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UNITED STATES GENERAL ACCOUNTING OFFICE

REGIONAL OFFICE

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GAO Contact PR

NOV 8 1975

Major General Edmund A. Rafalko, USAF
Commanding General
Headquarters, Ogden Air Logistics
Center (AFLC)
Hill Air Force Base, Utah 84406



[Reduction of Energy Consumption at Ogden Air Logistics Center]
Dear General Rafalko:

As part of a nationwide review of energy conservation measures at selected departments and agencies, we reviewed the energy reduction efforts of the Ogden Air Logistics Center (ALC), Air Force Logistics Command (AFLC). In June 1973, the President directed all Federal agencies to reduce their energy consumption by 7 percent in fiscal year 1974, and subsequently directed that additional actions be taken to reduce energy consumption even further. In October 1974 the President directed the agencies to reduce their energy consumption by 15 percent in fiscal year 1975 under that consumed in fiscal year 1973.

The purpose of our review was to determine the results achieved by the Ogden ALC energy conservation program and to identify areas where additional energy conservation may be practical.

Organizations located at Hill Air Force Base (HAFB) reduced utility usage in buildings and facilities by 13 percent in fiscal year 1974 and 9 percent during the first 3 quarters of fiscal year 1975. Motor fuel usage was reduced during the same periods by 11 and 6 percent. We are unable to conclude whether the energy conservation program has been effective in meeting the President's goals since complete information was not available on the adjustments to baseline data for changes in operations subsequent to 1973.

ENERGY CONSERVATION STATISTICS

The Ogden ALC is the major functional organization and the major user of utilities at HAFB. The utilities used are natural gas, heating oil, and electricity. The 2849th Air Base Group (ABG) is the major user of motor fuels. Motor fuels include gasoline and diesel fuel.

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Various tenants at HAFB are the major users of aviation gasoline and jet fuel. The ABG manages and issues aviation gasoline and jet fuel, but neither the ABG nor Ogden ALC has control over the amount of fuel used by the tenants. For this reason we are excluding aviation gasoline and jet fuel consumption from further consideration in this letter.

A HAFB civil engineer told us that the fiscal year 1973 baseline data for natural gas, electricity, and fuel oil was determined from supplier billings and log books, and adjusted for new construction and changes in building use. Ogden ALC did not report baseline data adjustments for utilities until fiscal year 1975, and has not reported any adjustments for motor fuel baseline data. We did not use reported baseline data adjustments in our computations because the adjustments were not available for a part of the period reviewed.

The following table shows the utilities and motor fuels used by organizations located at HAFB in fiscal years 1973 and 1974 and in the first 3 quarters of fiscal year 1975.

Utilities (million BTU)	Actual consumption		Percent increase/ decrease	Actual consumption		Percent increase/ decrease
	FY 1973	FY 1974		FY 1973 (3/4 year)	FY 1975 (3/4 year)	
Electricity	1,360,877	1,303,237	- 4	1,034,882	1,066,400	+ 3
Heating energy	<u>2,454,075</u>	<u>2,025,642</u>	-17	<u>2,045,530</u>	<u>1,721,950</u>	-16
Total	<u>3,814,952</u>	<u>3,328,879</u>	-13	<u>3,080,412</u>	<u>2,788,350</u>	- 9
Motor fuels issued (gallons)						
Gasoline	1,278,720	1,127,755	-12	951,677	806,850	-15
Diesel fuel	<u>131,320</u>	<u>133,636</u>	+ 2	<u>92,371</u>	<u>175,895</u>	+90
Total	<u>1,410,040</u>	<u>1,261,391</u>	-11	<u>1,044,048</u>	<u>982,715</u>	- 6

Motor fuel use information system

The ABG's Vehicle Transportation Division uses a computer system which keeps track of vehicle mileage and gallons of gasoline and diesel issued to operating units. The base service station prepares an issue document for each auto gasoline issue. About 400 of these documents are received daily by the Transportation Division and key punched into a computer system. This data is compiled monthly and forwarded to AFLC and the Department of Defense.

MANAGEMENT OF THE ENERGY CONSERVATION PROGRAM

AFLC initiated action in July 1973 to implement and monitor the accomplishments of the energy conservation program of its ALCs. The AFLC continues to direct the energy efforts of all its ALCs.

The Commanding General of the Ogden ALC supports the HAFB energy conservation program established in November 1973. He assigned the Vice Commander as the Energy Conservation Officer. He also appointed a full time Energy Conservation Manager. Examples of the managers' duties are

- planning, developing, and executing Ogden ALC energy actions and plans,
- evaluating all factors and data necessary to conduct a viable energy conservation program,
- providing interpretation and guidance on energy policies and procedures,
- revising Ogden ALC energy programs to conform with changes, and
- insuring compliance by all HAFB organizations with overall energy policies.

The Energy Conservation Manager receives directive from AFLC and disseminates information to directorates, staff offices, tenants, and sister ALCs.

Innovative conservation measures or programs

Ogden ALC has initiated many innovative conservation measures. Some of these are described below.

Utilities Management Working Group

The group consists of head of directorates and divisions at HAFB. The group is chaired by the Ogden ALC Vice Commander. They meet every two months and discuss the conservation of utilities, facilities update, new construction and other associated items. Any new directions from USAF, AFLC, or the Ogden ALC Commander and Vice Commander are presented at these meetings.

Inspections and violation citations

Because of the need to constantly monitor utilities and their consumption, a system of inspection was developed. Organization monitors have been instructed to periodically inspect facilities in their units, looking for excessive heat usage, improper thermostat settings, facilities that need upgrading, and other energy consuming situations. A violation citation form has been developed and citations have been given to units and individuals observed violating established conservation practices. Each organization inspects one other organization semi-annually. In addition to these inspections, the Ogden ALC Energy Management Office and other organizations continually conduct spot checks of all facilities.

Awards program

Two awards have been established to provide incentives to personnel on HAFB to participate in energy conservation. An individual award, given every two months, includes a letter from the Ogden ALC Commander, a certificate defining the individual's accomplishments in the program, and a desk pen set. A unit award is given quarterly to the organization exhibiting outstanding conformance to the policies of the energy program and showing initiative and imagination in promoting the program.

Studies to identify means to reduce energy consumption

Studies and tests are being conducted at HAFB to identify means to reduce energy consumption. The Directorate of Maintenance is currently developing a process to reclaim waste hydraulic fluids for reuse in hydraulic systems. Preliminary estimate indicate a 5-year saving of \$143,000 and a yearly fluid saving of 18,400 gallons may be realized. Feasibility studies have been started to ascertain if mixing used engine oil with fuel oil will result in fuel oil saving, and to determine whether radiators can be replaced with thermostatically controlled forced air systems.

Contingency plan

AFLC required each ALC to provide a comprehensive contingency plan to be used in the event of curtailment of heating oil, electricity, petroleum fuels, and other resources. A task group was formed, and the Ogden ALC Energy Conservation and Contingency Plan was developed.

Using supervisors in the energy program

HAFB had a major problem getting their people involved in energy conservation programs when they started it. Their solution was to place the responsibility of the program at the supervisory level. All supervisors attend energy conservation classes. The supervisors stress electrical energy conservation in each meeting conducted and make surveys of their areas to determine where electrical power is wasted. Each building also has a building energy conservation monitor. His responsibilities are to enforce all utilities conservation measures in his building(s), and coordinate conservation efforts with civil engineering personnel.

Action to increase personnel awareness

The Vice Commander, Ogden ALC, gave the introduction and made closing comments in a HAFB energy conservation film. Approximately one fourth of the 17,000 military and civilian personnel on HAFB have viewed the film.

Other action taken to increase personnel awareness included distributing Hill Energy Program brochures which contain tips to reduce gasoline consumption.

The Chief of the Vehicle Transportation Division told us that driving techniques to conserve fuel are publicized at the monthly vehicle control officers meetings, and in the monthly traffic safety meetings.

ACTIONS TO REDUCE VEHICLES AND GROUND SUPPORT EQUIPMENT FUEL CONSUMPTION

The Chief of the Vehicle Transportation Division told us of changes made in the operation of vehicles to reduce fuel consumption. Ogden ALC:

- changed taxi and bus service to the Salt Lake City Airport from an as-needed basis to a scheduled basis,
- eliminated a scheduled 240 mile round trip run to a test range,
- eliminated a minimum mileage requirement which encouraged use of vehicles, and
- eliminated non-mission support activities, such as base tours.

Other changes included centralizing waste disposal to reduce vehicle travel to disposal site, and constructing a new building to reduce cross-base transportation. Also a computer program has been developed to identify excessive fuel usage by vehicles.

Our analysis of the motor fuel consumption and vehicle mileage data maintained by the Vehicle Transportation Division showed that special purpose vehicles and other equipment used substantially less fuel in fiscal year 1974 (16 percent decrease) and in the first 3 quarters of fiscal year 1975 (37 percent decrease). The fuel consumed by general purpose vehicles decreased only 5 percent in fiscal year 1974 and 3 percent in the first 3 quarters of fiscal year 1975. General purpose vehicle mileage decreased only 3 percent in fiscal year 1974 and less than 1 percent in the first 3 quarters of fiscal year 1975.

CAR POOLING

HAFB as of April 1975, had 2,819 active carpools. Carpools are assigned parking closer to working areas. Parking lot monitors and spotters are appointed for each organizations lots. These people are authorized to issue tickets to cars parked illegally. We were told that when the program first began, HAFB had problems enforcing the carpooling regulations until supervisors were made monitors and spotters.

ACTIONS TO REDUCE ENERGY CONSUMED IN BUILDINGS AND OTHER FACILITIES

Efforts by HAFB to reduce utilities consumed in buildings include:

- use of new high energy discharge lighting systems,
- insulation of hangers and warehouses, and
- installation of plastic window covering during winter months.

We observed that inadequate lighting in hallways constituted a safety hazard, however, lights were burning in other areas where they were not needed. We recommend that the conservation manager follow the lighting requirements of AF regulations for all areas.

Organizations at HAFB met their utilities reduction goal in fiscal year 1974, but did not meet the goal in the first 3 quarters of fiscal year 1975. The reduction in energy used for heating was 17 percent in fiscal year 1974 and 16 percent in the first 3 quarters of fiscal year 1975. Electrical energy consumed decreased only 4 percent fiscal year 1974 and increased 3 percent in the first 3 quarters of fiscal year 1975.

IMPACT OF ENERGY CONSERVATION ON
MISSION AND TRAINING OPERATIONS

The Director of Plans and Programs said that Ogden ALC's mission and training have not been modified to conserve energy. He cited two examples where readiness had not been affected by energy conservation.

Command Post Exercise (CPX) in March 1975 and


Operation New Life (Ogden ALC lifted 2.8 million pounds
to Guam)

The Comptroller, told us that he received only 50 percent of the travel funds requested for fiscal year 1975. There was no impact because of reduced travel, but he expects the impact to be felt in FY 1976. Many men are not being trained because of travel restrictions. The Director of Plans and Programs and the Comptroller agreed that eventually travel restrictions will hurt the base's operation.

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We want to thank you and your staff for their cooperation and assistance during our review, and will be pleased to discuss the results of our work with you or your staff if you wish.

Sincerely yours,


Irwin M. D'Addario
Regional Manager