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*REPORT OF THE  
COMPTROLLER GENERAL  
OF THE UNITED STATES*



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Progress And Problems  
Of The Government's  
Utility Conservation Program

General Services Administration  
Department of Defense

GSA and DOD are improving the design and construction of buildings to conserve utilities, but further improvements are needed in reviewing rates and charges, monitoring utility use, maintaining adequate records, and recruiting and training qualified personnel.

LCD-76-311

DEC. 30, 1975

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COMPTROLLER GENERAL OF THE UNITED STATES  
WASHINGTON, D.C. 20548

B-178205

The Honorable William S. Moorhead  
Chairman, Subcommittee on Conservation,  
Energy, and Natural Resources  
Committee on Government Operations  
House of Representatives

Dear Mr. Chairman:

Your October 18, 1974, letter requested that we reexamine the Government's utility conservation program. We were to determine whether it was being effectively implemented and to cover agencies' efforts to (1) improve the design and construction of buildings, (2) improve utility contract administration, and (3) develop more expertise in utility matters. We answered the other parts of your October 18 request in our report to you on November 14, 1974.

c2 This report, based mainly on reexamining sites and conditions reported on in September 1974, contains recommendations to the Administrator, General Services, and the Secretary of Defense. As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the House and Senate Committees on Government Operations not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report. When you agree to release the report, we will make it available to the Administrator, General Services; the Secretary of Defense; and the four committees to set in motion the requirements of section 236.

As requested, we did not obtain written agency comments, but we discussed our findings with agency officials.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Thomas G. Atkins".

Comptroller General  
of the United States

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ABBREVIATIONS

|     |                                 |
|-----|---------------------------------|
| DOD | Department of Defense           |
| GAO | General Accounting Office       |
| GSA | General Services Administration |

COMPTROLLER GENERAL'S  
REPORT TO THE SUBCOMMITTEE  
ON CONSERVATION,  
ENERGY, AND NATURAL RESOURCES  
HOUSE COMMITTEE ON GOVERNMENT  
OPERATIONS

PROGRESS AND PROBLEMS OF  
THE GOVERNMENT'S UTILITY  
CONSERVATION PROGRAM  
General Services Administration  
Department of Defense

D I G E S T

1 Although the General Services Administration  
2 and the Department of Defense have made prog-  
3 ress in improving conservation of utilities  
4 since GAO observed and reported on conditions  
5 in 1974, problems remain. To correct these  
6 and achieve further improvements, GAO recom-  
7 mends that the Administrator, General Serv-  
8 ices, and the Secretary of Defense:

--Expand their reviews of utility rates and  
charges by making greater use of computer  
capabilities. (See pp. 4 to 5.)

--Insure that installation officials enforce  
prescribed Federal lighting and heating  
standards. (See pp. 9 to 14.)

--Provide the training and personnel required  
to effectively manage utilities. (See pp. 15  
to 17.)

The Administrator, General Services, should  
have regional administrators make sure that  
staffs maintain satisfactory utility records.  
(See p. 14.)

General Services and Defense have made progress  
in conserving energy by improving the design  
and construction of new facilities. (See pp. 1  
to 3.)

Lacking rate expertise and consistent review  
of rates and charges at the installation level,  
the Government needs to make greater use of  
computer assistance in determining whether  
installations are billed at the most favor-  
able rate. (See pp. 4 to 9.)

Although General Services and Defense have  
initiated conservation programs for monitoring

utility use and modifying energy intensive installations and have reported large reductions in energy use, more stringent enforcement of federally prescribed lighting and heating standards is needed. (See pp. 9 to 14.)

Although the Defense installations visited were maintaining records needed for administering utility contracts, neither of the two GSA regions reexamined had complete or current utility files, especially on rate schedules. (See p. 14.)

A shortage of personnel skilled in procuring and managing utilities still exists at most of the locations reexamined. (See pp. 15 to 17.)

General Services and Defense have improved efforts to disseminate energy conservation information. (See pp. 17 to 19.)

## CHAPTER 1

### EFFORTS TO IMPROVE DESIGN AND CONSTRUCTION

#### OF BUILDINGS

The General Services Administration (GSA) and the Department of Defense (DOD), in managing about 81 percent of floor space in federally owned buildings, have taken certain steps to improve design and construction which should conserve energy use in Federal buildings. These progressive efforts are described below.

#### GSA EFFORTS

In March 1974 GSA issued "Energy Conservation Design Guidelines for Office Buildings," which included 185 ideas for conserving energy in building design, construction, and use. (GSA revised the guidelines in July 1975.) These guidelines sought to reduce energy consumption by 50 percent in new Government buildings.

In region 9, GSA has applied the guidelines to the following projects.

- Nonuniform lighting standards were adopted for the Lukeville, Arizona, Border Station. The proposed use of solar energy to heat and cool the building was dropped because of limited construction funds.
- The light-switching system in the Richmond, California, Social Security Administration building was revised from use of a master panel control to use of individual light switches.
- The reflective ceiling planned for the new Federal Building and Courthouse in San Diego, California, was redesigned to eliminate 50 percent of the light fixtures and reduce the overall load on the heating, ventilating, and air-conditioning system.
- Automated controls that monitor energy use are designed into buildings being constructed at a youth center in Pleasanton, California; the Richmond Social Security Administration building; and the San Diego Federal Building and Courthouse.

#### Topeka Federal Office Building

Another example of applying GSA's guidelines is the September 1974 architect-engineer contract for design of

the GSA region 6 Federal Office Building in Topeka, Kansas, which is planned to have (1) its purchased electricity generated almost entirely from coal instead of scarcer heating fuels, (2) an insulated masonry sandwich with an energy-conserving, low-heat transmission factor, (3) a glass area limited to about 17 percent, which was designed to enable heat gain in winter and avoid it in summer, and (4) complete automatic temperature and systems controls.

A computer analysis projected the building's energy requirements at about 26,000 British thermal units (Btu's) a square foot a year compared with the 55,000 Btu's goal in the GSA guidelines.

### Life-cycle costing

The revised GSA guidelines explain life-cycle costing, what it should include, and basic factors that must be considered in its application.

Heating for the Topeka Federal Office Building was selected from energy sources on the basis of a 20-year owning and operating cost comparison. The architect-engineer contract for this building states, for all systems, calculations shall reflect economic considerations.

### DOD EFFORTS

DOD strengthened and updated its energy conservation requirements in the October 1, 1972, revision of its Construction Criteria Manual. The manual now requires that designers of all new facilities costing over \$300,000 consider all forms and methods of energy conservation.

The Army based the concept design analysis for two construction projects at Fort Riley, Kansas, on DOD's revised construction criteria. As an example, engineering instructions for the Finance and Personnel Services Building at Fort Riley state that each heating, ventilating, and air-conditioning system will be studied and the least energy intensive system will be selected. Energy recovery systems will be considered and incorporated into the design when effective.

The cost estimates for eight out of nine Western Division, Naval Facilities Engineering Command, San Bruno, California, projects contained energy conservation statements. For the project omitting an energy conservation statement, Western Division engineers said that, although

they were in error for not having the statement, the project was primarily a modification to an existing structure and not particularly suited for energy conservation features.

The Air Force changed the insulation requirements for two construction projects at Richards-Gebaur Air Force Base, Missouri, to conform to energy conservation criteria that it issued in January 1974.

#### Life-cycle costing

In commenting on our September 1974 report, DOD said that life-cycle costing considerations for buildings should include realistically projected energy costs for future years.

Although final design guidelines for the enlisted men's barracks complex at Fort Riley were not completed at the time of our field work, life-cycle costs affecting energy consumption were developed for the project where applicable. The program cost estimates for construction projects reviewed at the Naval Facilities Engineering Command, Western Division contained life-cycle cost analysis of energy conservation features.

U.S. Army Corps of Engineers, Sacramento District, California, procedures generally met the energy conservation requirements of the DOD Construction Criteria Manual. One exception was that the required life-cycle cost study was not made for some projects and was not fully documented for others. Sacramento District officials said that the study was not made for every project because it cost from \$10,000 to \$18,000 and required at least 60 days to complete.

#### CONCLUSIONS

GSA and DOD, the agencies responsible for most Government building construction, have made considerable progress in working up and applying plans and programs for conserving energy in the design and construction of new facilities.

## CHAPTER 2

### EFFORTS TO IMPROVE UTILITY CONTRACT ADMINISTRATION

#### REVIEWING RATES AND CHARGES

As stated in our September 1974 report, most utility companies have several rate schedules available but consider it the customer's responsibility to select the lowest applicable rate for his particular conditions. Therefore, it is important that the most advantageous rate be selected initially and that conditions and rate schedules be reviewed continually to insure service at the lowest applicable rate.

#### General Services Administration

GSA said its Federal Supply Service negotiates area-wide contracts which require utility companies to offer the best available scheduled rate to the Government. Further, GSA requires each building manager to review billing factors with utility company specialists annually and to change contract rates when beneficial to the Government.

#### Rate review and negotiation

The Public Utilities Management Division of the Office of Motor Equipment Transportation and Public Utilities, Federal Supply Service, has 12 employees to carry out its responsibilities of representing the Government in rate cases, conducting areawide contract negotiations, assisting Federal agencies in negotiating utility contracts, and performing other special tasks such as rate reviews.

The table below summarizes the activities of the Public Utilities Management Division in fiscal year 1975 for which the Division claimed over \$7.5 million in utility cost avoidances.

|                                       | <u>Completed-</u><br><u>closed</u> | <u>In progress</u> |
|---------------------------------------|------------------------------------|--------------------|
| Rate cases                            | 86                                 | 28                 |
| Areawide contract negotiations        | 8                                  | 20                 |
| Assistance to Federal agencies        | 82                                 | 46                 |
| Special items (includes rate reviews) | 12                                 | 13                 |

### Field office efforts to review rates and charges

GSA regulations require building managers to review utility rate schedules at least annually and also when changes in the rate schedules or load conditions occur. Our recent field office visits in region 9 showed that, with few exceptions, rate schedule reviews were not being made on a regular basis. At one field office no requests were made for rate analysis in calendar year 1974, and at another only one was requested.

The GSA regions we reviewed were not expert in utility matters. For example, at the GSA-Defense Materials Service storage depot in Topeka, Kansas, the power company advised the building manager that GSA could realize considerable savings by changing to a different electric rate schedule. The field staff, lacking expertise, requested assistance from the Public Utilities Management Division.

GSA building managers are also responsible for insuring that utility bills are accurate before payment. The staffs of four field offices we visited in region 9 were not verifying utility bills. The field staffs only checked to see that the starting meter readings for the current bill agreed with the ending readings from the previous bill. A region 6 official stated that GSA did not accompany utility meter readers to verify readings or periodically determine whether the utility company calibrated the meters.

The advantage of field office staff having knowledge of rates and charges was exemplified by a building manager who, according to a GSA regional official, initiated a change from a large-volume service rate schedule for natural gas to an optional general service rate. This change could save the Government an estimated \$20,000 a year.

### Department of Defense

DOD said that it was implementing a new computer program for monitoring utility rates and charges and that utility engineers at their headquarters could provide advice on utility rates and were required to review all utility contracts over \$50,000 for technical sufficiency and rate acceptability.

### Use of computers

Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia, uses two computer systems to monitor utility contracts--the rate analysis system which compares the

contractor's applicable rates with installation usage and identifies the most favorable rate and the utilities procurement and reporting system which summarizes utility cost and use data.

Since May 1974 Atlantic Division has used the rate analysis system five times in rate negotiations with utility companies. Use of the system brought about a rate change for one contract that saved over \$8,000 in fiscal year 1974.

The Atlantic Division has used the utilities procurement and reporting system since September 1973 to summarize utility cost and use data for all utility contracts over \$10,000. The system permitted three clerical workers, who previously spent nearly all their time summarizing monthly utility cost and use data, to be released to other work.

Although the utilities procurement and reporting system is now in use by all six divisions of the Naval Facilities Engineering Command, the rate analysis system is used by the Atlantic Division only. Atlantic Division officials said savings would result if the rate analysis system was used for other divisions. The cost of including other divisions in the system was estimated at \$35,000 which would be amortized by the savings in 1 year. A headquarters official said the system had not been expanded because it was still being perfected.

Personnel at Fort Riley; Red River Army Depot, Texas; Kelly Air Force Base, Texas; and Richards-Gebaur Air Force Base said they did not use computer systems to monitor utility rates and charges.

Technical assistance provided  
by higher echelons

Utility contracts are generally reviewed at a command level for technical sufficiency and rate acceptability.

For example, Naval Facilities Engineering Command assisted its Atlantic Division in major rate negotiations. One negotiation resulted in retaining a special rate for DOD installations instead of placing them on a costlier commercial rate and saved the Government about \$9.3 million over the life of the contract. An additional \$2.8 million was saved when the agreement was extended to other Government agencies which were paying the commercial rate under protest.

Installation efforts to review  
rates and charges

Efforts to review rates and charges were not consistent among the installations we examined. This is illustrated by the following cases.

Red River Army Depot purchased natural gas under both an industrial rate and a domestic-commercial rate. When the industrial rate contract expired in December 1974, negotiations resulted in eliminating the domestic-commercial rate and applying the industrial rate which was the lowest available from the supplier.

Western Division of Naval Facilities Engineering Command is not making the annual determination required by the contract administration manual to show that the Government is being billed at the rate most favorable to any customer under like conditions of service. Instead, for contracts over \$10,000 a year, form letters are sent to utility companies asking them to state whether the Government is being billed at the most favorable rate. Western Division has no system to insure that any responses received are accurate and followed up.

In one case a utility company replied that an installation was receiving electricity under the most favorable rate. In the interval between Western Division's request and the utility company's reply, Western Division had negotiated a lower rate under another schedule due to reduced consumption.

In another case a utility company advised Western Division that two gas contracts could be changed to a more favorable rate schedule if a recent pattern of reduced consumption continued. Western Division estimated the cost savings to the Government to be less than \$100 a year and noted that continued reduced consumption was uncertain. Accordingly, Western Division recommended that no action be taken.

In both cases we were unable to identify procedures to monitor these accounts for further action.

Starting in January 1971, Western Division delegated to installations within its area of responsibility the authority to make technical reviews and certify invoices for utility services. At two installations we found that utility bills were verified on a test basis only and installation staffs were not analyzing usage variances. Western Division had issued no guidelines on this matter.

Richards-Gebaur Air Force Base personnel regularly compare utility use and charges from one period to another. They noted that water bills reflected substantial increases at a time consumption should have been down. A meeting with Kansas City, Missouri, Water Department officials revealed problems with a new computerized billing system. The city agreed to send a corrected bill.

The Air Force Audit Agency stated in an April 14, 1975, report on "Utilities Cost, Conservation, and Reimbursement" that at two bases invoices were not reviewed to determine whether charges were in accordance with the contract rates, terms, and specifications. One base was charged more than the contract price. A new rate schedule, initiated by the company without notifying the base, was not recognized by base personnel because they were not using a rate schedule to verify the accuracy of the billing.

### Consultants

In our last report we recommended agencies consider using utility rate consultants to monitor rates and charges until inhouse expertise was developed. GSA said that, to the extent personnel ceilings allow, it would recruit utility specialists. DOD said that using consultants until inhouse expertise had been developed was a proper management procedure.

An illustration of the benefit of using rate consultants was GSA's intervention in behalf of the Government in two electric rate cases before the Florida Public Services Commission in 1975. Although GSA provided legal counsel, it was unable to provide the necessary technical support to prepare for the hearings. GSA had the Air Force hire a public utility consultant to provide technical assistance. As a result of hearings, the Government avoided utility costs of about \$600,000 because the approved rate was less than that requested.

### Conclusion and recommendation

We believe that the absence of rate expertise and of regular reviews of rates and charges at the installation level shows the need for assistance in obtaining the rate most favorable to the Government. This is illustrated by the savings obtained through computer assistance in determining whether an installation has the most favorable rate.

We recommend that the Administrator, General Services, and the Secretary of Defense expand their reviews of utility rates and charges by making greater use of computer capabilities.

#### MONITORING UTILITY USE

We concluded in our September 1974 report that many activities had no utility conservation plans and needed detailed energy and economic studies to determine what could be done to conserve fuel energy for each installation. Such studies would provide a basis for formulating a conservation plan containing standards for monitoring usage.

#### General Services Administration

In reply to these conclusions, GSA said that its conservation plans were in reality operating practices that vary for each building, temperature change, time of day, and other factors and did not always lend themselves to formal presentation that could be reviewed at regional or central office levels.

#### Utility conservation plans

Standards and guidance for the operation of buildings and for conserving utilities are set forth in Federal Management Circular 74-1, as supplemented, and in "Energy Conservation Guidelines for Existing Office Buildings."

At GSA field offices in one region, formal conservation plans for buildings had not been established. However, standard operating procedures were established for individual buildings. Procedures reviewed did not tell how to estimate the quantities of utilities needed to operate the building or how to estimate the cost of the utilities under the most economical operating conditions. The operating procedures for one building specified only the times of the day when the heating and ventilating system was to be turned on and off. Regional officials told us that they lacked the manpower to devise more specific energy conservation plans and that no deficiencies were noted in the operating procedures the field offices submitted for review.

In another GSA region, utility conservation is provided for in the Building Management Division's management-by-objective plan. This plan requires that building managers continue to find ways to cut electrical consumption and, if consumption increases, to determine the cause and take prompt corrective action. The plan, although not based on detailed engineering studies, was established to help managers to

systematically state their objectives, to plan how to meet them, and to measure their progress in meeting the objectives.

#### Utility conservation efforts

GSA reported to the Federal Energy Administration that energy consumed by buildings and facilities in fiscal year 1974 was 22 percent below the fiscal year 1973 level. GSA estimated that consumption for fiscal year 1975 was about 27 percent below the fiscal year 1973 level.

In the past the two GSA regions have reported decreased energy consumption. The following are some of the energy conservation measures used to reduce consumption

- removing lamps;
- using daytime cleaning hours;
- installing timeclocks on boilers, air conditioners, and air handlers;
- installing photoelectric cells on outdoor lighting;
- planting shade trees near buildings;
- installing capacitors;
- inspecting leased space for compliance with energy conservation measures; and
- checking thermostats.

At the Rough and Ready Island warehouses in Stockton, California, GSA installed translucent plastic doors and skylights to take advantage of natural lighting and timeclocks and timers to control the heating systems. GSA officials attributed the reduction of over 6,500 kilowatt hours of electricity in July 1974 to the skylights. Since the skylights were installed, light fixtures had not been turned on during the daylight hours.

At the Federal building on East 12th Street in Kansas City, Missouri, we tested the temperature and illumination levels against GSA's prescribed levels. During the heating season the temperature standard calls for thermostats to be set to maintain temperature levels between 65 and 68 degrees during working hours. Our tests showed temperatures were 70 degrees and higher in 97 percent of the 181 tests

conducted, and about 86 percent of the thermostats were set at 68 degrees. Regional building management officials said that heat from lights and people add to the temperature so that they allow temperatures to drift up to about 70 or 72 degrees in the building core.

Illumination standards call for 50 foot-candles in administrative space. Of 184 tests conducted, 32 percent had foot-candle readings between 65 and 80. No readings were above 80. Regional officials said that it is not always feasible to lower illumination levels to 50 foot-candles because of fixture design.

#### Tenants resist GSA efforts to conserve energy

GSA is responsible for overseeing the proper use of energy and the elimination of any wasteful practices by tenants. Many agencies have cooperated with GSA energy conservation efforts; others have not. For example, regional officials told us that tenants purchased their own lamps to put into fixtures where lamps had been removed and that other tenants broke thermostats in attempts to set them higher than 68 degrees. They also said that some agencies have resisted GSA attempts to remove lamps and small electrical appliances and have openly opposed the nonuniform lighting standards. At the Federal building on East 12th Street, Kansas City, we noted that some agency tenants had wrapped wet paper towels around thermostats to increase the heat. GSA auditors stated in an August 1974 "Report on Special Review of Implementation of Energy Conservation in GSA" that a large number of thermostat settings were found outside the prescribed limits primarily because of tampering by tenants.

#### Energy analysis of Federal buildings

In December 1974 GSA contracted with consulting engineers for a total energy analysis at a Federal office building in St. Louis, Missouri. The purpose of the energy analysis is to aid GSA in determining the most economical method of operating the heating, ventilating, and air-conditioning systems. Regional officials believe the findings will apply to other similar buildings in the region.

In April 1975 the GSA central office requested that each region select three energy intensive buildings for an indepth energy feasibility study that would maximize the operating efficiency of building support systems. From these buildings the central office selected ten buildings for priority implementation of the study. Over the next 5 years, GSA plans

to evaluate the energy use of energy intensive buildings for alteration or retrofit.

#### Department of Defense

DOD said it recognized the need for a responsive utility conservation program and had the policy and guidance needed to establish a program throughout DOD.

Following its November 1973 report on "Management of Defense Energy Resources," DOD issued a phase II report in July 1974, which among other matters summarizes the progress in carrying out the basic report recommendations and makes new recommendations in selected energy management areas.

#### Utility conservation programs

In carrying out one of the recommendations in the reports cited above, DOD has established a 6-year, \$1.3 billion energy conservation investment program to reduce energy consumption in existing facilities through self-amortizing retrofit projects. The fiscal year 1976 program, costing \$137 million, covers about 300 Army, Navy, and Air Force projects for such items as floor, wall, and ceiling insulation; storm windows and doors; weather stripping; rotary heat exchangers; heating and air-conditioning controls; steam condensate return systems; heat recovery equipment; and air curtains at building entrances.

The Naval Facilities Engineering Command has established a shore facilities energy conservation survey program. Under this program Engineering Field Divisions are responsible for providing shore activities with technical assistance on energy conservation and related programs, conducting energy information seminars, and making energy conservation surveys of Navy and Marine Corps activities.

#### Utility conservation efforts

DOD reported to the Federal Energy Administration that energy consumption by buildings and facilities in fiscal year 1974 was 12 percent below the fiscal year 1973 level. DOD estimated that fiscal year 1975 consumption was 13.5 percent below fiscal year 1973.

The installations we examined now have programs for monitoring utility conservation. The deputy post commander of Fort Riley is responsible for overall supervision of the post's program with staff responsibility exercised through the Director of Industrial Operations.

Red River Army Depot has established temperature levels, eliminated some unnecessary lighting, appointed building monitors, made afterhours inspections for energy violations, reviewed high-energy-use equipment, and provided written instructions for more efficient operation of equipment. Violations of utility conservation policies, detected during nonworking hours, were reported daily to the appropriate directorate and monthly to the depot commander, the directorates, and the energy conservation officer.

Two public works center buildings in the Sewells Point Naval Complex, Norfolk, Virginia, have an active organization to insure compliance with the Federal conservation standards. A utilities engineer was designated to be energy conservation manager as one of his primary duties, and energy monitors were appointed for each working area. Heating and lighting were at acceptable levels.

In contrast to the public works center's building operation, buildings operated by the Atlantic Division in the Complex had no energy monitors. The lighting in these buildings was over 50 percent greater than the prescribed standards, and there was excessive heating which Atlantic Division personnel attributed to inadequately insulated steam pipes.

Kelly Air Force Base personnel made daily inspections at randomly selected buildings to determine whether utility usage was within prescribed limits. Although violations were reported to the Directorate of Plans and Programs for corrective action, the reporting system was not being used to identify buildings in frequent violations. Our inspections in four buildings at Kelly Air Force Base showed lighting intensities in excess of the levels GSA prescribed for work stations, work areas, and nonwork areas in 37 of 75 inspections. When informed of our findings, Kelly officials agreed to take corrective action.

Richards-Gebaur Air Force Base illumination levels and temperatures exceeded GSA-prescribed Federal standards in more than half the locations tested. The base used the Air Force illumination standard of 70 foot-candles in administrative areas instead of GSA's prescribed 50 foot-candles. In 90 light-meter readings in administrative work areas, about 78 percent were above the 50-foot-candle level and about 54 percent were above the 70-foot-candle level. Of 49 locations tested, 40 had temperatures 4 or more degrees above the Federal standard although the thermostats were generally set at 68 degrees.

When we advised base officials of our findings, they pointed out the conflict between Air Force and GSA lighting standards and the fact that in some buildings on the base the heat could only be set on or off.

#### Conclusion and recommendation

GSA and DOD have initiated conservation programs for monitoring utility use and modifying energy intensive installations and have reported large reductions in energy use. However, we believe greater reductions would result from more stringent enforcement of the Government's lighting and heating standards.

We recommend the Administrator, General Services, and the Secretary of Defense insure that installation officials enforce the prescribed Federal lighting and heating standards.

#### MAINTAINING UTILITY CONTRACT RECORDS

Our September 1974 report said that data pertinent to utility contracts, rates, costs, and so on was not generally available in agency files and that a lack of such data can result in poor contract administration.

Although contract files were improved at one of the two GSA regions we reviewed, neither region had complete or current files of utility rate schedules. There was little evidence of rate analysis in the contract files.

The DOD installations we reviewed were now maintaining satisfactory utility contract records.

#### Recommendation

We recommend that the Administrator, General Services, have the regional administrators in Kansas City and San Francisco, California, and other regions as warranted, insure that the staffs charged with maintaining utility contract files keep rate schedules, analyses, and other pertinent data current and complete.

## CHAPTER 3

### EFFORTS TO DEVELOP MORE EXPERTISE IN UTILITY MATTERS

#### DEVELOPING INHOUSE EXPERTISE

We recommended that agencies provide the personnel required to manage utilities effectively and provide the necessary training for such personnel.

#### General Services Administration

As of August 1975, GSA had recruited one public utilities specialist and one entry-level trainee. The GSA official responsible for such recruiting said that Civil Service Commission registers and the Federal Automated Career System were searched to identify qualified people. He said GSA had difficulties in recruiting because utilities specialists working for the Federal Power Commission are employed at one grade level higher than at GSA and utilities specialists are in great demand by private firms. He said that additional public utilities specialists were not being recruited because of personnel ceilings.

GSA said that expertise in the utility area was being developed through staff officials attending utility-oriented seminars, meetings, and training courses and that regional office groups visiting the central office were required to attend a seminar on energy conservation.

We found some indication in the regions we reexamined that GSA had increased inhouse expertise in utilities management and procurement by the means it suggested in response to our recommendation. Distribution of GSA and other energy conservation publications, site inspections, and meetings on utility matters have probably increased the expertise of many staff officials.

In regard to training courses, none of the utilities management people in one region had received comprehensive training. Of some 20 people concerned with utilities management in the other regional office and 4 of its field offices, 7 had taken a formal course in utilities and 10 had attended workshops or seminars lasting up to 3 days.

A GSA central office representative said that, in the air-conditioning and refrigeration training courses for operating engineers, the students learned the importance of efficient operation and its relationship to utilities consumption.

In regard to regional groups attending central office seminars on energy conservation, GSA said that these were informal briefings for regional staff visitors to acquaint them with energy conservation programs.

GSA also said it would recruit public utilities specialists to maintain and present an executive seminar in public utilities procurement, which would be included in GSA's long-range plan and would be made available to all Federal procurement officers.

An official of the Public Utilities Management Division told us that, although one public utilities specialist was recruited, the Division's workload would not permit work on the seminar. The seminar, last given in October 1971, was scheduled for March 1975 but was canceled and was in abeyance because of a lack of staff in the GSA central office. The seminar outline is available to other agencies, but it needs to be brought up to date.

#### Department of Defense

DOD stated that adequate staffing and training for utilities management personnel was a continuing DOD objective and that the Air Force had established permanent utility conservation and operation training courses.

DOD had made some improvements in its staffing and training in utilities management, but there is a continuing need for a broader experience base at the installation level to minimize utility costs and conserve energy.

One responsibility of the Utility Contracts Office of the Chief of Engineers is administering the purchase of utility services for the Army. An Army official said the office has only four people working on utility matters. He said that before an Army reorganization there were seven commands, each with an Army power procurement officer representative. When the Army reorganized, the number of Army power procurement officer representatives was reduced to three.

The utilities section of the Naval Facilities Engineering Command's Atlantic Division is five engineers short of authorized strength. According to the Division, these positions are unfilled due to lack of money and a lower salary scale than the private sector.

Technical training in utilities management and conservation is still relatively limited for the utilities staffs at the military locations we examined.

In October 1974 the Corps of Engineers offered a 3-day utilities services seminar in Washington, D.C. About 80 personnel from the Corps of Engineers and various Army commands and installations attended the seminar.

One of the two Army locations we reexamined, Red River Army Depot, had one procurement and one facilities representative attend the utilities seminar. Staff members at the other Army location, Fort Riley, had not attended the seminar.

About 20 persons in responsible utility positions at the Atlantic Division and public works center in Norfolk attended the Navy's course in "Energy Management at Shore Activities" or other courses on utilities. At the Western Division, one utilities engineer attended the Navy's energy management course and a utilities specialist attended the Air Force's "Utility Contract Negotiation and Administration" course in 1974.

One Kelly Air Force Base procurement representative had attended the utility contract course and one member of the plans and programs staff was enrolled in a college course in energy resources management. Procurement personnel at the second Air Force location, Richards-Gebaur, said they had requested but had not obtained any training in utilities procurement during the past few years.

#### Conclusion and recommendation

Further training of personnel in procuring and managing utilities is needed at most of the locations we reexamined. Accordingly, we recommend that the agencies provide the training and personnel required to effectively manage utilities.

#### DISSEMINATING INFORMATION

In our earlier review we found that disseminating information within Government agencies needed to be improved to insure that utility services were obtained at the lowest cost consistent with reliable service.

#### General Services Administration

In reply to this conclusion (GAO report dated Sept. 17, 1974), GSA had taken the following actions.

- "Conservation of Utilities," a publication dealing with day-to-day building operations and the responsibilities of the building manager, is being revised and will be issued under the title "Energy Conservation Guidelines for Building Operations."

- In February 1975 GSA issued "Energy Conservation Guidelines for Existing Office Buildings" which contained over 300 suggestions for conserving energy. It is intended to be used in remodeling, maintaining, and operating GSA buildings.
- Minutes of DOD Joint Utilities Services Board meetings showed that GSA central office and regional office personnel have attended some, but not all, recent meetings.
- GSA amended its Federal Property Management Regulations in July 1974 and was continually updating its Federal Management Circular on conservation, but it had not revised the chapter of the Public Building Service handbook, "Operation and Management of Real Property," dealing with utilities since June 1970.
- An official of the Operations Division, Public Buildings Service, said that his office had coordinated energy conservation events within GSA with other Federal agencies, local governments, and private concerns. He also said that GSA had participated in top-level meetings with agencies involved in the Federal energy management program and assisted in the field visits by Federal Executive Boards concerning energy conservation matters.
- In January 1974 an Energy Utilization Branch was established in the Operations Division, Office of Buildings Management. Although the branch has the responsibilities GSA described in its response to us, the branch is staffed with only five people--one on a temporary basis. GSA is attempting to recruit an individual to permanently fill that position. The branch has been active in such matters as disseminating information on natural gas shortages and illumination and gathering information on energy conservation feasibility studies.

#### Department of Defense

In June 1970 DOD established seven Joint Utilities Services Boards, four of which serve the continental United States. The objective of these boards is to provide a way for DOD components to mutually review utilities procurement problems, contract terms, and procedures; exchange information; and where warranted act jointly to obtain utilities on terms most favorable to the Government. GSA and other non-DOD agencies participate in the board meetings. In

February 1975 a DOD official told us that through coordination by the Joint Utilities Services Boards, DOD saved over \$35 million in utilities cost savings and cost avoidances since the boards were established.

A review of selected board meetings showed that the meetings were attended by 5 to 13 people representing headquarters commands and in some cases GSA, the National Aeronautics and Space Administration, and the Atomic Energy Commission. Topics such as utility rate cases, procurement procedures, training courses, and energy conservation information were discussed at the meetings. Meeting minutes were distributed to various headquarters and other command components. DOD officials told us that several meetings scheduled for early in 1975 were canceled because of travel restrictions.

In October 1974 a Defense Regional Joint Utilities Services Boards World-Wide Workshop was held. The workshop, which covered areas such as training, disseminating utilities information, and conservation information, was attended by representatives of headquarters, commands, and agencies.

#### Conclusion

GSA and DOD have improved efforts to disseminate energy and utility conservation information.

HENRY S. REUSS, WIS., CHAIRMAN  
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NINETY-THIRD CONGRESS  
**Congress of the United States**

**House of Representatives**

CONSERVATION AND NATURAL RESOURCES SUBCOMMITTEE  
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225-6427

October 18, 1974

B-178205

Mr. Elmer b. Staats  
 Comptroller General  
 General Accounting Office  
 441 G Street, N.W.  
 Washington, D.C. 20548

Dear Mr. Staats :

In 1973 our Subcommittee and the Energy Subcommittee of the House Committee on Science and Astronautics held extensive hearings on the conservation and efficient use of energy. Our Subcommittee was particularly interested in the adequacy and effectiveness of Federal efforts to conserve energy.

Since our joint hearings the General Accounting Office has issued two reports to several Federal agencies concerning Federal efforts to conserve energy. The first report (B-178205) was issued on March 29, 1974 to the Federal Energy Office. It covered "efforts being made in the Federal Government to conserve fuel in the movement of men and materials." The second report (B-178205) entitled "How Federal Agencies Can Conserve Utilities and Reduce Their Cost" was issued on September 17, 1974 to the General Services Administration and the Defense Department.

Both reports have been very helpful to our Subcommittee. However, we desire to have certain information on Federal efforts to conserve energy brought up to date and therefore we would appreciate your response to the following matters:

1. The March 1974 GAO report made the following recommendations:

Page 5:

"We recommend that the Administrator, Federal Energy Office [now the Federal Energy Administration], issue guidelines for use by Federal agencies in the development of energy-use information systems and monitor closely the agencies' progress in the development of their systems. Improved OEC guidance and involvement should provide a means for ensuring that consumption information is compiled on a

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systematic and reasonably comparable basis within the Federal Government. Such guidelines should be developed giving full consideration to the best features of the information systems which some agencies already have under development. In developing such guidelines, we also believe it important to keep in mind that allowable changes in the baseline data are subjective and can be manipulated to give a brighter picture of the conservation achievements than is actually the case. Accordingly, provision should be made for close monitoring of all such changes in order to ensure that they are kept to an absolute minimum and fully explained."

Page 7:

"We recommend that the Administrator, Federal Energy Office, issue guidelines regarding the role of energy conservation officers. The guidelines should take into consideration the matters discussed in this letter and recognize those worthwhile activities now being conducted by energy conservation officers of which OEC is aware. We also recommend that the Federal Energy Office make periodic inspection visits to Federal agencies to observe the manner in which the appointed energy conservation officers are fulfilling their responsibilities and make such recommendations for improvement as may be appropriate."

- (a) Has the FEA issued both of the recommended guidelines?
- (b) If the answer to (a) is yes, please provide (i) a copy of the guidelines to us, and (ii) your views and comments on the adequacy of each guideline, together with your recommendations for improving them.
- (c) If the answer to (a) is no, please ascertain why issuance of one or both of them has been delayed and indicate when the FEA plans to issue them.

2. The March 1974 report points out that despite GSA's instruction to all Federal agencies to acquire "smaller vehicles" or vehicles with the greatest fuel economy, "in actual practice, only GSA has purchased compact vehicles to any degree." In January 1974 the FEO (now FEA) and the GSA issued instructions directing all executive agencies "to achieve a 20-percent reduction in miles operated by all agency-owned, commercially leased or rented, and privately owned sedans, station wagons, and trucks used for official Government business." Additional instructions were issued concerning purchase or rental

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of sedans and station wagons, "elimination" of most limousines and heavy and medium sedans, and achievement of mileage reductions and fuel savings. These instructions had expiration dates of June 30 and December 31, 1973.

- (a) Please review GSA records from December 31, 1973 to the present to determine whether all Federal agencies are complying with the instructions concerning the purchase and rental of vehicles and the elimination of limousines, etc.
- (b) Have these instructions been extended beyond their expiration dates? If not, why not?

3. The report states that the instructions provide "machinery for granting exemptions," and that two agencies -- the Defense and Agriculture departments -- "have requested a partial exemption from the requirement for a 20-percent reduction in miles driven."

- (a) Were exemptions granted to either of these two agencies?
- (b) If the answer to (a) is yes, please examine the requests and the grounds therefor and the GSA's reasons for granting the exemptions.
- (c) If any more such requests have been made to GSA, please
  - (i) identify the agencies making the requests, and state
  - (ii) the grounds therefor, and (iii) the action taken on each request.

4. The September 1974 report indicates that Federal agency-sponsored utility conservation programs were not being fully implemented at various Federal installations. However, the Interior Department's Office of Energy Conservation contends that "many of the conditions discussed" in the GAO report "related to the period before April 1973, when that Office was established." The GAO report admits this, but points out that the GAO "did some more work" thereafter.

The report does not point out, however, that the issuance of the report was significantly delayed by the failure of several Federal agencies to respond promptly to GAO's request for their comments on a draft of the report which the GAO submitted to them in mid-August 1973. For example, the Interior Department did not reply until December 4, 1973, and the Office of Management and Budget waited nearly six months to reply on February 9, 1974. Furthermore, the agency comments provided little substantive critique of the draft report, and were not worth waiting for.

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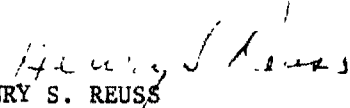
The GAO report is very relevant to our studies because it is designed to cover problems which are "systemic to long-range energy conservation measures within the Government." But neither the report nor the December 14, 1973 letter of the Office of Energy Conservation (p. 53 of GAO report) clearly indicates whether the Federal agencies have fully implemented an effective utility conservation program. We therefore request that the GAO re-examine the Government's utility conservation program to ascertain whether it is (a) adequate and (b) being effectively implemented. Your review should cover the efforts made by Government agencies to improve the design and construction of buildings, improve utility contract administration, monitor and audit rates and charges and utility use, maintain adequate records, and develop more expertise in utility matters.

We recognize that it will take some time to respond to some of the above matters. However, since the factual data requested in items 1(a), (b), and (c); item 2(b); and items 3(a), (b), and (c) should be easily obtainable, we request your response to these items by November 15, 1974 so that we may utilize such data as soon as Congress reconvenes on November 18.

You may, if necessary, discuss your findings with Federal officials, but we request that you do not delay your response to us in order to obtain their written comments.

Please keep our Subcommittee staff informed about the scope and progress of your efforts on these matters.

Sincerely,

  
HENRY S. REUSS  
Chairman  
Conservation and Natural Resources  
Subcommittee

INSTALLATIONS VISITED

This review, which took place mainly at sites covered in our previous report, was made at the following locations.

## GSA:

Central Office, Washington, D.C.  
Regional Office--Region 6, Kansas City, Missouri  
Federal Building, 601 East 12th Street, Kansas City,  
Missouri  
Regional Office--Region 9, San Francisco, California  
Golden Gate Avenue Field Office, San Francisco,  
California  
Sansome Street Field Office, San Francisco, California  
Stockton Field Office, Stockton, California  
Sacramento Field Office, Sacramento, California

## Army:

Office of the Chief of Engineers, Washington, D.C.  
Corps of Engineers, South Pacific Division, San Fran-  
cisco, California  
Corps of Engineers, Sacramento District, Sacramento,  
California  
Fort Riley, Kansas  
Red River Army Depot, Texas

## Navy:

Headquarters, Naval Facilities Engineering Command,  
Washington, D.C.  
Naval Facilities Engineering Command, Atlantic Divi-  
sion, Norfolk, Virginia  
Naval Facilities Engineering Command, Western Divi-  
sion, San Bruno, California  
Navy Public Works Center, Norfolk, Virginia

## Air Force:

Kelly Air Force Base, Texas  
Richards-Gebaur Air Force Base, Missouri

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