



UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON REGIONAL OFFICE
FIFTH FLOOR
803 WEST BROAD STREET
FALLS CHURCH, VIRGINIA 22046

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JUL 17 1975

Mr. John L. Galuardi
Regional Administrator, Region ³⁴¹⁶³
General Services Administration
7th and D Streets, SW.
Washington, D.C. 20407

Dear Mr. Galuardi:

This is the third in a series of letters we are sending you addressing energy conservation in each of five Government installations in the Washington D.C. area. Our objective during this review has been to determine how effectively the Government is implementing its energy reduction program.

In our previous letters we were able to report that energy conservation measures taken at GSA's central office and the Department of Agriculture headquarters resulted in energy savings exceeding the Presidential goals. While there were other areas that could be examined to further reduce energy consumption, we felt GSA building managers were making conscientious efforts to save energy.

Our work at the Small Business Administration central office building at 1441 L Street, NW. shows that while there has been some reduction in energy consumed at the SBA headquarters building, the efforts fall short of the 15 percent goal for fiscal year 1975 over fiscal year 1973.

The following schedule shows the amount of energy savings achieved thus far.

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<u>Fiscal year and quarters</u>	<u>Electricity kilowatt hours</u>	<u>Natural gas (1,000 cu. ft.)</u>	<u>Fuel Oil gallons</u>	<u>Total bil. BTU's</u>	<u>Percent decrease from fiscal year 1973</u>
FY 1973	3,655,100	690	30,258	47.3	--
FY 1974	3,577,600	920	13,982	44.4	6.2

First 3 quarters

FY 1973	2,649,200	532	30,258	35.5	--
FY 1974	2,747,700	683	13,982	34.5	2.7
FY 1975	2,511,200	555	20,996	32.6	8.1

The reductions were attributed to the following conservation measures:

- Lowering the temperature of the hot water used for heating--from a constant 150 degrees to a range of 95 to 120 degrees, depending on outside temperatures;
- reducing the lighting through the removal of about 23 percent of the fluorescent tubes;
- removing all individual heaters and floor fans from the building;
- initiating a periodic maintenance and cleaning program to keep heating/cooling equipment at maximum operational efficiency; and
- issuing directives to office employees concerning the conservation of energy.

In addition, SBA achieved a substantial reduction of mileage of local GSA motor pool assigned and dispatched vehicles--from 349,000 miles for the first three quarters of fiscal year 1973 to 77,000 miles for the first three quarters of fiscal year 1975. An SBA official stated that this reduction was achieved by curtailing the number of mail runs to the Pentagon and training center. In place of this they were making greater use of the U.S. Postal Service.

While energy conservation has been achieved, more needs to be done if SBA is to meet the Presidential goals for energy conservation. We believe changes can be made to further decrease the utilization of energy. Some of these are discussed below.

Heating and cooling

In our inspections of temperatures in 31 rooms throughout the building during cold weather (35 to 43 degrees Fahrenheit) we found temperatures ranging from 72 to 81 degrees with an average of 77 degrees. This exceeds the range of 65 to 68 degrees established by Federal Management Circular 74-1. We learned that problems in controlling these temperatures can be attributed to the heating/cooling systems for the interior and exterior rooms.

Interior rooms

Part of the problem occurs because the building engineer sets the temperature for the air handlers--which control the heating and cooling of the interior offices to no lower than 70 degrees during the heating season. He informed us that he would like to maintain the temperature at 68 degrees, but he receives too many complaints from SBA employees.

We believe the building engineer should be directed to reduce the system temperature to bring them into the required range.

Another problem in the interior rooms is the floor to ceiling partitions. The building was originally designed to be more open to achieve proper air circulation; thus, the return air vents were located in the center of the building. The subsequent installation of floor to ceiling partitions around these vents on many of the floors has restricted this air circulation.

SBA officials advised us that in the future new partitions will be open at both the top and bottom. We believe however that consideration should be given to modifying the present partitions so that employees will be more comfortable.

Exterior rooms

The exterior rooms use a separate heating/cooling system that circulates heated/cooled water through individual room units. Because of the sun radiating through the front windows, the temperature in the rooms in the front of the building may go as high as 96 degrees while the temperature in the back rooms may be considerably lower. This necessitates the use of the air-conditioning system to bring the temperatures back down.

An SBA official noted that a solar film (sun screen) could be applied to the front windows and lower office temperatures by 10 to 15 degrees on sunny days. Subsequent to our review, SBA submitted a purchase order for these sun screens at a cost of \$7,973 and the installation is to be supervised by the building property manager.

In addition, SBA officials noted that installation of a "free cooling system" may provide substantial savings by delaying the activation of the air-conditioner chiller until the outside temperature reaches 65 degrees. Currently, on a sunny day it is necessary to turn the air-conditioner chiller on when the outside temperature is 40 degrees.

Another solution suggested by the building engineer and acknowledged as potentially feasible by an SBA official would be to install automatic timer switches that would turn all exterior office window convectors on and off at predetermined times. Presently, they are left on all night and over weekends so that they will be on when the building heat is turned on early in the mornings. The official agreed that these timer switches could save over 9,000 kilowatt hours of electricity per week.

While SBA is beginning to take some measures to further reduce energy consumption we believe they should also give further consideration to the free cooling system and the automatic timer switches. In addition, in our inspections of room temperatures, we noticed that some individual room controls were turned on for heat although these room temperatures were ranging from 73 to 77 degrees. We also noticed several rooms with controls turned on for cooling while temperatures ranged from 72 to 80 degrees. We believe this may signal a need for additional employee energy conservation awareness.

Lighting

Based on our observations the lighting criteria in Federal Management Circular 74-1 are generally being met. We learned, however, of two items that have potential for reduced lighting utilization--increasing the number of light switches, and hiring daytime janitors.

Light switches

We learned that the location of light switches does not promote electricity conservation. Instead of light switches being located to accommodate separate offices or work areas, we were told that on several floors one switch may control as much as one-half the total floor space. Therefore, whenever an individual leaves early or does not come to work it is not possible to turn his lights off without turning off the lights to some other section of the building.

SBA officials advised us that light switches are being relocated as office partitions are rearranged, but that they are not locating them for current room arrangements because of the cost involved. It was acknowledged, however, that no estimate was made of the potential energy savings that could be achieved. Consequently, we believe this issue should be restudied giving consideration to the potential savings.

Use of daytime janitors

We were informed that the SBA building is currently being cleaned between 6 and 10 p.m. In August 1973 all cleaning activities were placed on daytime schedules to conserve electricity. In October 1973, at the request of the lessor, GSA granted permission to have the building cleaned at night for approximately one month. An SBA official informed us that since that time the building has continued to be cleaned at night. He advised us that to revert to daytime cleaning would be a good energy conservation measure and he saw no reason why it should not be done.

The GSA building manager noted that the building owner is not required by contract to use daytime janitors and that cleaning firms would charge more for this service since nighttime janitors will work for less to supplement their full-time jobs.

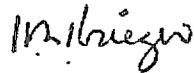
We believe GSA and SBA should evaluate the potential amount of energy that could be saved with using daytime janitors and then determine what cost and energy saving tradeoffs they would be willing to accept in achieving further energy reductions.

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We hope this information will be useful to you. We are particularly interested in obtaining your comments regarding the temperatures of the air handlers, partition modifications, and the arrangements SBA can make with the building owner to make further energy saving capital improvements.

Your response within 30 days will be appreciated.

Sincerely yours,



H. L. Krieger
Regional Manager



UNITED STATES GENERAL ACCOUNTING OFFICE

WASHINGTON, D.C. 20548

GENERAL GOVERNMENT
DIVISION

Mr. W. W. Bears, Director
Administrative Services Division
Small Business Administration
1441 L Street, NW.
Washington, D.C. 20416

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7/21/75

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Dear Mr. Bears:

As you are aware, the General Accounting Office has been conducting a review of the energy conservation measures taken at the Small Business Administration headquarters. We have sent a letter to the GSA Regional Administrator, Region 3, notifying him of the results of our work. A copy of that letter is enclosed for your information.

The letter acknowledges the energy conservation measures taken at the SBA headquarters building but also points out that further improvements are needed to help bring energy savings closer to the President's energy reduction goals.

We are writing because of your continuing interest in this area. You may want members of your staff to get together with GSA and discuss those matters that would be mutually advantageous to resolve. Please feel free to contact Mr. Joan P. Carroll or Mr. James B. Deemer of our Washington Regional Office should you have any questions. They can be reached on 557-2151.

I would also like to express appreciation for the courtesies extended to the staff during their visit.

Sincerely yours,

[Handwritten signature]
John Landicho
Associate Director

Enclosure



UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON REGIONAL OFFICE
FIFTH FLOOR
803 WEST BROAD STREET
FALLS CHURCH, VIRGINIA 22046

JUL 17 1975

Mr. David L. DeHaven, Director
Washington Field Audit Office
General Services Administration
Room 6000, Regional Office Building
Washington, D.C. 20407

Dear Mr. DeHaven:

Enclosed for your information is a copy of our letter to the GSA Regional Administrator, Region 3, notifying him of the results of our review of the energy conservation measures taken at the Small Business Administration.

Sincerely yours,

A handwritten signature in cursive script that reads "H. L. Krieger".

H. L. Krieger
Regional Manager

Enclosure