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UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

**PROCUREMENT AND SYSTEMS
ACQUISITION DIVISION**

B-178214

JUL 23 1976

The Honorable Jack Eckerd
Administrator of General Services,
General Services Administration

Dear Mr. Eckerd:

We have completed a survey to determine how civilian Government agencies are implementing life cycle costing (LCC), a procurement technique for evaluating the total cost of a product over its useful life.

This report highlights the General Services Administration's accomplishments and steps GSA should consider to further promote the use of this technique.

In our report entitled "Ways to Make Greater Use of the Life Cycle Costing Acquisition Technique in DOD," dated May 21, 1973, (B-178214), we concluded that civilian agencies could also benefit from LCC. GSA, in its reply, recognized that the LCC concept had merit and that a study of its application would be initiated. In December 1973, the GSA study team recommended starting an LCC program and beginning a pilot project.

Life cycle costing and other innovative techniques could help in saving money on future Government procurements. A simplified illustration of LCC for auto tires follows:

	<u>Product A</u>	<u>Product B</u>
Initial cost	\$ 30	\$ 40
Maintenance and support cost	-	-
Expected mileage	20,000	30,000
Cost per 1,000 miles	1.50	1.33

A wide range of cost elements may affect the overall cost of ownership. An equation for determining cost over the useful

life of a product should include both initial and recurring costs. Initial costs may include purchasing price, cost of delivery, installation, and training. Recurring costs may include consideration of item life, labor, materials, utilities, preventive maintenance, corrective maintenance, and inventory costs. Not all cost elements may apply to each procurement; however, consideration of even one element is better than none.

We reviewed records and interviewed procurement officials at the Federal Supply Service (FSS) headquarters, Washington, D.C.; the Experimental Technology Incentives Program of the National Bureau of Standards, Gaithersburg, Maryland; and other agencies in Washington, D.C., and Chicago, Illinois.

We discussed our observations with FSS officials and considered their comments in preparing this report.

STATUS OF GSA EFFORTS

At this stage, GSA's efforts to adopt LCC techniques can be largely characterized as foundation building, that is, gaining knowledge and providing training necessary to launch a more extensive working program within GSA as well as in other civilian agencies.

GSA's efforts to apply the life cycle costing technique include:

- Experimenting with procurements of high energy consumption items in coordination with the Experimental Technology Incentives Program.
- Establishing workshops for civilian agency procurement personnel to develop a working knowledge and basis for formalizing life cycle costing in civilian agency procurement.
- Soliciting FSS regional offices to suggest items for life cycle procurement.
- Awarding a contract to develop a product improvement system.

Life cycle procurement of high energy consuming items

FSS has used life cycle costing to procure six energy-consuming items. In each case, consideration was given to energy consumption efficiency over the product's useful life rather than just the lowest price offered.

The Experimental Technology Incentives Program develops and evaluates, through experiments conducted in cooperation with other Government agencies, governmental policies that will encourage the private sector to invest in innovation and technological change. The Experimental Technology Incentives Program provided GSA technical and financial assistance for the procurement of five items--room air conditioners, water heaters, frost-free refrigerators, gas ranges, and electric ranges.

GSA estimated LCC savings of \$414,708 in increased energy efficiency for room air conditioners purchased during the contract period November 1, 1974, to October 31, 1975. Estimated savings for air conditioners expected to be purchased during the contract period November 1, 1975, through October 31, 1976, total \$385,266. LCC savings for water heaters purchased during the contract period February 1, 1975, through January 31, 1976, were estimated at \$326,457. In all contract periods mentioned above, the bidders developed and provided information on increased energy efficiency and operating cost over the useful life of the items and on the acquisition cost.

The sixth item being purchased using the life cycle cost technique was subcompact sedans. In February 1976, FSS awarded a contract for 100 sedans based on the lowest fuel consumption rate and estimated cost over a 6-year life expectancy period.

Life cycle procurements are being considered for drycell batteries, battery-powered floor scrubbers, multi-use film ribbon for typewriters, and ribbon for high speed data processing printers.

Life cycle cost workshops

GSA developed workshops to train Federal, State, and local civilian personnel in the advantages and use of life cycle

procurement techniques. FSS has scheduled 14 workshops on life cycle costing during fiscal year 1976. The Experimental Technology Incentives Program is also financing these workshops.

The workshops are designed for contracting officers, specification managers, quality assurance personnel, and others involved in the acquisition, support, or disposal of an item.

Identifying potential life cycle items

In May 1975, before regional personnel attended the workshops, the Commissioner of FSS requested that all GSA regions submit a list of items they thought should receive life cycle costing. A summary of regional responses showed that 3 of the 10 regions submitted no candidates at all and 4 of the remaining 7 regions identified few--5 or less. FSS plans to validate the life cycle items submitted and to identify additional items.

Study relating to product improvement

FSS awarded a 40-week consultant study contract to the Organization Resources and Systems Advisors, Inc., to design and test a systematic procedure for implementing Federal procurement experiments. The project calls for designing and testing a method to identify products which can be improved and the procurement techniques that should be used to attain such improvements.

SUGGESTED IMPROVEMENTS

GSA has taken steps to implement LCC which could yield benefits. Consideration of the factors discussed below would enhance GSA's efforts to establish an effective program.

Stronger leadership in Government-wide life cycle efforts

FSS has not attempted to exchange information on the extent to which LCC has been applied, or is applicable, to procurements in other agencies. Logical agencies for cross-communications would include the Veterans Administration,

Federal Aviation Administration, the Department of Defense, and the Postal Service. For example, sharing information on GSA's LCC procurement of automotive vehicles could benefit other agencies since the Postal Service, GSA, and our military forces buy many such vehicles.

Our contacts with several agencies indicated that some are using the life cycle technique whereas others are not. Little interagency communication and knowledge exist about the use and results of applying LCC.

Better data from user agencies needed
for life cycle procurements

In a prior report on the FSS procurement program, 1/ we recommended that GSA obtain more and better information on identity, needs, and buying habits of its customer agencies, so it could operate a more effective and economical supply system. FSS efforts to obtain data on the procurement practices of its customer agencies have not been successful. Continued lack of such information could inhibit FSS efforts to identify products where life cycle costing could be effectively applied and to assure that customer agencies are taking advantage of life cycle techniques in their procurements on the open market.

FSS is planning changes to its management system which provide procurement data by specific agency and commodity group. However, this is not expected for at least 2 years.

RECOMMENDATIONS

We recommend that GSA, consistent with its responsibility for providing procurement leadership to Federal executive agencies, assume a stronger leadership role in coordinating and publicizing Government-wide LCC efforts. GSA should develop an appropriate environment for inter-agency coordination of efforts to implement life cycle costing including:

- Interchanging information concerning life cycle applications.
- Soliciting items for LCC from civilian agencies that use GSA-procured items.

1/ "Management of Federal Supply Service Procurement Programs Can Be Improved" (PSAD-75-32, Dec. 31, 1974).

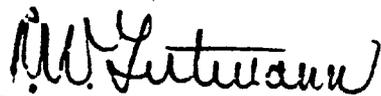
- Promoting acceptance of products acquired through the use of LCC.
- Avoiding potential duplicate use of life cycle costing.

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.

We are sending copies of this report to the Chairmen of the Subcommittee on Government Procurement, Select Committee on Small Business; the Subcommittee on Government Activities and Transportation, House Committee on Government Operations; the Subcommittee on Government Procurement and International Trade, Select Committee on Small Business; and the Joint Economic Committee. We are also sending copies to the Commissioner of the Federal Supply Service, General Services Administration.

We would appreciate receiving your comments on these matters and would be pleased to discuss any questions you may have.

Sincerely yours,



R. W. Gutman
Director