United States General Accounting Office

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Report to the Chairman, Committee on Governmental Affairs, U.S. Senate

March 1994

ENERGY CONSERVATION

Federal Agencies' Funding Sources and Reporting Procedures

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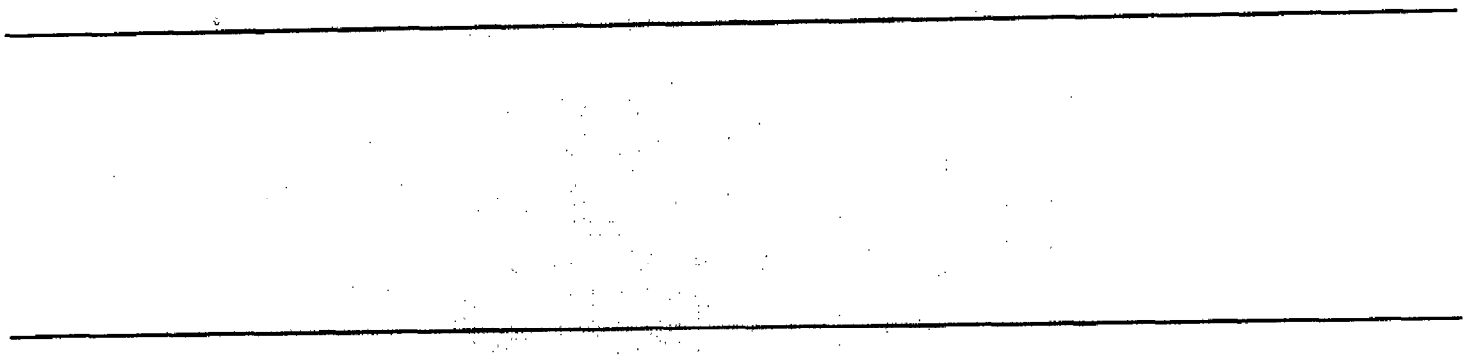

GAO

United States
General Accounting Office
Washington, D.C. 20548

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Resources, Community, and
Economic Development Division

B-255606

March 30, 1994

The Honorable John Glenn
Chairman, Committee on
Governmental Affairs
United States Senate

Dear Mr. Chairman:

The federal government is the largest single energy user in the nation. In fiscal year 1992, approximately 500,000 federal buildings and facilities consumed energy costing over $3.6 billion. The National Energy Conservation Policy Act, as amended, requires that federal agencies achieve a 20-percent reduction in energy use by the year 2000 from 1985 levels.

This report responds to your request that we provide you with the latest information available—through fiscal year 1992—on the energy conservation activities at the six largest energy-consuming agencies. These are the Department of Defense (DOD), Department of Energy (DOE), Department of Transportation (DOT), Department of Veterans Affairs (VA), General Services Administration (GSA), and United States Postal Service (USPS). Specifically, the report identifies (1) energy expenditures, energy conservation-related spending, and energy efficiencies achieved; (2) the funding sources available for energy conservation measures (ECM); and (3) the procedures used for tracking them.

Results in Brief

DOE has already reduced its energy consumption by 20 percent from the 1985 level, and VA and DOT are well on their way to meeting the reduction requirement. Through fiscal year 1992, these agencies achieved energy reductions of 20.6, 11.5, and 9.7 percent, respectively. By comparison, GSA, DOD, and USPS have achieved smaller reductions, ranging from 7.8 to 1.3 percent, and must continue to make progress if they are to meet the act's reduction requirement. Energy conservation-related expenditures totaling about $1 billion have helped reduce the 1992 energy consumption level at the six agencies by approximately 7.0 percent compared to the usage reported in 1985.[1]

[1]This reduction is based on the site energy accounting method, which recognizes only the resources actually used in the building's energy systems. Source energy accounting—the method formerly used to report federal energy use—encompasses the total resource requirement to deliver the energy actually used in the building. Using source accounting, the changes in energy consumption ranged from a 13.6-percent decrease to a 3.6-percent increase.

Federal agencies have numerous funding sources available to support energy conservation measures. Funds are available through general appropriations, such as operations and maintenance or repair and alterations accounts, and through direct appropriations for specific projects. To a lesser extent, funding may also be available to federal agencies through utility rebate programs and contracts with an energy services company.[2] Funding may also be available from the Federal Energy Efficiency Fund, which was authorized by the Energy Policy Act of 1992. However, of the agencies in our review, only DOT is eligible to compete for fiscal year 1994 funds. The Energy Policy Act of 1992 excludes USPS, and the guidance promulgated by DOE excludes the others from competing in fiscal year 1994. Additionally, a portion of the savings resulting from energy conservation measures that have been implemented may be available for agencies' use. Federal energy managers at four of the six agencies believe that current funding sources for energy conservation measures will be sufficient for each of their agencies to meet the 20-percent energy-reduction requirement. GSA said that it is uncertain whether it will meet the reduction requirement with its current funding sources, and USPS said that it is ready to meet the requirement if adequate funding is provided.

Although each agency has a system to track energy conservation expenditures, the amounts reported generally understate the total amount spent on energy conservation. For example, several agencies' information management systems did not capture and report energy conservation-related expenditures that were part of large modernization projects, and one agency does not report energy conservation expenditures under $10,000. Although agency officials were unable to quantify the cost to modify accounting systems to capture these amounts, they believed that such expenditures would not be cost-effective.

Background

DOE's Federal Energy Management Program (FEMP) Office coordinates federal energy efficiency efforts and reports annually to the Congress on federal agencies' energy consumption and conservation activities, including those in federal buildings. FEMP provides direction, guidance, and coordination among federal agencies to reduce energy consumption in federal buildings and operations. FEMP is designed to play a leadership role in guiding DOE and other federal agencies' energy management practices, but it has no responsibility for their programs.

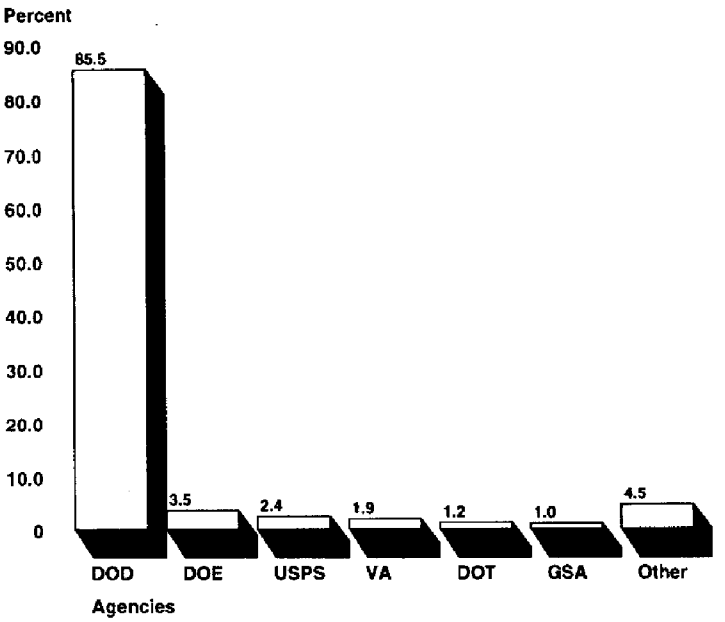
[2]Energy savings performance contracting is a method whereby the contractor incurs the cost of implementing energy savings measures in exchange for a predetermined share of any energy cost savings directly resulting from implementation of such measures during the term of the contract.

Specific energy-reduction requirements for federal buildings and facilities are addressed in (1) the Energy Policy and Conservation Act, as amended; (2) the National Energy Conservation Policy Act, as amended; (3) the Federal Energy Management Improvement Act of 1988, as amended; (4) the Energy Policy Act of 1992; and (5) Executive Order 12759 on Federal Energy Management.

Federal agencies are implementing several strategies to help reduce energy consumption. These strategies include no-cost and low-cost energy conservation measures, such as reducing lighting levels; lowering hot water temperatures; turning off unused equipment; and installing energy-efficient windows, insulation, and weather stripping. Energy-efficient building retrofits and energy conservation projects—such as lighting system replacements, energy management control systems, and modernized heating and air conditioning systems—are also being implemented in federal buildings.

DOD, DOE, DOT, GSA, USPS, and VA accounted for 96 percent of the government's fiscal year 1992 energy use. Figure 1 shows the amount of energy each of these agencies used relative to the rest of the federal government.

Figure 1: Total Energy Use for Fiscal Year 1992



Source: Developed by GAO from FEMP data.

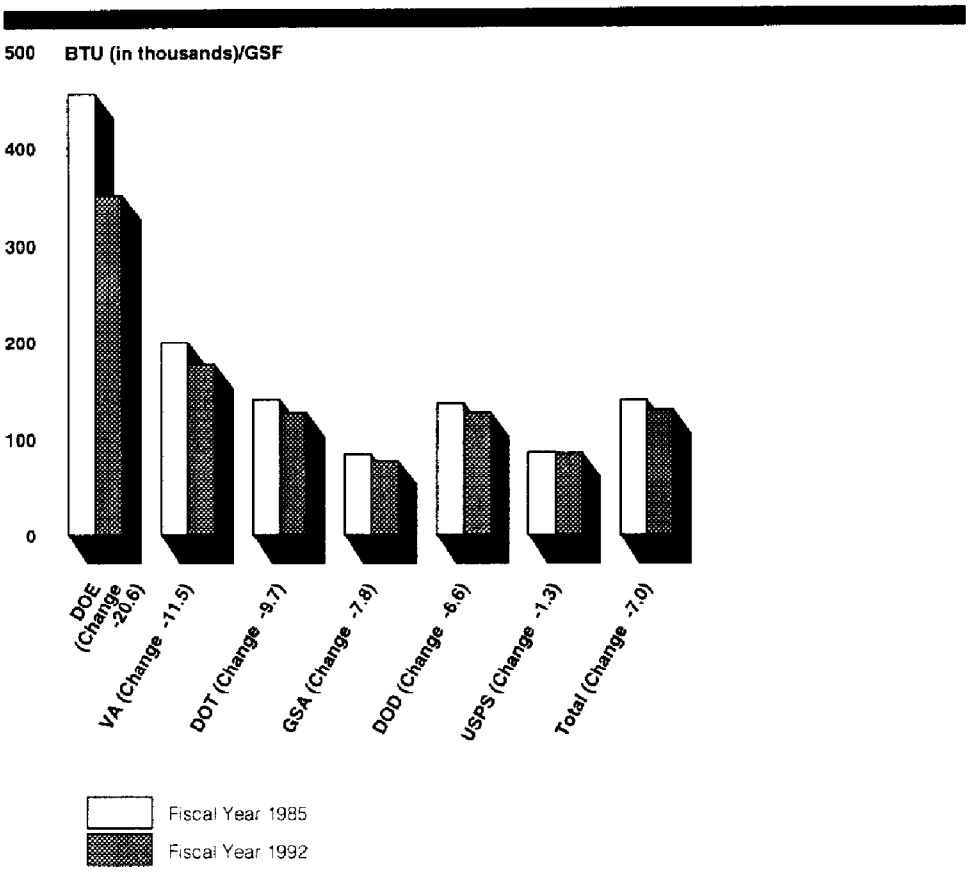
Agencies Are Making Progress Toward the Energy-Reduction Requirement

Information compiled by the FEMP Office indicates that energy conservation activities at the six agencies are beginning to pay off. The six agencies in our review have all made progress toward meeting the 20-percent energy-reduction requirement of the National Energy Conservation Policy Act, as amended, in buildings and facilities. As figure 2 shows, for fiscal year 1992, the six agencies combined have achieved a 7.0-percent reduction—based on British thermal units (Btu) per gross square foot (GSF)[3] —in energy consumption in buildings and facilities relative to fiscal year 1985. Individual agencies' reductions range from a high of 20.6 percent by DOE to a low of 1.3 percent by USPS.[4]

[3]A British thermal unit (Btu) is a standard unit for measuring energy used in operating buildings and facilities.

[4]According to USPS officials, USPS' operations have become increasingly more dependent on the use of highly automated, energy-intensive equipment that enhances the operations in mail processing facilities.

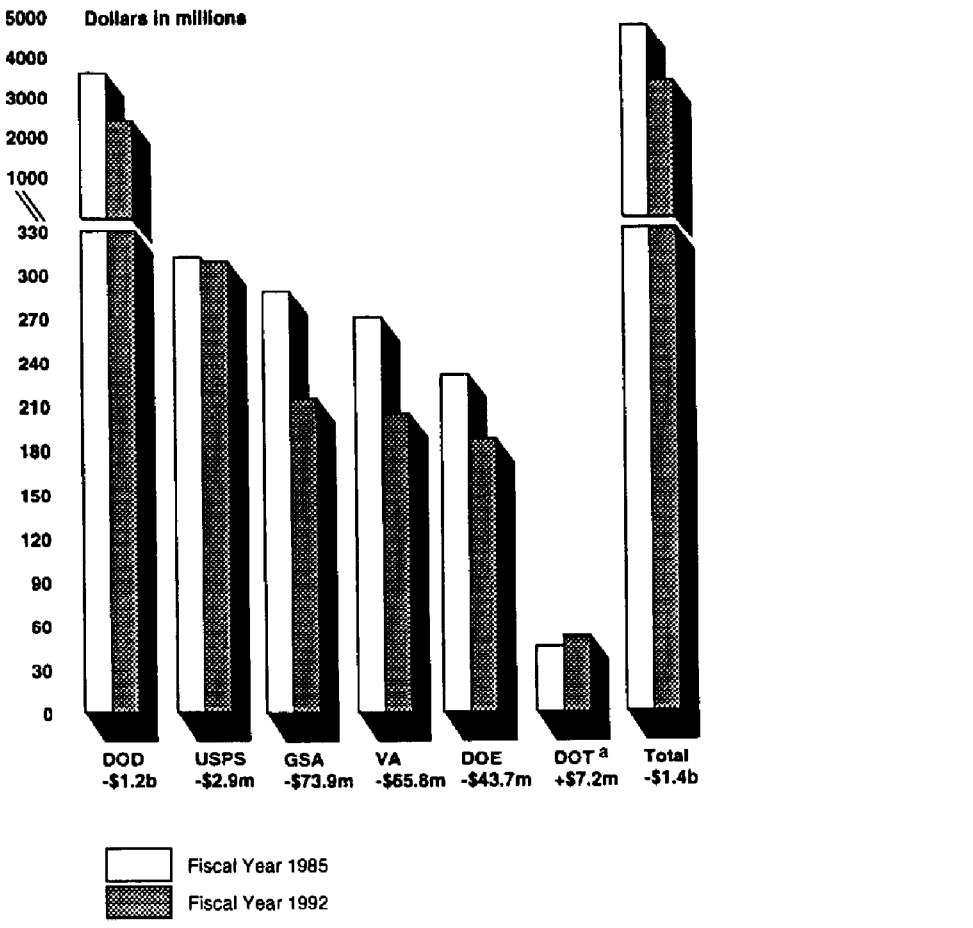
Figure 2: Energy Use per Gross Square Foot for Fiscal Years 1985 and 1992



Source: Developed by GAO from FEMP data.

Furthermore, the amount the six agencies spent collectively on energy decreased in fiscal year 1992 by about $1.4 billion. Individual agencies' consumption data show that DOD (which consumed about 85 percent of the government's energy), DOE, GSA, USPS, and VA are spending less than in fiscal year 1985. Although the FEMP data indicate that DOT is spending more on energy, DOT said that the methodology it used to develop the fiscal year 1985 data may have understated the actual energy cost. DOT has a project under way to review and revise prior-year cost data, as necessary, and provide any revisions to FEMP. (See fig. 3.)

Figure 3: Energy Consumption Cost Data for Fiscal Years 1985 and 1992 for Buildings and Facilities



Note: All numbers are in fiscal year 1992 constant dollars.

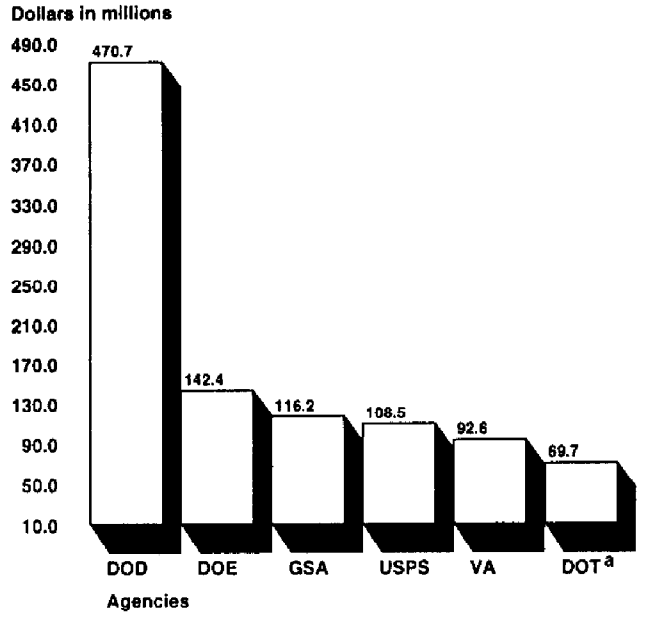
[a]According to DOT, the methodology used to develop the fiscal year 1985 data may have understated the actual energy costs.

Source: Developed by GAO from FEMP data.

The Congress recognizes that direct investments in energy conservation measures will help agencies reduce their energy use, and the National Energy Conservation Policy Act, as amended, requires agencies to specifically set forth and identify funds that they have requested for energy conservation measures. Figures 4 and 5 show that the six agencies spent

approximately $1 billion[5] for energy conservation measures from fiscal years 1985 through 1992.

Figure 4: Agencies' Spending for Energy Conservation Measures for Fiscal Years 1985-92



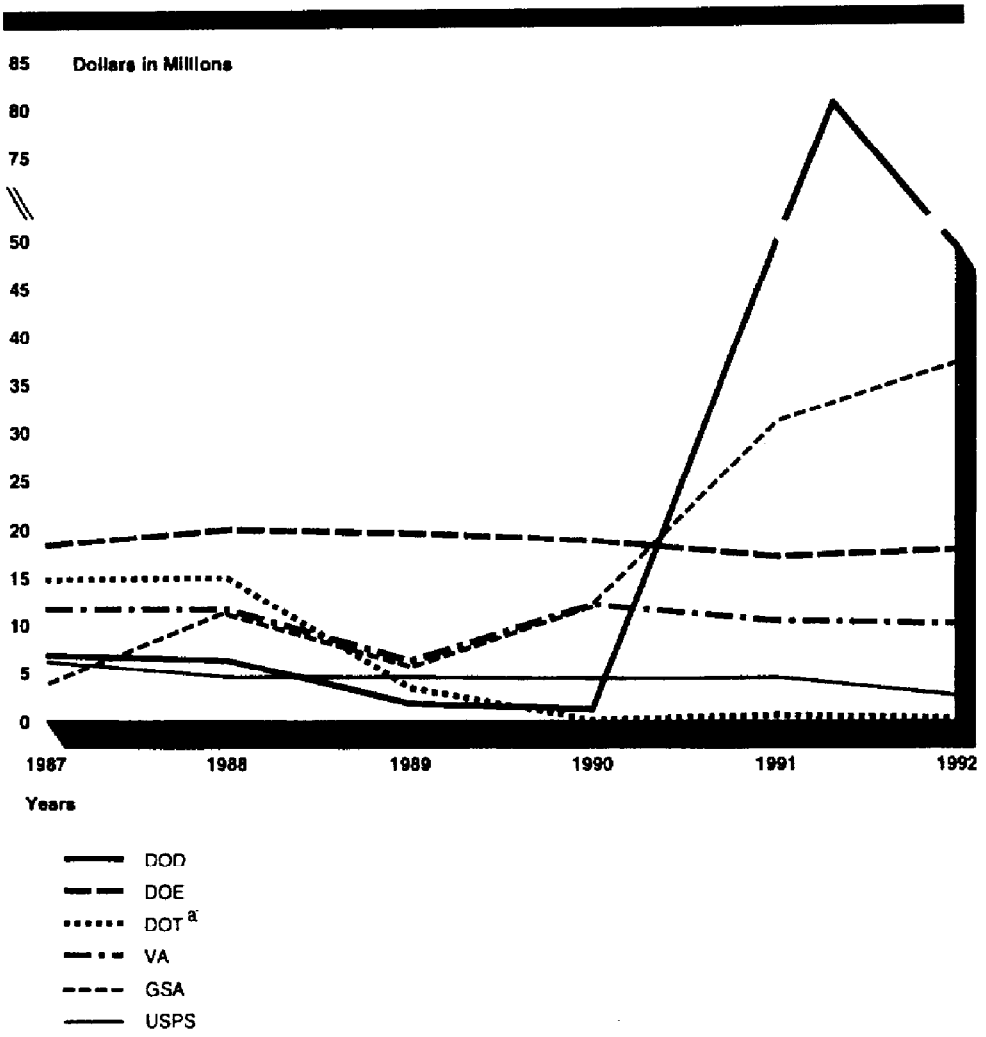
Note: All numbers are in fiscal year 1992 constant dollars.

[a]This amount is understated because of the exclusion of some DOT spending for energy conservation measures beginning in fiscal year 1989.

Source: Developed by GAO from FEMP data.

[5]Beginning in fiscal year 1989, DOT's annual spending for energy conservation measures is understated because, according to DOT, it did not report conservation spending by its Federal Aviation Administration that, according to FEMP, should have been included.

Figure 5: Annual Agency Spending for Energy Conservation Measures for Fiscal Years 1987-92



Note: All numbers are in fiscal year 1992 constant dollars.

[a]This amount is understated because of the exclusion of some DOT spending for energy conservation measures beginning in fiscal year 1989.

Source: Developed by GAO from FEMP data.

Energy conservation-related spending expressed as a percentage of total agency energy expenditures ranges from about 6.5 to under 1.0 percent. As table 1 shows, the average amount each agency spent for the 8-year period ranged from about $50 million by DOD to $7 million by DOT.

Table 1: Energy Conservation-Related Costs as a Percent of Energy Costs, 8-Year Averages for Fiscal Years 1985-92

Dollars in thousands

Agency	8-year average total energy costs	8-year average ECM costs	ECM costs as a percent of total energy costs
DOD	$7,354,999	$49,640	0.7
DOE	$320,802	$15,714	4.8
DOT[a]	$163,808	$7,121	4.3
GSA	$208,571	$13,527	6.5
USPS	$355,121	$10,974	3.1
VA	$202,998	$10,066	5.0

[a]According to DOT, the agency figures may not be accurate due to reporting changes since fiscal year 1985.

Source: Developed by GAO from FEMP data.

While information on direct investments for energy conservation measures provides an indication of agency commitment, it should be recognized that reduced energy use is achieved through many mechanisms—from turning off lights, to adjusting room temperatures, to replacing inefficient heating and cooling systems. Also, increased agency mission activities can significantly affect agency energy consumption—for example, DOD's energy consumption increased during Operation Desert Storm. Energy consumption reductions attributable to direct investments in energy conservation measures and those brought about by no-cost conservation-related activities or other factors cannot be pinpointed. Consequently, a meaningful analysis could not be performed to explain why some agencies achieved a greater efficiency per ECM investment than others.

Energy Policy Act of 1992 Establishes Additional Energy Conservation Requirement

The Energy Policy Act of 1992 amends the National Energy Conservation and Policy Act and establishes an additional energy conservation requirement for federal agencies. This requirement mandates that "each agency shall, to the maximum extent practicable, install in Federal buildings owned by the United States all energy and water conservation measures with payback periods of less than 10 years," by the year 2005, using life-cycle cost methods.[6] To comply with this requirement, agencies are in various stages of developing plans to identify energy and water conservation projects. Agencies are utilizing in-house energy managers,

[6]With life-cycle costing, the total costs of owning, operating, and maintaining a building or a building system over its useful life, including its fuel and energy costs, are determined on the basis of a systematic evaluation and comparison of alternative building systems.

private contractors, and computer software to survey the hundreds of thousands of federal buildings and develop cost estimates for meeting the additional energy conservation requirement. Because of the large number of federal buildings that must be assessed, one agency, for example, reported that the project prioritization process will be completed in 2002.

Various Energy Conservation Funding Sources Are Available to Agencies

As discussed in the previous section, federal agencies have used hundreds of millions of federal dollars to support energy conservation initiatives. These funding sources include general and direct appropriations, demand-side management program participation, energy savings performance contracting, the Federal Energy Efficiency Fund, and retained energy savings.

General and Direct Appropriations

Five of the six federal agencies receive energy conservation measure funding from general appropriations and direct appropriations for specific energy conservation projects from the Congress. USPS, a quasi-governmental organization that receives no appropriated funds for energy conservation measures from the Congress, uses funds generated from postal rates to implement such measures. Agencies generally have the discretion to use general appropriation accounts—which depending on the agency can include operations and maintenance, military construction, or repair and alteration accounts—to fund energy conservation-related projects. For example, in fiscal year 1992, GSA committed $37 million for energy conservation projects from its repair and alteration budget. DOD, in fiscal year 1992, spent $30 million from its Energy Conservation Investment Program and $19.6 million from its operations and maintenance funds for energy conservation activities.

The Congress maintains direct control over some energy conservation-related activities. Two of the six agencies have legislatively mandated dollar thresholds for energy projects. DOD and GSA officials said that they must present project proposals for energy conservation initiatives exceeding $300,000 and $1.65 million,[7] respectively. These agencies must present projects that exceed these amounts as separate line items in their budget requests. In addition, DOE has a self-imposed project amount of $5 million for congressional notification. Information on how the six agencies develop their overall energy conservation-related budgets is contained in appendix II.

[7]GSA also has an $825,000 congressional approval limit for repair and alteration funds for projects in leased properties.

Demand-Side Management Programs

Where available, utility demand-side management programs are designed to improve electricity efficiency by encouraging utility customers to buy and use more efficient technologies. Utilities encourage greater efficiency through such measures as (1) directly installing new, more efficient technologies; (2) rebating or subsidizing the purchase or installation costs of efficient technologies; and (3) providing information to customers about the opportunities and benefits of using electricity more efficiently. The National Energy Conservation Policy Act, as amended by the Energy Policy Act of 1992, encourages federal agencies to participate in energy efficiency programs, such as utility rebate programs, and thus benefit from lower capital equipment costs for implementing energy conservation measures. Similarly, the National Defense Authorization Act for fiscal year 1991 explicitly authorizes defense agencies to participate in utility rebate programs.

Two projects illustrate the benefits available to federal agencies that take advantage of demand-side management programs. In fiscal year 1991, VA initiated a lighting retrofit project and a peak shaving project[8] at its medical center located in Togus, Maine. Because these energy conservation projects significantly reduced the demand placed on the existing capacity, the utility provided rebates of $113,000 and $200,000, respectively, to VA.

USPS has also implemented demand-side management initiatives. In 1992, it successfully completed a no-cost, utility-sponsored lighting retrofit project at its New York City mail facility that should save USPS $827,000 during the first year of operation. In addition, DOT completed two demand-side management projects in fiscal year 1992 at its headquarters building. The two projects resulted in rebates of over $41,000 for the installation of compact fluorescent lights and energy-efficient exit signs. Also of note, GSA has reported receiving rebates in excess of $7 million to date.

Energy Savings Performance Contracting

Four of the agencies we reviewed are using energy savings performance contracts, as shown in table 2. Such contracts (which were called shared energy savings contracts before the Energy Policy Act of 1992) allow agencies to engage energy services companies to install, finance, and maintain efficiency improvements in agency facilities. These contracts can be used especially when federal funding is not available. This type of contract allows the agency and the energy services company to share the

[8]A peak shaving project is designed to reduce the electricity demand at its highest point through various measures. For example, a utility operator using a radio-controlled device may manipulate "peak" demands for electricity used in water heaters or in heating or air conditioning units.

energy cost savings resulting from energy conservation measures. Examples of energy savings performance contracts that are in place are discussed in the next section.

In 1988, USPS implemented the first successful energy savings performance contract awarded by any federal agency. This project involved a complete renovation of the interior lighting of the San Diego General Mail Facility. USPS reported a net savings in excess of $100,000 through fiscal year 1991, and the project has freed up 4,600,000 kilowatt hours of electricity for other users. Another example is DOE's headquarters lighting renovation. This lighting initiative is expected to produce energy savings of over $1 million each for DOE and the energy services contractor, with no capital cost to DOE. In addition, the local utility provided a rebate of over $1 million for the purchase of equipment used in this project.

Table 2: Funding Provided by Energy Savings Performance Contractors, as of September 15, 1993

Agency	Amount provided by contractor	Number of contracts	Agency share of savings[a]
DOD	$14,279,508	7	$23,071,902
DOE	1,700,000	2	1,222,959
DOT	0	0	0
GSA	0	0	0
USPS	974,793	4	738,365[b]
VA	3,940,000	1	880,000
Total	**$20,894,301**	**14**	**$25,913,226**

[a]Savings are for the term of the contracts, which ranges from 5 to 25 years.

[b]USPS provided revised figures to GAO in January 1994.

Source: Developed by GAO from FEMP data.

Federal Energy Efficiency Fund

The Federal Energy Efficiency Fund is a grant program established by the Energy Policy Act of 1992. The Fund provides grants from DOE to federal agencies, except USPS, to assist them in meeting energy management requirements. Grants will be awarded competitively after the proposals are assessed for technical and economic effectiveness. The Fund was not authorized for funding in fiscal year 1993. In fiscal year 1994, appropriations of $6 million were made to support the Fund. DOE, in complying with congressional guidance in Senate and House fiscal year 1994 appropriations reports, is not making funds available to DOD, DOE, GSA,

and VA for fiscal year 1994. Thus, of the agencies we reviewed, only DOT is eligible to compete for fiscal year 1994 funds.

Retained Energy Savings

Another funding source available to federal agencies for energy efficiency improvements is a portion of the energy savings realized by an agency from energy conservation measures that have been implemented. To date, DOD and GSA have procedures in place to allow them to use retained savings, according to agency officials.

Under the National Defense Authorization Act of 1991, DOD retains two-thirds of the energy cost savings resulting from energy conservation, with the remaining one-third returned to the Treasury. Of the two-thirds DOD retains, one-half is to be made available to implement additional energy conservation measures at DOD facilities, and the remainder is for discretionary use to improve or enhance the facility.[9] DOD finalized procedures to implement this provision and field-tested the procedures in July 1993.

For civilian agencies, excluding USPS, the Energy Policy Act of 1992 stipulates that up to 50 percent of the retained energy savings, if permitted by each agency's appropriations act, would remain available to each agency for additional energy efficiency activities. A DOE-led interagency group and the Office of Management and Budget (OMB) are examining how to best implement this authorized funding source in civilian agencies. The remaining 50 percent of the retained energy savings is to be returned to the Treasury. Because USPS is excluded from this provision of the act, USPS officials said that USPS can keep the rebate in full.

Federal energy managers at DOD, DOE, DOT, and VA believe that current funding sources for energy conservation-related initiatives will be sufficient for each of their agencies to meet the 20-percent energy-reduction requirement. GSA said that it is uncertain whether it will meet the reduction requirement with its current funding sources, and USPS said that it is ready to meet the requirement if adequate funding is provided.

[9]For funds to remain available beyond the end of the current fiscal year, the DOD appropriation act for the current year must contain language permitting this action.

Tracking and Reporting Procedures Differ

The National Energy Conservation Policy Act, as amended, requires federal agencies to identify funds that they have requested for energy conservation measures and report to the Congress with complete information on their activities. Each of the six agencies we reviewed reports energy consumption data and energy conservation funding levels and activities to the FEMP Office. However, agencies have discretion as to the level of detail used to track and report funding for energy conservation measures, and agency officials told us that they are not identifying and reporting all funds spent on energy conservation initiatives. Although FEMP issues reporting guidance annually, the guidance is general and contributes to inconsistency in agency reporting. For example, agencies differ in (1) how they account for conservation dollars spent and (2) how and to what degree of detail agency headquarters, regional, and field offices track energy conservation activities.

Accounting for energy conservation funding differs for several reasons. Tracking efficiency expenditures is difficult because agency budgets typically do not contain line items for conservation expenditures. Frequently, agencies incorporate many of these costs in their operations and maintenance accounts. In some cases, agencies may have initially identified funds for energy efficiency improvements but used them for other mission-related or higher-priority activities. Other changes to proposed energy conservation-related spending may include cancellation of an approved energy project because of a change in the estimated costs that resulted in the project's no longer being cost-effective. One agency official told us that he does not adjust proposed budget estimates to reflect such cancellations.

The agencies we reviewed report annually an amount spent on energy conservation measures to the FEMP Office, as required by FEMP reporting guidance. Participating agencies are also required to report energy consumption data quarterly. We found that all agencies had reported energy costs to FEMP quarterly.

Some agencies do not report energy conservation funds that are (1) part of large modernization projects or (2) below a certain dollar amount, for instance $10,000. At each agency, we identified major building and equipment modernization, renovation, or repair projects that contained energy conservation components that were not identified as part of the agency's energy conservation initiatives. For example, under GSA's procedures, the energy conservation portion of a proposed $40 million to $50 million headquarters renovation that includes new energy-efficient

windows, lighting, and heating and cooling systems would not be captured as an expenditure for energy conservation.

Finally, the expenditure amounts reported do not include all funds from which energy efficiency improvements are realized. Agencies generally only report those funds that are (1) easily identified as expenditures for an energy conservation project and (2) above a certain minimum dollar amount. For example, GSA does not include energy conservation-related expenditures for amounts under $10,000 that are part of larger renovation projects in reports to the FEMP Office. Some agency officials said that further efforts to collect data on all energy conservation-related activities would require extensive tracking system modifications that would be expensive and not productive.

Some agency officials said that capturing all energy conservation-related activities would not be useful. One agency official said that in 10 to 15 years set-aside funding for energy conservation may not be needed because all conservation and efficiency work will have been completed. For example, once the existing stock of old, less-efficient buildings is renovated, destroyed, or replaced with new buildings, everything should comply with DOE's architectural and design guidelines for energy efficiency. Furthermore, some agency officials said that as long as they can report that the agency will achieve the energy-reduction goals of the Energy Policy Act of 1992, they feel that current reporting procedures are adequate and that additional data collection efforts would not be useful.

Efforts to Revise Reporting Requirements

The Energy Policy Act of 1992, which was enacted in October 1992, required OMB in cooperation with other agencies to develop cost accounting and management guidance, within 120 days, for all federal agencies to follow. OMB and DOE are still developing these guidelines. No drafts were available for us to review, but agency officials told us that the revised guidance should help alleviate variances in agencies' reporting practices. As of February 23, 1994, OMB estimated that the new guidance would be finalized in April 1994.

Agency Comments

We obtained comments on a draft of this report from DOD, DOE, DOT, GSA, VA, and USPS. OMB did not provide comments. DOD, DOT, and USPS generally agreed with the information presented; however, they provided some clarifying comments that have been incorporated into the report where appropriate. These agency responses are included in this report as

appendixes III, V, and VII, respectively. In lieu of providing written comments, VA chose to provide its general agreement with the report orally. DOE and GSA provided written comments, which we reviewed and address below.

DOE provided some editorial changes, also included in the report where appropriate, and elaborated on some concepts in the draft report that it believed could be misleading. These concepts included several federal energy managers' statements that they could achieve agency energy-reduction goals with the existing funding levels and the likelihood of agency participation in the Federal Energy Efficiency Fund. DOE said that it was unclear in the draft whether the existing funding sources included both federal and nonfederal funds. DOE also said that language in the current appropriations bill precludes some agencies from participating in the Federal Energy Efficiency Fund in fiscal year 1994. Regarding DOE's first concern, the energy managers' responses were addressing achieving energy-reduction requirements on the basis of current funding "sources," not current funding levels. These sources include federal funds and nonfederal funds, such as utility rebates and energy savings performance contracts. We have updated the section on the Federal Energy Efficiency Fund to reflect the agency participation restrictions issued by DOE in January 1994. DOE's response is included as appendix IV.

GSA said that the draft report did not fully reflect its efforts and progress in energy conservation activities. While we did not intend to minimize GSA's energy conservation activities, the scope of our audit was limited to the fiscal years 1985 through 1992 time frame. Executive Order 12759 established 1985 as the base year for measuring energy reductions in buildings and facilities. Notwithstanding a 40-percent reduction in energy consumption since 1973 reported by GSA, our draft report stated that GSA had achieved a "more modest reduction" since fiscal year 1985 than the other agencies in our review. We acknowledge that GSA has achieved a 7.8-percent reduction in energy use as of fiscal year 1992. GSA also wanted highlighted the data in figure 5 showing an upward trend in its investment in energy conservation improvements. We believe that figure 5 adequately illustrates this fact. GSA also commented on its participation in utility rebate programs. While we did not include specific examples for each agency on conservation activities, in response to this comment, we did incorporate the information that GSA has reported receiving more than $7 million in rebates to date. GSA's response is included as appendix VI.

We performed our work between November 1992 and February 1994 in accordance with generally accepted government auditing standards. Appendix I provides more information on our objectives, scope, and methodology.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days after the date of this letter. At that time, we will send copies to appropriate congressional committees; federal agencies; the Director, Office of Management and Budget; and other interested parties. We will also make copies available to others on request.

Please contact me at (202) 512-3841 if you or your staff have any questions. Major contributors to this report are listed in appendix VIII.

Sincerely yours,

Victor S. Rezendes
Director, Energy and Science Issues

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Abbreviations

Btu	British thermal unit
DOD	Department of Defense
DOE	Department of Energy
DOT	Department of Transportation
ECM	energy conservation measure
FEMP	Federal Energy Management Program
GAO	General Accounting Office
GSA	General Services Administration
GSF	gross square foot
O&M	operations and maintenance
OMB	Office of Management and Budget
USPS	United States Postal Service
VA	Department of Veterans Affairs

Objectives, Scope, and Methodology

The Chairman, Senate Committee on Governmental Affairs, requested that we obtain information on the energy conservation activities at the six largest energy-consuming agencies that participate in the Federal Energy Management Program (FEMP). These agencies are the Department of Defense (DOD), Department of Energy (DOE), Department of Transportation (DOT), Department of Veterans Affairs (VA), General Services Administration (GSA), and the United States Postal Service (USPS). As agreed with the Chairman's office, we obtained information on

- energy expenditures, energy conservation-related spending, and energy efficiencies achieved, based on the latest available data—through fiscal year 1992;
- the funding sources available for energy conservation measures (ECM); and
- the procedures used for tracking ECM expenditures.

To determine how each agency plans, budgets, and reports energy conservation and consumption data, we interviewed the energy managers at the six agencies regarding their energy management plans, funding, tracking and accounting systems, reporting procedures, and other energy management functions. From DOE's FEMP Office, we obtained energy conservation and consumption data as reported by each federal agency. We also talked with FEMP officials as well as two contractors that perform data analysis and report preparation activities for FEMP. We reviewed legislation, executive orders, and federal regulations relevant to federal energy management.

In addition, we talked with Office of Management and Budget (OMB) officials to obtain progress reports on OMB's progress in developing legislatively mandated energy reporting guidance.

Federal Agencies' Funding for Energy Conservation Activities

The National Energy Conservation Policy Act, as amended, requires each agency to specifically set forth and identify funds requested for energy conservation measures. Federal agencies have various funding sources and budgeting methods for implementing energy conservation measures. The following information provides an agency-by-agency description of how energy conservation initiatives are carried out.

Department of Defense

The majority of energy conservation projects are funded by operations and maintenance (O&M) funds. Installations are allocated a portion of O&M dollars at the beginning of each fiscal quarter to carry out assigned missions. Installation commanders have authority and flexibility in deciding how these O&M funds are spent. According to DOD, even when O&M funds are specifically designated for energy conservation efforts, commanders can reallocate the funds to other priorities. In addition, in a declining budget environment, the installation commander could easily defer O&M funding for energy retrofit projects in favor of mission essential requirements.

The Military Construction Program is another source of energy conservation funds. The Congress controls this program by line-item approval of each individual project. A portion of the Military Construction Program budget is for the Energy Conservation Investment Program fund. This fund is for energy conservation retrofit construction projects valued at $300,000 or more. According to DOD, competition for program funds is fierce, but a well thought out, high savings-to-investment project has an excellent chance of being funded. Project documentation must clearly show project costs and expected savings.

DOD's Energy 2005 Program allows the services and defense agencies to retain two-thirds of their energy cost savings—one-half of which is to be used for new energy-saving efforts and one-half for discretionary use by the installation's commanding officer. The Energy 2005 Program provides DOD installations an opportunity to fund energy retrofit projects that normally are funded from O&M funds. The funding amount allocated depends on the size of the installation's utility budget and the energy savings actually documented. Using Energy 2005, an energy manager can create a dedicated sole source for funding energy projects. Cost savings are not limited to 1-year money; installations have an additional year to spend their funds, following the year in which the funds were saved.

DOD also uses energy savings performance contracting. This funding source uses private-contractor financing for initial investments in energy projects. A portion of the savings from energy savings performance contracting projects are then available to be reinvested for additional energy conservation projects.

DOD's energy manager said that energy conservation funds can be carried over for up to 5 years.

Department of Energy

DOE officials told us a separate conservation budget is appropriated by the Congress annually for DOE's conservation activities, dating back to 1977, through DOE's In-House Energy Management Program. This budget is dedicated to funding energy conservation projects that meet life-cycle-costing and savings-to-investment ratio requirements. Once the budget is set, project proposals are submitted, evaluated, and ranked. The budget is used to fund as many projects as possible until the funds are expended, based on the priority list. This budget may be used for retrofit projects, energy surveys, and converting vehicles to use alternative fuels.

Energy conservation funds can be carried forward indefinitely, according to DOE's energy manager.

Department of Transportation

DOT funds some energy conservation projects from its O&M budgets within each of its nine operating administrations and its headquarters office. DOT occupies some GSA-leased space, which enables it to apply for project funding from GSA's "set-aside" fund.

DOT is pursuing energy savings performance contracting as a funding source for energy conservation activities. DOT's energy manager said that the Coast Guard is in the process of implementing several energy savings performance efforts and that the Federal Aviation Administration is ready to employ energy savings performance contracting initiatives.

Energy conservation funds may only be used during the year in which they are appropriated, according to DOT's energy branch chief.

Department of Veterans Affairs

The energy conservation activities carried out by VA are funded from a portion of the nonrecurring maintenance budget. The Congress approves

VA's nonrecurring maintenance budget annually, and VA then determines what portion it should dedicate to energy conservation activities.

Once the energy conservation allotment is determined, all of VA's medical centers may submit project proposals to headquarters for evaluation and ranking (using savings-to-investment ratio and life-cycle-costing requirements). Projects are funded from the priority list until the funds are fully obligated.

VA's energy manager said that energy conservation funds may only be used during the year in which they are appropriated.

General Services Administration

GSA allots a portion of the repairs and alterations budget for energy conservation activities. For the past few years, this set-aside has been approximately 12 percent of GSA's utility budget. This set-aside is used to finance energy conservation projects in GSA's 10 regions and its headquarters office. Project proposals are submitted and evaluated using life-cycle-costing requirements and cost-savings criteria. Projects are selected for funding from the priority list, and projects are selected until the funds are fully obligated.

According to one agency official, GSA has not used energy savings performance contracting because it has a designated energy conservation budget. The officials believe that it is not an attractive method to implement ECMs because of the complexity and resource intensiveness involved.

According to GSA's energy manager, energy conservation funds can be carried forward indefinitely.

United States Postal Service

USPS is a quasi-governmental organization that does not receive appropriated funds for energy conservation initiatives from the Congress. USPS uses funds generated from postal rates to implement energy conservation measures. USPS' headquarters energy conservation funds come from a designated allotment managed by Maintenance Policies and Programs. The allotment is provided at the beginning of each fiscal year. Field personnel submit projects identified during surveys conducted by field maintenance personnel. The projects are ranked using criteria such as operational need, safety issues, and economic benefits. Projects are

approved for headquarters funding in the order of their ranking until the designated allotment is committed.

Energy projects may also be implemented using local and area office funds. These projects are identified and budgeted for as part of USPS' repair and alteration program and are accomplished independent of the headquarters review process. Expenditures for these projects may be tracked using the Postal Service energy account number.

According to USPS' energy manager, energy conservation funds may only be used for 1 year.

Comments From the Department of Defense

OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON
WASHINGTON DC 20301-3000

ACQUISITION AND TECHNOLOGY
DUSD(ES/CI)

11 JUL 1994

Mr. J. Dexter Peach
Assistant Comptroller General
Resources, Community, and Economic
Development Division
U.S. General Accounting Office
Washington, DC 20548

Dear Mr. Peach:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "ENERGY CONSERVATION: Federal Agencies' Funding Sources and Reporting Procedures," dated December 22, 1993 (GAO Code 307327/OSD Case 9573).

The DoD has reviewed the draft report and concurs without further comment. The Department appreciates the opportunity to review the report in draft form.

Very truly yours,

Sherri Wasserman Goodman
Deputy Under Secretary of Defense
(Environmental Security)

Environmental Security *Defending Our Future*

Comments From the Department of Energy

Department of Energy
Washington, DC 20585

February 15, 1994

Mr. Victor S. Rezendes
Director, Energy and Science Issues
Resources, Community, and
Economic Development Division
U.S. General Accounting Office
Washington, DC 20548

Dear Mr. Rezendes:

The Department of Energy appreciates the opportunity to review and comment on the General Accounting Office report entitled "Energy Conservation: Federal Agencies' Funding Sources and Reporting Procedures."

While the report does not contain recommendations, we would elaborate on several concepts in the report that could be misleading. These would be in the area of funding levels needed to achieve agency goals. First, the report indicates four of the six agencies felt they would be able to reach their goals with existing funding levels. The two remaining agencies, which need to increase their efforts to reach their goals, did not feel this to be the case. In addition, the potential for greater achievement would be missed if only current funding levels were adhered to, and the savings could be significant. Our concern is the expression, "with the existing levels of funding," used in the report that implies four agencies reportedly stated they could achieve their goals with currently available funding. The report is unclear as to the basis of the agencies' funding expectation: recent years or the Office of Management and Budget's four year projected levels that included a billion dollars in increased investments. The report is also unclear whether those agencies considered their funding adequate because they knew there were additional sources from non-Federal funds such as utility rebates or energy savings performance contracts.

The second issue is, while the Energy Policy Act of 1992 authorizes all agencies to participate in the Federal Energy Efficiency Fund, current appropriations bill language does not permit the Departments of Defense, Energy, Veterans Affairs, and the General Services Administration to participate in this program in fiscal year 1994. A recent interpretation by the Department of Energy's General Counsel would also eliminate the United States Postal Service from participating as well, thus eliminating five of the largest agencies from consideration for possible funding of energy conservation measures.

Finally, the report indicates a lack of concise guidance on reporting of energy conservation measures expenditures. The guidance, which was developed and prepared by the Department of Energy for agencies to follow, has been an evolutionary process

based upon obtaining the best and most reliable information available without adding significant costs in collecting that data. From discussions and negotiations among the agencies, a consensus was reached between reporting organizations and the Department of Energy that accurate data already exists in agency tracking systems. The value added by changing these systems to track energy conservation expenditures within other funding sources would be minimal and is not cost-effective.

Minor editorial changes have been provided to the General Accounting Office under separate cover. The Department hopes that the comments in both letters will be helpful in the preparation of the final report.

Sincerely,

Elizabeth E. Smedley
Acting Chief Financial Officer

Comments From the Department of Transportation

U.S. Department of Transportation

Assistant Secretary for Administration

400 Seventh St. S.W. Washington D.C. 20590

February 1, 1994

Mr. Victor S. Rezendes
Director, Energy and Science Issues
U.S. General Accounting Office
441 G Street, N.W.
Washington, D.C. 20548

Dear Mr. Rezendes:

Enclosed are two copies of the Department of Transportation's comments concerning the U.S. General Accounting Office draft report titled, "Energy Conservation: Federal Agencies' Funding Sources and Reporting Procedures," 307327.

Thank you for the opportunity to review this report. If you have any questions concerning our reply, please contact Martin Gertel on 366-5145.

Sincerely,

for Paul Weiss
Jon H. Seymour

Enclosures

DEPARTMENT OF TRANSPORTATION (DOT) REPLY

TO

GENERAL ACCOUNTING OFFICE (GAO) DRAFT REPORT

ON

ENERGY CONSERVATION:

"Federal Agencies' Funding Sources

and Reporting Procedures"

SUMMARY OF GAO FINDINGS AND RECOMMENDATIONS

The GAO draft report found that the Federal Government is the largest single energy user in the Nation, with DOT accounting for about 1.2 percent of the Federal Government's energy use. The National Energy Conversation Policy Act (NECPA) requires Federal agencies to reduce energy consumption 20 percent from their 1985 levels by 2000. The GAO draft report found that the Department has reduced energy use by 9.7 percent per gross square foot of facility space and is well on the way to meeting the Act's requirement. The GAO draft report does not make any recommendations.

DEPARTMENT OF TRANSPORTATION POSITION

The Department of Transportation fully supports NECPA's goals and has been working assiduously to achieve and if possible, surpass the 20 percent energy use reduction goal established by the law. The Department places a high priority on improving the energy efficiency of its facilities and has initiatives planned and underway to achieve this objective. The Department has already required the installation of an energy management system in its headquarters facilities which will provide significant energy savings. Further energy savings will be achieved as the existing room air conditioning units throughout the main headquarters building are replaced with modern, energy efficient units. In addition, the Department is in the process of completely replacing the lighting systems in the main headquarters building with modern energy efficient equipment that will reduce electrical consumption for lighting in this building by more than 50 percent or $300,000 per year.

The Department is continuing to identify and implement new, cost-effective energy efficiency measures. Any new construction is required to comply with the energy performance standards provided by 10 CFR 435. For existing facilities, the operating administrations within the Department have developed energy management plans which include energy conservation surveys to identify potentially high payback opportunities for implementing energy conservation measures. These energy

conservation measures are further prioritized based on an analysis of their assoc life cycle cost. As cost-effective opportunities are discovered, funds are being specifically identified in the budget process.

The Department has reviewed and generally concurs with the GAO draft report. Technical comments regarding several of the tables and figures in the report are provided in Appendix I.

2

Appendix I

Technical Comments

1. Page 7, Figure 3 - portrays a $7.2 million increase in energy cost for DOT from 1985 to 1992. The methodology used to develop the FY 85 data may have understated the actual energy cost. We have a project underway to review and revise as necessary, prior year energy cost data. We are planning to complete this review and submit any revised data to the Department of Energy before the end of 1994.

2. Page 9, Figure 5 - shows a significant decrease in the Department's spending for energy conservation in fiscal year (FY) 1989. Prior to FY 89, the Department's reporting included an estimated $10 million per year for energy conservation spending at Federal Aviation Administration (FAA) facilities. FAA was exempted from meeting the requirements of the NECPA in FY 89, because its facilities were classified under NECPA as "energy intensive." These facilities, such as navigation aides, radar facilities, and other air traffic control capabilities which are critical to aviation safety, contain equipment which requires significant energy consumption. Once FAA was exempted in FY 89, the Department discontinued reporting FAA's estimated energy conservation spending for NECPA purposes. As a result, the change portrayed in the figure is more a result in revised reporting than a change in spending. This change in reporting procedures needs to be explained in a footnote to the figure. FAA continues to pursue cost-effective energy conservation in its administrative facilities, as part of the Department's overall plan. For example, the Department is exploring the potential for energy savings performance contracts to increase the energy efficiency of some of its facilities. The Department is also preparing to perform energy consumption surveys at a number of its facilities to identify further opportunities to improve energy efficiency.

3. Page 10, Table 1 - identifies the Department's 8-year average total energy cost as $45,303,000. This number does not include the cost for FAA's energy intensive facilities; however, energy conservation expenditures for these facilities were included in the 8-year average energy conservation measures (ECM) column. In light of this, a more accurate estimate of the Department's 8-year average annual ECM cost for non-energy intensive buildings would be $1,870,000 with ECM costs would representing 4.1 percent of total energy cost for the Department.

4. Page 14, paragraph 2 - identifies several demand management projects that the Department has completed. Along with the projects already identified, the paragraph could also indicate that the Department has initiated a relighting project at our main headquarters building which is expected to generate a rebate of over $600,000 from the local utility, and save over $300,000 per year.

I-1

Comments From the General Services Administration

Administrator
General Services Administration
Washington, DC 20405

February 1, 1994

The Honorable Charles A. Bowsher
Comptroller General
of the United States
General Accounting Office
Washington, DC 20548

Dear Mr. Bowsher:

I have reviewed the draft report, "Energy Conservation: Federal Agencies' Funding Sources and Reporting Procedures," recently issued by your office for comment. I am concerned that this report severely minimizes the General Services Administration's (GSA's) energy conservation efforts to meet Federal energy conservation goals. GSA has long been a leader in Federal energy management and since the passage of the Federal Energy Management Improvement Act of 1988 (FEMIA), GSA has redoubled its efforts to improve efficiency.

GSA does not concur with the general conclusion of the report that GSA has made only modest progress in energy conservation. In fact, GSA has made outstanding progress since the passage of the FEMIA. The following facts support our position that GSA has made significant progress:

GSA has reduced energy consumption more than 40 percent since 1973. GSA has further reduced energy consumption eight percent from the 1985 base year. Thus, the agency has exceeded its planned goal to have reduced energy consumption by seven percent at the end of fiscal year 1994.

GSA uses less energy per square foot than any other major property management agency according to the Department of Energy's (DOE's) 1992 report, which is the last available report at the time of this review. Current energy usage in GSA facilities is more than 40 percent below the Federal average attesting to GSA's long-term commitment to conservation.

Furthermore, in several instances, GSA achievements are not included in the report even though they are superior in nature when compared to the cited examples.

In figure 5, GSA is the only agency that is experiencing a sustained upward trend in investing in energy conservation improvements in Federal buildings for fiscal years 1987 through 1992. This fact is not mentioned in the body of the report.

The report acknowledges that not all conservation funding can be captured because it is integrated into other building projects. This is a major part of GSA's program for which this report gives little mention. The most cost-effective way for the Federal Government to improve conservation is through its integration into the repair and alteration of Federal buildings. GSA has been successful in this regard.

GSA provided the requested information about rebates to the review team, but none were incorporated into this report despite the fact that our successes in this regard were superior to those cited for other agencies. GSA has received more than $7 million in rebates to date which will be used to enhance our already aggressive conservation efforts.

In addition, the report does not recognize GSA's leadership in energy conservation. For example, GSA developed the guidelines for the acquisition of energy efficient computers and facilitated the regulation requiring agencies to purchase them. GSA worked with the Defense Logistics Agency to publish an Energy Efficient Light catalog. The agency is working with DOE to develop more extensive training for energy managers and conducts conference workshops for Federal, State and local governments. In these ways, GSA helps all of Government to achieve energy savings.

Another indicator of GSA's successful energy program is the recognition the agency receives. Over the last four years, GSA has received 32 awards from DOE's Federal Awards Program; these amount to approximately 23 percent of the total awards given to all agencies. GSA energy conservation projects have also been recognized in award competitions conducted by "Energy Users News" and the National Lighting Bureau.

GSA is committed to funding energy conservation investments at an aggressive level. Our Federal Buildings Fund generates sufficient resources for this purpose and we intend to continue to submit budget requests that will allow us to reach the FEMIA goals. However, we must note that in fiscal year 1994, GSA requested $37 million to complete energy projects, but was appropriated only $7 million. Although GSA elected to redirect other critical repair and alteration funds to accomplish fiscal year 1994 energy projects, this is not a satisfactory long-term solution. The Congress must do its part in earmarking funds for energy investment or the program could be in jeapardy.

We are confident that your report will be revised accurately to depict GSA's successes in energy conservation, and will highlight how critical consistent funding is to the continued progress of Federal energy conservation, not only for GSA, but for all agencies.

We appreciate the time and effort you and your staff have expended in developing this draft report, and we look forward to working with you to continue to improve the operations and management of GSA.

Sincerely,

Roger W. Johnson
Administrator

Comments From the United States Postal Service

MARVIN RUNYON
POSTMASTER GENERAL, CEO

UNITED STATES
POSTAL SERVICE

February 1, 1994

Mr. Victor S. Rezendes
Director, Energy and Science Issues
United States General Accounting Office
Washington, DC 20548-0001

Dear Mr. Rezendes:

Thank you for providing us an opportunity to comment on the draft report entitled, ENERGY CONSERVATION: Federal Agencies' Funding Sources and Reporting Procedures. The report is well researched and should be useful in evaluating agencies' progress in meeting the goals of The National Energy Conservation Policy Act.

We would like to make several observations concerning the Postal Service's energy conservation program.

Measured on a Btu per gross square foot basis, the overall energy efficiency of Postal Service facilities compares favorably with the efficiency of the buildings and facilities of the other agencies that GAO surveyed. As Figure 2 shows, the Postal Service's energy use in 1992 was the second lowest and only slightly higher than GSA's usage per gross square foot. This in itself is a notable accomplishment. It is even more remarkable when one considers that a substantial and increasing number of our facilities house highly automated - and energy intensive - mail processing equipment. While we strive to reduce our buildings' energy consumption by every cost-effective means, the energy requirements of our mail processing equipment cannot be readily reduced without adversely impacting our mission.

We are in the process of developing systems that will allow us to differentiate between the total energy consumption of facilities and that of the mail processing equipment in those facilities in order to determine where best to target our energy conservation efforts.

To that end, we have developed an implementation plan to achieve the 20 percent reduction in energy use by the year 2000 as mandated by The National Energy Conservation Policy Act. The plan has eight major components: Goals and Monitoring, Management and Employee Awareness, Energy Surveys, Energy Retrofits, Financial Planning, Purchasing, New Facility Design, and Operation and Maintenance.

The funding for our energy conservation program will be through a variety of sources and strategies, such as general operating funds, utility company rebate programs, utility company demand-side management programs and energy savings performance contracts.

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We will continue our efforts to implement and adapt the shared energy savings concept throughout the Postal Service. The four projects which have used this approach have been successful and we will modify it for wider application to demand-side management programs.

In summary, the Postal Service is ready to meet the Act's goal of a 20 percent reduction in energy consumption by the year 2000.

We appreciate the opportunity to review and comment on the report. If you wish to discuss any of my comments, my staff is available at your convenience.

Best regards,

Major Contributors to This Report

Resources, Community, and Economic Development Division, Washington, D.C.	Jim Wells, Associate Director Michael T. Blair, Assistant Director Charles B. Hessler, Assignment Manager Nancy Bowser, Evaluator-in-Charge
Office of the General Counsel	Jackie A. Goff, Senior Attorney

Related GAO Products

Energy and Science Reports and Testimony: 1992 (Apr. 1993).

Energy Conservation: Efforts Promoting More Efficient Electricity Use (GAO/T-RCED-92-74, June 23, 1992).

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General Services Administration: A Status report on Energy Conservation Efforts (GAO/GGD-92-22, Jan. 13, 1992).

Electricity Supply: Utility Demand-side Management Programs Can Reduce Electricity Use (GAO/RCED-92-13, Oct. 31, 1991).

Energy Conservation: Federal Shared Energy Savings Contracting (GAO/RCED-89-99, Apr. 17, 1989).

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