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**FEDERAL PROCUREMENT: BETTER GUIDANCE AND
MONITORING NEEDED TO ASSESS PURCHASES OF
ENVIRONMENTALLY FRIENDLY PRODUCTS**

U. S. General Accounting Office*

ABSTRACT. The federal government buys about \$200 million worth of goods and services each year. Through its purchasing decisions, the federal government can signal its commitment to preventing pollution, reducing solid waste, increasing recycling, and stimulating markets for environmentally friendly products. The Resource Conservation and Recovery Act of 1976 (RCRA) directs the Environmental Protection Agency (EPA) to identify products made with recycled waste materials or solid waste by-products and to develop guidance for purchasing these products. The act also requires procuring agencies to establish programs for purchasing them. This report examines efforts by federal agencies to (1) implementation of RCRA requirements for procuring products with recycled content and (2) the purchase of environmentally preferable and bio-based products. EPA accelerated its efforts in the 1990s to identify recycled-content products, but the status of agencies' efforts to implement the RCRA purchasing requirements for these products is uncertain. The four major procuring agencies report that, for many reasons, their procurement practices have not changed to increase their purchases of environmentally preferable and bio-based products. One reason for the lack of change is that EPA and the U.S. Department of Agriculture have been slow to develop and implement the programs.

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BACKGROUND

The use of federal procurement to promote environmental goals has gained increasing emphasis since the 1976 RCRA legislation. Under RCRA section 6002, each procuring agency¹ purchasing more than \$10,000 of an item (in a fiscal year) that EPA has designated as available with recycled content must have an affirmative procurement program in place. This program is to ensure that the agency purchases recycled-content products to the maximum extent practicable. This requirement applies both to purchases made directly by the agency and to purchases made indirectly by their contractors and grantees.

To comply with RCRA and the executive order, an agency's affirmative procurement program must consist of four elements:

- A preference program that requires the agency to institute practices and procedures favoring the specification and procurement of recycled-content products;
- Internal and external programs to actively promote the purchase program for recycled-content products;
- Procedures for obtaining pre-award estimates and post-award certifications of recovered materials content in the products to be supplied under any contracts over \$100,000 and, where appropriate, reasonably verifying those estimates and certifications; and
- Procedures for monitoring and annually reviewing the effectiveness of the affirmative procurement program to ensure the use of the highest practicable percentage of recycled-content materials available.

The 1998 executive order strengthened the RCRA requirements for an effective affirmative procurement program for recycled-content products and added two new product types--environmentally preferable products and biobased products. The 1998 executive order further clarified some previous requirements and defined more clearly the duties of the Federal Environmental Executive and the responsibilities of agency environmental executives in implementing certain initiatives and actions to further encourage the "greening" of the government through federal procurement. The order did not require agencies to purchase environmentally preferable and biobased products, but

encouraged them to do so. A recent change to the Federal Acquisition Regulations² (FAR) formalized the 1998 executive order by making it a requirement for all executive agencies and contracting officers to follow when buying products, including supplies that are furnished under a service contract. The changes to the FAR also emphasized executive branch policies to purchase products containing recycled content material and other environmentally preferable products and services when feasible.

The Office of the Federal Environmental Executive has overarching responsibilities to advocate, coordinate and assist federal agencies in acquiring recycled-content, environmentally preferable, and biobased products and services. In 1999 the White House Task Force on Greening the Government, chaired by the Federal Environmental Executive, issued a strategic plan that calls upon all executive agencies to demonstrate significant increases in the procurement of recycled-content products from each preceding year through 2005. Each agency's environmental executive is responsible for overseeing the implementation of the agency's affirmative procurement program and for setting goals to increase purchases of recycled-content products in accordance with the White House Task Force's strategic plan.

Although all procuring agencies are required to have an affirmative procurement program and to track their purchases of recycled-content products, the Office of Federal Procurement Policy and the Office of the Federal Environmental Executive limit their annual reporting requirement to the top six procuring agencies. These six agencies are the departments of Defense, Energy, Transportation, and Veterans Affairs; GSA; and NASA. Two of these agencies, Defense and GSA, have a dual role first, as procuring agencies subject to RCRA and the executive order and second, as major suppliers of goods and services to other federal agencies.³ As such, both use recycled-content products and supply other federal agencies with recycled-content products. The Office of Federal Procurement Policy and the Office of the Federal Environmental Executive issue a joint report to the Congress every 2 years on these agencies' progress in purchasing the EPA-designated products.

Federal agencies must also comply with acquisition reform legislation enacted during the 1990s. In response to concerns about the government's ability to take advantage of the opportunities offered by the commercial marketplace, these reforms streamlined the way that the federal government buys its goods and services.⁴ For example, the

reforms introduced governmentwide commercial purchase cards, similar to corporate credit cards, to acquire and pay for goods and services of \$2,500 or less. The cards, known as federal purchase cards, are issued to a broad range of personnel.

SCOPE AND METHODOLOGY

In conducting this review, we focused on four agencies that account for about 85 percent of all federal procurements—the departments of Defense and Energy, General Services Administration, and the National Aeronautics and Space Administration. In addition to interviewing appropriate officials at these agencies, we conducted a written survey in which we asked them a series of questions related to their purchases of products with recycled content, environmentally preferable products, and/or biobased products. We also surveyed two major grant-awarding agencies—the departments of Transportation and of Housing and Urban Development—to determine the extent of such purchases made by their grantees.

In addition, we contacted the Environmental Protection Agency (EPA), the Office of Federal Procurement Policy within the Office of Management and Budget, and the White House Office of the Federal Environmental Executive to determine their effectiveness in managing and overseeing the agencies' implementation of the programs for procuring products with recycled-content and environmentally preferable and biobased products.

We also reviewed EPA's progress in designating products with recycled content and in issuing guidance on environmentally preferable products to other agencies, as well as the Department of Agriculture's progress in identifying and publishing information on biobased products. We obtained and analyzed information on the procurement of products with recycled-content, as designated by EPA, and barriers to full implementation of the affirmative procurement programs of the four largest federal procuring agencies. We also contacted the Office of the Inspector General for each of the federal agencies in our review to identify whether the offices had conducted any formal reviews or audits of the agencies' affirmative procurement programs. Finally, we contacted industry and environmental groups to obtain their perspectives and to identify whether any additional data existed related to the procurement of the EPA-listed products with recycled content.

**FEDERAL PURCHASES OF RECYCLED-CONTENT PRODUCTS
CANNOT NOW BE DETERMINED BECAUSE OF INCOMPLETE
REPORTING AND LACK OF MONITORING**

EPA accelerated its efforts in the 1990s to identify and issue guidance on procuring products with recycled content, but the extent to which the major federal procuring agencies, with the exception of Energy, have purchased these products cannot be determined because they do not have data systems that clearly identify purchases of recycled-content products. In addition, these agencies do not receive complete data from their headquarters and field offices or their contractors and grantees. As a result, they generally provide estimates, not actual purchase data, to the Office of Federal Procurement Policy and the Office of the Federal Environmental Executive. According to three of the major procuring agencies--including Defense, which accounts for over 65 percent of federal government procurements⁵--even these estimates are not reliable. In addition, agencies' efforts to promote awareness of purchase requirements for recycled-content products have had limited success, and their efforts to monitor progress have principally relied on the estimated data they report. A White House task force has made a number of recommendations to improve data collection, particularly from federal purchase card users and contractors.

EPA Has Accelerated the Designation of Products With Recycled Content

In the early 1980s, the Congress directed EPA to issue guidance for five products with recycled content, three of which the Congress designated: cement and concrete containing fly ash,⁶ recycled paper and paper products, and retread tires. Between 1983 and 1989, EPA issued guidance for these three products and also issued guidance for re-refined lubricating oil and building insulation (U. S. General Accounting Office). EPA did not issue guidance for any more products until 1995. Between 1995 and 2000, EPA increased the total number of designated products to 54 and issued comprehensive procurement guidance to use in purchasing these products. Figure 1 shows the increases in the number of designated products with recycled content.

FIGURE 1
EPA's Designation of Recycled-Content Products, 1983 Through 2000

EPA has identified eight categories of recycled-content products. These are listed below, with examples of products in each category.

- **Construction products:** building insulation containing recycled paper or fiberglass; carpeting containing recycled rubber or synthetic fibers; floor tiles made with recycled rubber or plastic.
- **Landscaping products:** landscaping timbers and posts containing a mix of plastic and sawdust or made of fiberglass; hydraulic mulch containing paper; compost made from yard trimmings and/or food waste.
- **Nonpaper office products:** trash bags containing recycled plastic; waste receptacles containing recycled plastic or steel; and binders containing recycled plastic or pressboard.
- **Paper and paper products:** copier paper, newsprint, file folders, and paper towels and napkins, all of which have recycled fiber content.
- **Park and recreation products:** picnic tables and park benches containing recycled plastics or aluminum; playground equipment containing recycled plastic or steel; fencing using recycled plastic.

- **Transportation products:** parking stops containing recycled plastic or rubber; traffic barricades containing steel or recycled fiberglass; traffic cones containing recycled PVC or rubber.
- **Vehicular products:** engine coolants (antifreeze), re-refined motor oil and retread tires, all of which contain recycled content materials.
- **Miscellaneous products:** awards and plaques containing glass, wood, or paper; drums containing steel or plastic; signs and sign posts containing plastic steel or aluminum.

EPA officials have also identified 10 additional recycled-content products for designation and expect to issue purchasing guidelines for them in 2001. They also plan to designate more products as they become available. According to EPA officials, the list of possible products continues to evolve because new products are always being developed and existing products may be changed, adding more recycled material.

RCRA outlines criteria for determining which items to designate as recycled-content products. EPA's guidance expands on these criteria, which include the following:

- The availability of the item, including whether it is obtainable from an adequate number of sources to ensure competition;
- The effect of the procurement on the amount of solid waste diverted from landfills;
- The capability of the item to meet the agency's needs and the item's cost in relationship to products that do not have recycled content; and
- The determination of whether the item will have a negative impact on (1) other recycled-content products by displacing one recovered material for another recovered material-resulting in no net reduction in materials requiring disposal; (2) the supply of recovered materials due to the diversion of recovered materials from one product to another-resulting in shortages of materials for one or both products; and (3) the availability of supplies to manufacture the product-resulting in insufficient supplies over time.

In reviewing EPA's files for all products designated since 1995, we found that EPA had considered these criteria. Furthermore, EPA had not failed to list any major product containing recycled materials that was likely to be purchased by federal agencies, according to the four major procuring agencies and the National Recycling Coalition, an organization

that represents recycling groups, large and small businesses, and federal, state, and local governments.

However, the four major procuring agencies said that the list contains more items than they can feasibly track the purchases of and that targeting their tracking efforts on the major items they purchase would be a better use of their resources. For example, NASA officials told us that they annually purchase only about 100 traffic cones--one of the designated items--but have to bear the burden of tracking these purchases to prove that they do not exceed the \$10,000 threshold, which would trigger the annual reporting requirement. The four agencies also told us that it is costly and burdensome to update their tracking programs each time EPA adds new items and to document whether or not their purchases of these products meet the \$10,000 threshold. Defense and GSA officials added that instead of continuing to add products to the designated list, EPA should work with the agencies to assist them in buying products already identified. Although EPA has a Web site that provides some information regarding a product's availability, agency officials indicated that the information is not easily accessible or kept up to date. For example, Defense and GSA officials said that (1) EPA should provide more information on the availability of the individual products, since listed products may not be available in all regions of the country, and (2) EPA should identify the manufacturers and costs of the recycled-content products and take the lead in promoting them, thus making it easier for federal agencies to buy these products. Officials at the Office of the Federal Environmental Executive agreed with Defense's and GSA's assessment regarding purchasing difficulties.

INFORMATION ON AGENCIES' PURCHASES OF PRODUCTS WITH RECYCLED CONTENT IS LARGELY UNAVAILABLE

Three of the four major procuring agencies do not provide credible and complete information on their purchases of recycled-content products because (1) they do not have automated tracking systems for these products, and (2) the information they do collect and report does not include a significant portion of their procurements, such as those made by contractors. As a result, they estimate the extent of their purchases in reporting to the Office of Federal Procurement Policy and the Office of the Federal Environmental Executive. However, agency officials acknowledge that these estimates are not reliable.

Agencies Lack Automated Tracking Systems for Recycled-Content Products

Defense, GSA, and NASA reported that they cannot use their automated procurement systems to track recycled-content products purchased by officials in their headquarters and field offices and by their contractors and grantees. As a result, they collect information manually, a process they find costly and time-consuming. This is particularly the case for agencies with large field structures. For example, Defense said that to satisfy the Office of Federal Procurement Policy and the Office of the Federal Environmental Executive reporting requirements, it must collect information manually from the thousands of installations managed by the Army, Navy, Air Force, and Defense Logistics Agency. Defense requests the necessary information from these units, but does little if they do not provide the data. Similarly, GSA reported that it manually collects purchase data on recycled-content products from its headquarters and field offices. However, Defense and GSA reported that they can electronically track actual purchases of recycled-content products made through their automated central supply systems, which also records purchases made by other agencies, if the products are included in Defense and GSA stock inventories. The systems do not track items purchased from vendor lists.

According to Defense and GSA officials, recent improvements to these central supply systems include electronic catalogues of environmentally friendly products linked to an automated shopping system, which will allow the agencies to better track and report on other agencies' purchases of recycled-content products.

NASA and Energy offices also manually collect purchase data on recycled-content products but enter the information into automated systems for tracking and reporting. However, they have not integrated these automated systems with their agency-wide procurement systems. Despite this lack of integration, Energy officials indicated that, with their current tracking system, they are able to determine the extent to which most of their offices and contractors are purchasing recycled-content products. NASA officials reported that their system provides more limited data on some contractors.

Defense and GSA officials acknowledged that their data collection would improve if they had on-line electronic systems for recycled-content products linked to agency-wide procurement systems. However,

the additional cost of developing such an integrated system would not be worthwhile, according to these officials. For example, Defense believes that the cost of developing and maintaining a reliable system to produce the data needed to comply with current reporting requirements would far exceed the value of the information produced.

Major Purchase Sources Are Excluded From the Agencies' Reports

The data the agencies collect and report to the offices of Federal Procurement Policy and of the Federal Environmental Executive generally exclude several sources of information. One source is federal purchase card acquisitions, which are increasing and now account for about 5 percent of all federal purchases. The four procuring agencies reported that they cannot track federal card purchases of recycled-content products made in the private sector, such as desk accessories, tires, and lubricating oil, unless they establish an internal system that relies on the card users to keep records. Defense and GSA reported that they do not have such systems. Defense officials noted that requiring purchase card users to keep logs is in conflict with acquisition reforms intended to simplify the procurement process for purchases below \$2,500 (micropurchases).⁷ Energy and NASA officials stated they do track and report purchases of recycled-content products through federal purchase cards and have established processes for staff to keep records for entry into their database for the recycled content program.

The agencies' data are also incomplete because they may exclude information on purchases made by some of their component organizations. For example, Defense reported that the military services provide mostly estimated data, which they do not verify to determine accuracy and completeness. Furthermore, these estimates do not include all of the services. For example, the Army provided no information for Defense's report to the Office of Federal Procurement Policy and the Office of the Federal Environmental Executive for fiscal years 1998 and 1999, and the Air Force and Navy provided limited purchase data. The lack of reliable data from Defense is of particular concern in evaluating the effectiveness of the RCRA program because Defense's procurements account for over 65 percent of total federal procurements reported for fiscal year 1999. Defense reported that it purchased recycled-content products worth about \$157 million out of total fiscal year 1999 procurements of about \$130 billion. (The total fiscal year procurement figure of \$130 billion includes \$20 billion for research and development

and \$50 billion for major weapons systems, which are unlikely to involve the procurement of recycled-content products. In addition, \$53 billion for service contracts may or may not involve the purchase of recycled-content products. Defense officials indicated that some of these figures may overlap).

Finally, the agencies lack complete data on purchases made by contractors and grantees. This data gap is potentially significant because contracts over \$25,000 account for almost 90 percent of all federal procurements. The agencies reported the following:

- Defense has no information on contractors' purchases.
- GSA has limited information on some contractors' purchases.
- Energy, which spends about 94 percent of its appropriations on contractors, collects purchase information from about 86 percent of its contractors.
- NASA collects purchase data from on-site contractors but receives little or no data from off-site contractors.

RCRA requires federal contractors to estimate the percentage of recycled-content material used to fulfill their contracts (not the specific products) and to certify that they have met the minimum requirements for recycled content. The Federal Acquisition Streamlining Act established that the estimation requirement under RCRA applies only to contracts exceeding \$100,000. However, for individual purchases by federal agencies that exceed \$10,000, the Office of Federal Procurement Policy requires the agencies to track and report the total dollar amount by product and, in some cases, to report the volume of recycled-content products. The agencies reported that it is difficult, if not impossible, for them to separate information on products with recycled content from information on other products without such content (virgin materials). For example, according to GSA, when it lets a contract for remodeling offices, the contract does not necessarily distinguish between the cost of carpeting containing recycled content and of virgin-content carpet. It may provide information on only the total cost of carpeting. The contractor might have to purchase virgin-content carpeting for certain areas (e.g., high-traffic hallways) and might be able to use carpeting with recycled content in other areas (e.g., staff offices). In such a case, GSA would provide only an estimate to the Office of Federal Procurement Policy of the value of carpet with recycled material.

GSA officials also pointed out that performance-based contracts do not include detailed product estimates. For example, a contract to construct a building may not indicate either the amount or cost of the recycled-content concrete used.

Finally, the agencies lack data on grantee purchases. State and local agencies receiving federal grants may be "procuring agencies" under RCRA. If they meet the \$10,000 threshold--that is, if they spend more than \$10,000 on a designated item--they are subject to the affirmative procurement program requirement and to buying the recycled-content products on EPA's list. However, grantees are not required to report their purchases of EPA-designated products with recycled content. Also, executive orders do not apply to grantees. Because of overall federal efforts to reduce the paperwork (reporting) burden on grantees, federal agencies stated that they cannot request information from grantees without OMB approval. Consequently, six of the agencies we reviewed, including the major grant making agencies--DOT and HUD--reported that they do not obtain any information on grantees' purchases.

White House Task Force Has Recommended Improvements in Data Collection

A White House task force workgroup on streamlining and improving reporting and tracking, cochaired by the Federal Environmental Executive and OMB's Office of Federal Procurement Policy, has made a number of recommendations to improve data collection from federal purchase card users and contractors. It recommended that it begin a pilot project with banks and willing vendors to identify and report recycled-content product purchases made with federal purchase cards. We believe that this effort would provide useful additional information regarding purchase card users' compliance with the RCRA requirements.

With respect to contractors, the task force workgroup and various agencies recommended revisions to the Federal Procurement Data System--a system that collects information on procurements on a government-wide basis for contracts over \$25,000.⁸ The revised data system would require the procuring official to indicate whether the contract includes (1) recycled-content products and identifies the reasons for granting waivers, and (2) appropriate language from the Federal Acquisition Regulations to ensure that the contractor is notified of the requirements for purchasing recycled-content products. These proposed revisions are currently being circulated to the agencies for comment. If

these changes are implemented, the agencies will no longer have to manually collect and report on their individual purchases of recycled-content products. Although the revised system will not provide information on the products themselves or of the dollar amount associated with them, it would allow agencies for the first time to identify contracts subject to purchases of recycled-content products and to measure their annual progress in increasing the percentage of contracts containing affirmative procurement clauses.

AGENCIES' EFFORTS TO PROMOTE RECYCLED-CONTENT PRODUCTS HAVE GENERALLY NOT INCREASED AWARENESS, AND ONLY ONE AGENCY REVIEWS AND MONITORS PURCHASES

The four major procuring agencies have ongoing efforts, and are developing strategies, to promote awareness of the requirement to purchase recycled-content products, but several studies indicate that the success of these efforts to date has been limited. In addition, although RCRA requires federal agencies to review and monitor the effectiveness of their RCRA program efforts, only Energy has taken any steps beyond the data collection efforts discussed earlier.

Success of Promotion Efforts Is Limited

Studies of the agencies' affirmative procurement programs report that the agencies are not effectively educating procurement officials about the requirement to buy EPA-designated recycled-content products. This lack of awareness is a major or contributing factor to inaccurate data and noncompliance with implementing affirmative procurement programs, according to our survey of the agencies, as well as the reports by the GSA and NASA inspectors general, the Air Force's Internal Audit Agency, and a fiscal year 2000 EPA survey of 72 federal facilities.⁹

Efforts to promote the purchase of recycled-content products by government agencies, their contractors, and grantees can occur government--or agency-wide. Government-wide efforts include those conducted by the Office of the Federal Environmental Executive, which actively promotes, coordinates, and assists federal agencies' efforts to purchase EPA designated items. For example, the Office of the Federal Environmental Executive has helped increase agency purchases of EPA designated products by encouraging GSA, the Defense Logistics Agency, and the Government Printing Office to automatically substitute recycled

content products in filling orders for copier paper (begun in 1992) and lubricating oil (begun in 1999). This effort has increased sales of recycled-content copier paper from a level of 39 percent to a level of 98 percent at GSA and the Government Printing Office, according to the Office of the Federal Environmental Executive. GSA now carries only recycled-content copier paper. The Defense Logistics Agency reported that its sales of rerefined lubricating oil increased over 50 percent from fiscal year 1999 to fiscal year 2000. Given the success of the automatic substitution program for these products, the Office of the Federal Environmental Executive is strongly encouraging agencies to identify other recycled-content products for which automatic substitution policies might be appropriate. However, this program does not apply to purchases made outside of the federal supply centers.

GSA and Defense have also placed symbols in their printed and electronic catalogues and in their electronic shopping systems to identify recycled-content products. Using the electronic catalogue, agencies can then go directly into the electronic shopping system to order these products. They will also be able to track and report these purchases—including those made with purchase cards. Defense and GSA are also working jointly to modify the Federal Logistics Information System to add environmental attribute codes to the products listed in that system to more easily identify environmentally friendly products.¹⁰ The modification's usefulness may be limited, however, because this system does not automatically link the user to a system for purchasing the products identified, according to agency officials.

In addition to governmentwide promotion efforts, agencies reported using a variety of techniques to make their decentralized organizations aware of the RCRA requirements. The agencies provide classroom and computer-assisted training on purchasing recycled-content products and on incorporating the RCRA purchasing requirements into program manuals. The four major procuring agencies also reported that they promoted the procurement of EPA-designated products through such mechanisms as their Web sites, telephone and videoconferences, videotapes, electronic newsletters, workshops, and conferences. As indicated by the Inspectors General's reports and agency studies, and our own analysis, even though the agencies have used many techniques to inform their staff of these requirements, staff awareness, particularly in field offices, remains a problem.

Agencies generally must rely on methods less direct than providing classroom training, or having workshops or conferences, for making their contractors aware of the requirement to purchase recycled-content products. Accordingly, Energy, GSA, and Defense's Air Force, Navy, and Army Corps of Engineers have initiated alternative efforts to inform contractors of these requirements. Energy makes its major facility management contractors part of its affirmative procurement program team to help implement the program. Moreover, in May 2000, Energy established "green acquisition advocates" at each of its major contracting facilities. Among their duties, these advocates are to promote the RCRA program to the contractors. GSA and the three Defense components have developed "green" construction and/or lease programs that promote the use of EPA-designated products. In addition, all the agencies we reviewed have incorporated the Federal Acquisition Regulation clauses pertaining to the RCRA program into their contracts. GSA also reported that it plans to modify its acquisition manual to include a review of the list of EPA-designated products with contractors in post-award conferences. In addition, GSA's regional offices have begun evaluating the effectiveness of their affirmative procurement programs.

The agencies we examined have generally not developed agency-specific mechanisms for advising grantees of their responsibility to purchase recycled-content products. Instead, they rely on OMB Circular A-102. This circular refers to RCRA and contains a general statement on the requirement for grantees to give preference in their purchases to the EPA-designated products. It does not inform them of the specific requirements they need to follow, such as developing affirmative procurement programs. Three of the four procuring agencies and the two major grant awarding agencies that we reviewed--the departments of Housing and Urban Development and Transportation--rely on either this circular or a similar general statement to inform grantees of the RCRA requirements.¹¹ Only Energy, in its financial assistance regulations, requires its grant-awarding program offices to inform grantees of the RCRA requirement.

According to officials at the Office of the Federal Environmental Executive, grantees could obtain specific information about RCRA requirements if OMB included that information in the "common rule" under Circular A-102. The common rule, directed by a March 1987 presidential memo and adopted in individual agency regulations, provides supplemental information, generally in the form of more

detailed instructions on processes grantees should follow in implementing the circular's requirements. However, it does not mention RCRA's requirements for an affirmative procurement program. Officials at the departments of Transportation and Housing and Urban Development did not know whether their grantees had an affirmative procurement program or whether grantees were aware of the requirements to purchase recycled-content products. Officials said that unless they were specifically directed by OMB, seeking this information could be interpreted as an additional burden on grantees and an unfunded mandate. In April 2000, the Federal Environmental Executive recommended to the President that OMB revise the Circular A-102 common rule to "require recipients of federal assistance monies to comply with the RCRA buy-recycled requirements" (Office of the Federal Environment Executive, 2000). She added that federal agencies administering grant programs should educate state and local government recipients about the requirements.

Agencies' Review and Monitoring of Recycled-Content Purchases Is Limited

RCRA requires federal agencies to review and monitor the effectiveness of their recycled-content programs; however, it does not define what this review and monitoring should consist of. With the exception of Energy, which has established purchasing goals that its contractors must meet, the major procuring agencies limit their required annual review and monitoring functions to compiling data on their purchases of recycled-content products in order to report to the Office of the Federal Environmental Executive and the Office of Federal Procurement Policy. But as the agencies admit, these data are unreliable and incomplete. Consequently, these data do not allow the agencies to assess their progress in purchasing recycled-content products or review the effectiveness of their recycled-content purchase programs. However, Defense procurement officials believe that legislation like RCRA, because of its review and monitoring requirements, is in conflict with the streamlining reforms that are intended to ease the administrative burden associated with government purchases.

An indication of the agencies' lack of monitoring is the scarcity of information on exemptions or waivers. Agencies may waive the RCRA requirement to purchase recycled-content products if the recycled product is too costly, does not meet appropriate performance standards,

or is not available. The number of waivers approved, when compared with purchases of products both with and without recycled content, would tell the agencies how far they are from meeting the goal of purchasing only recycled-content products designated by EPA. In addition, a review of these waivers will allow the agencies to identify the reasons for not purchasing these products and identify potential problems. Although the four major procuring agencies said that they do require this justification, only Energy has analyzed the waivers to determine reasons for not purchasing recycled-content products and how close it is to meeting the goal of purchasing only recycled-content products, where appropriate. Energy has concluded that it is making steady progress in its purchases of recycled-content products. However, as EPA adds new items to the list, Energy officials told us that progress tends to level off until staff become familiar with the new products.

AGENCIES' IMPLEMENTATION OF EXECUTIVE ORDERS TO PURCHASE ENVIRONMENTALLY PREFERABLE AND BIOBASED PRODUCTS PROCEEDS SLOWLY

The procuring agencies reported little progress in purchasing environmentally preferable products, in part because both EPA and USDA have taken longer to issue guidance than provided for by the executive orders. Moreover, while EPA has issued final guidance to help agencies identify environmentally preferable products, it is not required to develop a list of these products. According to the agencies, implementing the EPA guidance for determining what constitutes an environmentally preferable product is difficult and time-consuming. In addition, USDA has not published a list of biobased products for procuring agencies' consideration, as required by the executive order. USDA plans to have a list available by fiscal year 2002, but this effort is only one of a number of projects competing for the same resources. Although the purchase of these products is not required by statute, the agencies we reviewed plan to modify their procurement programs to encourage the purchase of such products after the list is published.

EPA and Agencies Have Had Difficulty Defining and Identifying Environmentally Preferable Products

EPA published final guidance for federal procuring agencies to use in purchasing environmentally preferable products in 1999, 5 years later than directed by the 1993 executive order (64 Federal Regulation, 45810,

1999, August 20). EPA's Office of Pollution Prevention and Toxics, which is charged with issuing the guidance, stated that it delayed issuance until it had results from some agencies' pilot projects. These projects tested concepts and principles for their applicability to actual purchasing decisions. EPA noted that because an environmentally preferable product can have multiple attributes-such as having recycled content, conserving water and/or energy, and/or emitting a low level of volatile organic compounds-defining environmental preferability depends on the product's use. The guidance is not intended to be a step-by-step plan or "how to" guide for agencies' use in deciding to purchase specific products; nor is it intended to provide a list of products. Instead, it is intended to help executive agencies systematically integrate the purchasing of these products into their buying decisions.

Under the process outlined, the agencies are to use the guidance in choosing which products are environmentally preferable and meet their needs. This process involves assessing a product's life-cycle, which may include a comprehensive examination of a product's environmental and economic aspects and potential impacts throughout its lifetime, including raw material transportation, manufacturing, use, and disposal.

EPA has also focused on identifying approaches for purchasing environmentally preferable products by encouraging agencies to participate in pilot projects. In selecting pilot projects, agencies are encouraged to use a list that EPA has developed of the top 20 product and service categories, which represent a large volume of federal procurement or have significant environmental impacts. For example, a U.S. Army installation conducted a pilot on paint products, which are on the list and are known to contain significant quantities of volatile organic compounds. Accordingly, the intent of the pilot was to identify paints that had a lesser adverse environmental impact on air quality, which is a particular concern for this installation.

In addition, EPA has enlisted the assistance of two standard-setting organizations-Underwriters Laboratory and NSF International-to develop environmental standards that may be used in federal purchasing. Underwriters Laboratory is helping to identify consensus-based industry standards for a more environmentally friendly stretch wrap for packing and shipping, while NSF International is working with EPA to develop standards for institutional cleaners and carpeting.

Federal agencies' development and implementation of programs to encourage purchases of environmentally preferable products has not resulted in significant changes to agencies' procurement practices. The procuring agencies in our review participated in pilot projects and, with the exception of Defense,¹² have changed, or are in the process of changing, their affirmative procurement programs to include the executive order requirements regarding environmentally preferable products. However, agency officials said it is difficult to incorporate EPA's guidance into procurement activities. This difficulty occurs in part because implementing the guidance is a time-consuming process that procuring officials are unlikely to undertake because they lack knowledge in this area. In addition, EPA has not provided a clear definition or list of environmentally preferable products. For example, in purchasing environmentally friendly paint, a number of products are available one may be a paint with recycled content, resulting in a reduced environmental impact on the waste stream, while another may have lower volatile organic compounds and thus lessen the adverse impact on air quality. Agencies are not statutorily required to purchase environmentally preferable products and the difficulties associated with this process are a disincentive.

EPA officials acknowledge that there is a scarcity of information about the environmental performance of products and services, particularly regarding the various life-cycle stages of manufacturing, distribution, use and disposal related to a product. They also acknowledge that progress is somewhat slow in getting federal procurement agencies to adopt the "environmentally preferable" process as part of their procurement practices. However, over time and with the dissemination of more information and tools for agencies to use, considering environmentally preferable products in purchasing decisions will become more routine, EPA officials believe. EPA has developed a Web site to provide some of the support and tools that procuring agencies need. The Web site provides information on agencies' pilot projects; environmental standards; product information, such as the results of assessments of life-cycle and case studies; and lessons learned by agencies that have purchased environmentally preferable products and services. EPA has also developed an interactive training module and a guide with examples of specific contract language that purchasing agencies have used.

USDA Has Not Published a Biobased Products List for Procuring Agencies

USDA has not published a list of biobased products for agencies to consider in their purchasing practices, as directed by the 1998 executive order. It has, however, published a notice for comment (in the August 1999 *Federal Register*) on suggested criteria for listing biobased products. Agency officials explained that the delay in publishing the list is due, in part, to the lack of funding for this effort and that the work to develop the list must compete with other projects for the same resources. A list should be available in fiscal year 2002, according to USDA officials.

All four procuring agencies said that they will include the published list of biobased products in their affirmative procurement programs. However, although a list of biobased products will make it easier to identify these products for purchasing, officials at Defense, GSA, and NASA indicated that the list will not necessarily ensure that staff will purchase them. Officials noted that these purchases are not mandatory under the executive order, which only calls for agencies to modify their affirmative procurement programs to give consideration to the biobased products. The officials added that the lack of knowledge and education about biobased products is a major barrier to ensuring that staff will consider and purchase these products. As a result, they have not made any significant changes in their procurement practices. However, Energy, GSA, and NASA have taken steps to amend their regulations to include the updated Federal Acquisition Regulations published in June 2000, which, among other things, encourages the purchasing of biobased products. Also, both GSA and Energy have included information on these products in their training programs to make staff aware of biobased products and the upcoming list.

USDA officials told us that they would like the biobased program to be statutorily based, like the recycled-content program. Agencies would then be mandated to purchase these products. In addition, they believe that the program will be much more effective if there is an assessment of a product's life-cycle and such products are required to meet performance standards set by independent standard setting or testing organizations. The officials believe that the absence of life-cycle and performance information will be a major barrier to the agencies' purchasing biobased products unless they have the information to show the long-term benefits of the items. However, because of resource constraints, USDA is instead

relying on manufacturers to self-certify their products. The officials added that biobased products are considered risky purchases by federal agencies because of the lack of information available on their performance and are generally purchased by agencies only after they hear about the product anecdotally--an inefficient way to bring products to the market.

CONCLUSIONS

Twenty-five years after RCRA was to launch a revolution in federal purchases of recycled-content products, the success of this effort is largely uncertain. For many years, until the 1990s, little action was taken to promote such purchases on a governmentwide or agencywide basis. Even today, many procuring officials and other federal purchasers either do not know about or implement the RCRA requirements for establishing affirmative procurement programs, particularly promotion and review and monitoring.

Although some progress in implementing the RCRA requirements has occurred, such as EPA's accelerating its designation of recycled-content products, procuring agencies report that EPA's designation of these products, by itself, is not sufficient to ensure that they are purchased. The agencies told us that staff often are either not aware of these products or not able to locate them in their area. Furthermore, the agencies have made little effort to ensure that grantees are aware of their obligations to purchase recycled-content products.

Even if recycled-content products were more widely available and promoted more effectively, most agencies--with the exception of Energy--cannot determine the success of their efforts to increase the purchases of such products. They have not developed systems to track their purchases of such products, relying instead on inadequate estimates. Nor have they put programs in place to review and monitor progress. Moreover, most agencies lack data about purchases of recycled-content products by contractors and grantees. These agencies do not have any reliable means of even identifying contracts that call for the use of recycled-content products. In this regard, we support the White House task force recommendation to revise the Federal Procurement Data System to identify such contracts. While this revision will not provide agencies with information on specific purchases, it will enable them to

periodically review and monitor their contractors for compliance with the RCRA requirements.

Demonstrating that an agency is meeting the RCRA requirements can be administratively difficult. The major procuring agencies noted that it is costly and burdensome to update their purchase tracking programs each time EPA designates recycled-content products; each relies on costly and time-consuming manual data collection. Defense, the largest procuring agency, believes efforts to monitor and report on recycled-content product purchases conflict with the streamlining goals of procurement reform. We recognize that review and monitoring of recycled-content products entails administrative costs. Nonetheless, RCRA requires such information.

RECOMMENDATIONS FOR EXECUTIVE ACTION

To help agencies purchase recycled-content products, we recommend that the Federal Environmental Executive and the Administrator of EPA work with officials at the major procuring agencies to develop a process to provide the procuring agencies with current information on the availability of the designated recycled-content products. In addition, these officials should determine how these products can be more effectively promoted. To help agencies implement the RCRA requirement to annually monitor and review the effectiveness of affirmative procurement programs, we recommend that the Director, OMB, instruct the Director of the Office of Federal Procurement Policy to provide procuring agencies with more specific guidance on fulfilling the RCRA review and monitoring requirements and, in conjunction with the Federal Environmental Executive, use the results of the agencies' efforts in their reports to the Congress and the President. If the White House Task Force recommendation revising the Federal Procurement Data System (or its replacement) is implemented, then the Director, OMB, should instruct the Director of the Office of Federal Procurement Policy to provide guidance to the federal procuring agencies on using the information added to the system to periodically review contractors' compliance with the RCRA requirements for purchasing recycled-content products. To ensure that grantees purchase recycled-content products as required by RCRA, the Director of the Office of Federal Financial Management, OMB, in coordination with federal agencies, should amend the common rule so that it incorporates the RCRA

requirements, as recommended in the Federal Environmental Executive's Report to the President entitled Greening the Government.

NOTES

1. Procuring agencies are federal agencies, state and local agencies using appropriated federal funds, and their contractors.
2. The Federal Acquisition Regulations specify rules that agencies must follow in their procurement actions. On June 6, 2000 the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council published a final rule amending the Federal Acquisition Regulations to implement Executive Order 13101, "Greening the Government through Waste Prevention, Recycling, and Federal Acquisition," dated September 14, 1998.
3. The Defense Logistics Agency and GSA maintain central stock inventories and vendor supply lists for use by all federal agencies.
4. The Federal Acquisition Streamlining Act of 1994 authorized federal agencies to enter into multiple award contracts and introduced the micro-purchase threshold for purchase cards up to \$2,500. The Clinger-Cohen Act of 1996 allowed agencies to authorize more employees to make purchases up to \$2,500.
5. This figure includes all Defense procurements-including weapons systems and research and development funds, which are unlikely to include the purchase of recycled-content products. The figure also includes service contracts-which may or may not involve the purchase of these products.
6. Fly ash is the residue that results from the combustion of pulverized coal.
7. The use of federal purchase cards was encouraged in 1993 by the National Performance Review, which identified the purchase card as a major acquisition reform and recommended that all federal agencies increase their use of the card to cut the red tape normally associated with the federal procurement process.
8. This data system, operated by GSA on behalf of the Office of Federal Procurement Policy, has been in operation since 1978. It has undergone numerous changes over the years and is considered by some agency officials to be outdated. A multiagency task force is

currently considering replacing or reengineering this system to take advantage of newer technologies.

9. The three audits include the NASA Inspector General's *Final Report on the Audit of Kennedy Space Center's Recycling Efforts*, IG-98-017, June 12, 1998; the GSA Inspector General's *Review of GSA's Affirmative Procurement Program*, A71503/P/5/R97016, March 28, 1997; and an Air Force Audit Agency's report in its Affirmative Procurement Program, Project Number 99052016, June 1999.
10. The Federal Logistics Information System is a computerized database that serves as a centralized, government-wide repository for information on the more than 7 million items in the federal supply system. In addition to showing the name and national stock number for each item, the system provides vendor information, the item's physical characteristics, and guidance on acquiring, storing, distributing, transporting, using, and disposing of the item. Procurement officials use the system primarily to research which items are most appropriate for them to purchase.
11. Of the two large grant awarding agencies, Housing had about 85 percent (\$28 billion) of its fiscal year 1999 total outlay in grants to state and local governments, and Transportation had about 69 percent (\$29 billion) of its fiscal year 1999 total outlay in grants to state and local governments. Three of the four major procuring agencies have grant programs; GSA does not.
12. Within Defense, only the Air Force and the Defense Logistics Agency have drafted changes to their affirmative procurement programs to include environmentally preferable products.

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