste. For example, at Lone Star Army Ammunition Plant, a portable filtering unit is being used to filter and reuse solutions used in the production of ammunition.

However, the services' overall progress in recycling hazardous wastes cannot be measured either because the amount recycled is not tracked or because recycling data collected is not analyzed to determine if opportunities for recycling were overlooked.

Treatment

We visited three installations that had industrial wastewater treatment plants treating hazardous wastes, and all of these treatment plants were operating below their design capacities. At our request, installation officials reviewed past and present disposal practices to determine if any disposed of wastes could have been treated in the installations' treatment plants. They did not identify any significant amounts of waste currently disposed of that could have been treated in their industrial wastewater treatment plants.

At service headquarters, command, and installation levels, we discussed the potential for better utilizing industrial wastewater treatment plants through intra- or interservice agreements. Service officials interviewed cited several reservations about such agreements, including the necessary changes to discharge permit requirements as a result of such agreements. Because the plants were usually designed to treat certain types of waste, it would take major changes to enable them to treat other kinds of waste. In addition, while plants treating the specific waste they were designed to treat do not require permits under RCRA, the plants would have to obtain RCRA permits to treat the additional types of waste or waste from other installations. The age and design of most of these plants would probably prohibit them from being modified so they could meet RCRA permit conditions.

Limited Information and Analysis

DOD does not gather adequate data or has not properly analyzed data to assess the results of its efforts to manage the hazardous waste being generated. Therefore, DOD does not know whether individual installations are doing as much as they can to maximize reuse, recycling, and treatment of hazardous waste. No one measures the amount and extent of improper segregation of hazardous materials and waste. Our analysis of the Air Force's reported progress toward reduction of the quantities of hazardous waste indicates that much of the reported reduction was the result of the removal of water from generated waste, not the actual reduction of the hazardous waste. The Defense Reutilization and Marketing Service measures its success in reusing, transferring, donating, and selling hazardous materials by the number of line items. However, a line item could be 1 6-ounce tube of adhesive or 600 barrels of solvents. We believe these examples demonstrate that DOD does not have sufficient information or analysis to determine whether progress is being made in managing hazardous materials and waste.

DOD is in the process of revising its Defense Environmental Status Report, and the Defense Logistics Agency is still developing and implementing its Defense Automated Information system. Completion of these two efforts is necessary to provide DOD better data for making decisions on reuse, recycling, and treatment. Having

adequate data is the first step in developing a sound management strategy for dealing with the problems.

SALES OF HAZARDOUS
MATERIALS TO THE PUBLIC

Despite some efforts to reduce the amount of hazardous materials originally bought and to better manage hazardous materials in their inventories, DOD and GSA transfer large amounts of hazardous materials to the disposal process every year. The disposal process for hazardous materials includes reuse within the procuring agency, transfer to another federal agency, or donation to state governments or other authorized nongovernment entities. If no use is found for the materials, they are considered surplus and can be sold to the public.

During fiscal years 1986 through the first half of 1989, DOD disposed of surplus hazardous materials with an acquisition value of over \$104 million through sales to the public. Although the net proceeds from these sales were only \$5 million, DOD avoided the expense of paying \$170 million for hazardous waste disposal. Also, DOD officials stated that by selling the materials, they prevented a resource from being sent to final disposal. DOD also sold hazardous waste with an acquisition value of \$12 million for less than \$2 million. GSA does not maintain similar statistics.

Lack of Regulations Over
Sales of Hazardous Materials

There are virtually no statutory or regulatory restrictions over DOD and GSA sales of hazardous materials, including limits on who can buy the materials. We found instances in which DOD and GSA have sold some hazardous materials to buyers who have improperly transported, handled, used, stored, or disposed of the materials, which may have endangered humans and the environment.

The Federal Property and Administrative Services Act of 1949, as amended, provides that surplus federal property can be made available to the public through sales. The hazardous materials sold by DOD and GSA ranged from common paint and lubricants, similar to items that can be bought in local hardware stores, to Decontamination Solution Number 2, commonly known as DS2, a highly corrosive chemical used to decontaminate equipment which has been contaminated during chemical warfare.

DOD and GSA officials have told us that they interpret the 1949 Act to mean that they can not restrict anyone from buying surplus property, including hazardous materials. They believe that any restrictions placed on buyers, except on those that are not

responsible or not responsive,³ would be contrary to the intent of the 1949 Act.

However, there are laws regulating hazardous waste that should affect the use and disposal of some of the property DOD calls hazardous materials. For example, if hazardous materials are not stored properly and begin to leak, the materials become hazardous waste and thus subject to RCRA regulations governing storage, transportation, and disposal, and cleanup requirements under Superfund.

EPA's environmental regulations restrict the sales of hazardous waste, but they do not restrict the sales of hazardous materials. Department of Transportation regulations require transporters of hazardous waste to obtain an EPA identification number, but not transporters of hazardous materials.

We reviewed applicable regulations in the state of California because of recently reported instances of improperly stored hazardous materials sold by DOD and GSA. Except for a state licensing requirement for those who are paid to transport 500 pounds or more of hazardous materials, the state and the three of

³Buyers that are not responsible buyers are those who, for example, have failed to pay for previous sales or have been convicted of criminal negligence as a result of their actions in a prior sale. Buyers that are not responsive are those who submit bids that do not conform with the government's invitation for bids.

its counties we reviewed (Sacramento, Yolo, and San Joaquin) have no licensing requirement pertaining to hazardous materials.

Citing the lack of specific authority or designated responsibility, neither DOD nor GSA has developed or implemented adequate safeguards to help prevent hazardous materials from being sold to buyers who might not properly handle their purchases. Officials of both agencies told us that they believe that once they sell the surplus hazardous materials, their responsibilities for the proper transportation, storage, handling, use, and disposal basically end, and the buyers assume responsibility.

The Issue of When Excess

Hazardous Materials Become

Hazardous Waste Is Unresolved

DOD and the Environmental Protection Agency (EPA) appear to disagree over when hazardous materials that become excess to an installation's needs and enter the disposal cycle become hazardous waste. That decision affects whether the materials are regulated by stringent controls set forth in RCRA and, therefore, how the materials should be handled.

DOD officials told us that the Defense Reutilization and Marketing Offices will reclassify hazardous material as hazardous waste only if the materials cannot be reused within DOD, transferred to

another agency of the federal government, donated to state or local government agency or an eligible nongovernment entity, or sold.

Defense Reutilization and Marketing Service guidance differentiates hazardous waste from hazardous materials. This guidance states that all hazardous substances turned in to the Defense Reutilization and Marketing Offices are to be considered hazardous materials, except those "predetermined" wastes, which are listed under RCRA regulations. The predetermined wastes include spent halogenated solvents such as carbon tetrachloride, spent cyanide plating bath solutions, and distillation residues. Predetermined waste constitutes only a small percent of the hazardous substances turned in to the Defense Reutilization and Marketing Offices.

The Defense Reutilization and Marketing Service's procedures result in less rigorous environmental protection procedures for handling, packaging, and storing hazardous materials before the Defense Reutilization and Marketing Office can reclassify them as hazardous waste. Item classified as hazardous materials can exhibit the same harmful characteristics as hazardous waste.

Although hazardous material storage and handling regulations contain provisions for ensuring safety of personnel and protection of the environment, these regulations do not provide the same safeguards as those required for hazardous waste accumulation. For example, hazardous material regulations do not limit the

amount of hazardous materials that can be accumulated on site or the length of time the materials can remain on site. RCRA regulations specify such limitations for hazardous waste.

EPA officials told us that the Defense Reutilization and Marketing Service's guidance may conflict with RCRA's definition of hazardous waste. They stated that items sold and not used for their intended purposes would, under RCRA's definition, be a waste and thus should have been treated as such from its original point of accumulation. Additionally, items that are not reused, transferred, donated, or sold and thus disposed of would also become a waste. However, under the Defense guidance, these items would not have been handled and stored as waste, as RCRA requires. Using Defense guidance, it is possible that the marketing offices are selling property as hazardous materials when they should be identified as hazardous waste, according to EPA's view of RCRA requirements.

The Defense Reutilization and Marketing Region Counsel said the issue of when a hazardous substance becomes a hazardous waste, and thus subject to RCRA requirements, has been under discussion between DOD and EPA officials for several years with no resolution.

Hazardous Materials Not

Properly Identified

Some hazardous materials are similar to those that can be purchased by anyone at a hardware store. These include paints, sealants, adhesives, and solvents. On the other hand, some of the hazardous materials that have been sold at other sales include items that are more dangerous, such as DS2 and some special solvents.

Because certain items are more dangerous, they require special handling, including protective clothing, containers, and storage areas. DOD has pre-award procedures that require the buyer to be informed of what he is buying. However, we found that in the case of extremely hazardous materials the buyers were not routinely informed of any special handling and other safety requirements.

We also found instances in which both DOD and GSA had not properly identified in sales catalogs hazardous materials being offered for sale. On August 17, 1988, 43 5-gallon cans of DS2 were sold by DOD's surplus sales office at Mountain Home Air Force Base, Idaho, to an individual. Depending on its use, DS2 can be hazardous to humans and the environment. DS2 has many adverse effects: it is toxic and highly corrosive and can cause severe chemical burns; stricture of the esophagus; damage to the liver, cornea of the eye, and central nervous system. It may also cause adverse reproductive effects in humans. Protective clothing must be worn when handling

DS2 to prevent contact with the skin, and it must be used under carefully controlled conditions. DS2 is so corrosive storage containers may leak after slight damage or during extended storage periods.

The chief of the sales office did not know the buyer's intended use for the DS2, and both the chief and the office's environmental specialist said they were unaware of the hazards of DS2 to humans or the environment. The individual purchasing the DS2 was also not aware of the hazards. According to the chief, the material safety data sheet⁴ for DS2 was not available.

The buyer of the DS2 said he believed he was purchasing an alkali substance that could be mixed with water and used as a degreaser. DS2 becomes corrosive when it is mixed with water. The buyer said he was not aware of the hazards of using DS2; however, he had not used any of it. At his request, the DOD sales office picked up the DS2 and refunded his purchase price of \$30.

On January 12, 1988, an individual purchased from the surplus sales office at DOD's Kirtland Air Force Base, New Mexico, 37 5-gallon cans and 274 1-1/3 quart cans, or about 275 gallons, of DS2. The buyer said that he did not know what he was buying and that the

⁴Material Safety Data Sheets are prepared for each hazardous material item. They identify the hazards associated with the material, the ingredients, the handling, storage, transportation, and disposal requirements and the personal safety requirements, such as clothing or other protective gear.

sales office did not provide him with the material safety data sheet. The buyer also told us that when he went to pick up the DS2, he believed it might be dangerous and did not want to accept it. However, contrary to DOD regulations, the sales office personnel told him that if he did not take it, they would remove his name from the bidders list and he would be barred from bidding at future auctions.

According to the buyer, two of the DS2 cans were leaking when he picked them up. He said the cans, which were stored at his home, subsequently started fuming, so he watered them down. He later gave all of the DS2 to another individual who, according to the buyer, intended to use it to kill weeds.

Controls Over The Sales And Handling of Hazardous Materials

Both DOD and GSA have some internal controls over the sale of hazardous materials. For hazardous materials sold through DOD national sales program, contracts contain a clause granting, as a condition of sale, the right of government surveillance over the use and disposal of the materials. DOD also requires the contracting officer to survey potential buyers to determine if the buyer is responsible before a sale is made. The potential buyer must also submit a Statement of Intent (what the buyer plans to do

with the material). This statement is reviewed by DOD, and, if a negative determination is made, the sale is to be rejected.

The Defense Reutilization and Marketing Offices reserve the right, by a clause in the sales contract, to inspect the buyer's transportation equipment that will be used to remove the hazardous materials as well as the treatment, storage, or disposal facilities. We were told that the sale can be canceled or terminated if the inspection discloses that the buyer is not responsible.

DOD sales program officials stated that their surveys of potential buyers largely consist of no more than a desk review of the Statement of Intent submitted by the highest bidder and, as we observed, are seldom documented. We noted that some Statements of Intent submitted for DOD's review contained only the potential buyer's signature with no other information filled in, but no action was taken by the DOD officials to question the potential buyers' responsibility.

Even though DOD regulations require surveys of potential buyers and follow-up reviews of buyers, DOD officials told us that they are not sure they have a legal basis for doing post-award surveillance. They also stated that this may be one reason why some of the surveillance is not done.

GSA requires the buyers to certify that they will comply with certain conditions of the sale, including the proper transportation, storage, and disposal of the hazardous materials once purchased. However, GSA does not perform or require a follow-up review to determine whether buyers are complying with the conditions.

Hazardous Materials Sold By DOD
May Have Become Hazardous Waste

Under both federal and California state regulations, hazardous materials stored or abandoned in such a way that pollutes the environment may immediately become hazardous waste. In California hazardous materials may also become hazardous waste if they are mislabeled or packaged in a deteriorated or damaged container. The point at which hazardous materials become hazardous waste depends on how the materials are stored, transported, or disposed of.

In April 1989, a storage shed near Collinsville, California, was discovered to contain hundreds of containers of various hazardous materials sold in the 1970s, primarily through the DOD surplus sales program. Some of the containers were discovered to be leaking, and nearby residents were evacuated while actions were taken to make the materials safe.

In August 1988, the Port of Los Angeles discovered leaking containers of hazardous materials on its property. These materials had been purchased from various DOD surplus material sales offices (some very recently) and had been stored on the Port's property without its permission. Some of the hazardous materials had begun to leak.

In each of these cases, EPA or local authorities are preparing to bring or have brought legal charges against those who improperly stored the hazardous materials. A determination will be made on whether the hazardous materials were converted to hazardous waste by inappropriate or illegal storage practices and on who is responsible for paying for the cleanup of the sites.

Initiatives to Improve
Safeguards for Sales

Both DOD and GSA have implemented or plan to implement changes in their hazardous material sales and handling procedures to avoid similar incidents in the future. For example, DOD is no longer selling hazardous materials through local sales, limiting these sales to the national program where it can have improved assurance that buyers are better informed. Also, DOD now permits buyers to screen their purchases and take only what they want from any sales lot. This will minimize the amount of hazardous materials the buyers may discard because they have no use for them.

GSA's Region IX, which includes California, has developed a quarterly review system that uses a hazardous material compliance checklist to monitor compliance with hazardous material rules at turn-in activities. These changes are strictly regional initiatives and are not applicable to GSA agencywide.

However, we believe that the agencies should be more concerned about how a buyer will handle the more dangerous substances such as DS2 than a few cans of paint. Our report, Hazardous Materials: Inadequate Safeguards Over Sales Pose Health and Environmental Dangers (GAO/NSIAD-90-70, Feb. 12, 1990), recommends that DOD and GSA consider developing and implementing controls to help ensure that the more hazardous materials they sell to the public will not end up as hazardous waste threatening humans and the environment.

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This concludes my prepared statement. We will be pleased to answer any questions you may have.