

DOCUMENT RESUME

04141 - [B3114370]

Government Specifications for Commercial Products: Necessary or a Wasted Effort? PSAD-77-171; B-160725. November 3, 1977. 31 pp. + 6 appendices (16 pp.).

Report to the Congress; by Robert F. Kaller, Acting Comptroller General.

Issue Area: Federal Procurement of Goods and Services (1900); Federal Procurement of Goods and Services: Definition of Performance Requirements in Relation to Need of the Procuring Agency (1902).

Contact: Procurement and Systems Acquisition Div.

Budget Function: National Defense: Department of Defense - Procurement & Contracts (058).

Organization Concerned: Department of Defense; General Services Administration; Commission on Government Procurement; Federal Supply Service; Office of Management and Budget; Office of Federal Procurement Policy.

Congressional Relevance: House Committee on Armed Services; Senate Committee on Armed Services; Congress.

Authority: Federal Property and Administrative Services Act of 1949. Defense Cataloging and Standardization Act of 1952. P.L. 91-129. P.L. 93-400.

The Government uses many specifications and standards to procure the commercial products it uses. Several studies have raised questions about the usefulness of these specifications. A review was conducted which concentrated on General Services Administration (GSA) and Department of Defense specifications for commercial products to identify areas where improvements could be made in the Government's specification program.

Findings/Conclusions: The decision to use or not use a Government specification to procure commercial products is not simple, and factors relating to procurement and specifications types complicate the matter. Formal advertising, as the preferred Government procurement method, is most easily accomplished by using precise specifications. These specifications can be costly to develop and maintain. Brand-name-or-equal buying would eliminate the need for detailed specifications and allow procurement of readily accessible off-the-shelf products. But this buying would limit competition and have disadvantages for determining which products best meet Government needs. Current regulations do not provide cost-versus-benefit guidance for the development or maintenance of specifications. Several instances were identified in which the cost to develop or revise a specification exceeded the cost of the material to be procured. Specifications management was inefficient; information was not gathered on the cost or expected benefits of developing specifications; duplication existed in several commercial-vehicle specifications; and over 50% of the active specifications were over 5 years old.

Recommendations: The Secretary of Defense and the Administrator of GSA should: develop a system for accumulation of development costs for each specific tactical or standardization project and the expected benefits or procurement volume as a basis for approval of each project; change current procurement and standardization regulations to require that development of all new specifications be justified by consideration of development cost versus expected benefits; and revise procurement regulations to permit repeated use of purchase descriptions for commercial products on a repetitive basis where annual procurements do not exceed \$100,000. The two officials should take action to eliminate the duplication that exists between GSA and Department of Defense commercial-vehicle specifications and should establish procedures whereby specifications are screened and eliminated from the system if they are not used in a 5-year period. (Author/SW)

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REPORT TO THE CONGRESS

*BY THE COMPTROLLER GENERAL
OF THE UNITED STATES*

04141



Government Specifications For Commercial Products--Necessary Or A Wasted Effort?

The Government uses many specifications and standards to procure the commercial products it uses. Several studies have raised questions about the usefulness of these documents, and improvements are being made. GAO suggests some improvements that can be made by the General Services Administration and the Department of Defense in the management of Government specifications.



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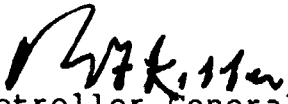
To the President of the Senate and the
Speaker of the House of Representatives

This report summarizes some of the major problems associated with the use of Government specifications in purchasing common commercial items. We also discuss some of the current efforts designed to deal with these problems and some weaknesses needing attention.

This work is part of our continuing effort to achieve greater efficiency and economy in Government. One factor in selecting this topic was the numerous questions raised in the private sector about the development and use of Government specifications and standards in the procurement process.

We made our review pursuant to the Budget and Accounting Act, 1921 (31 U.S.C. 53), and the Accounting and Auditing Act of 1950 (31 U.S.C. 67).

We are sending copies of this report to the Acting Director, Office of Management and Budget; the Secretary of Defense; and the Administrator of General Services.


ACTING Comptroller General
of the United States

D I G E S T

GAO believes the number of detailed Government specifications can be reduced. Good arguments can be made both for and against the use of such specifications; however, several recent studies identify problems related to them. GAO recommends ways the Department of Defense and the General Services Administration can solve these and other problems.

STUDIES

The Commission on Government Procurement concluded that

--many Government specifications were outdated, too complex, and too costly to develop and maintain and

--these deficiencies eliminated to a large extent the primary advantages attributable to specifications--standardization and competitive procurement.

In two Defense Department studies, the Defense Science Board concluded that military specifications and standards increased procurement costs in some cases. One study found that commercial off-the-shelf electronic test equipment could be used to replace many military specification items at lower cost. The second study concluded that the specifications and standards covering such things as quality control, configuration management, and maintainability were being applied too stringently. (See pp. 5 to 6.)

On May 24, 1976, the Office of Federal Procurement Policy announced a major policy change that affects the Government's procurement and supply of commercial products. It stated that the Government would purchase

commercial off-the-shelf items when the items met the Government's needs and also that the Government would use commercial distribution systems. Implementation of this policy is being studied. One area being reviewed is the need for and the use of present specifications. (See pp. 7 to 9.)

WHAT TO DO?

The decision to use or not use a Government specification to procure commercial products is not simple. Numerous factors relating to procurement and specifications types complicate the matter. Formal advertising, as the preferred Government procurement method, is most easily accomplished by using precise specifications. These specifications can be costly to develop and maintain.

On the other hand, brand-name-or-equal buying would eliminate the need for detailed specifications and allow procurement of readily accessible off-the-shelf products. But this buying would limit competition and have disadvantages for determining which products best meet Government needs. (See pp. 12 to 17.)

Improvements can be and in some cases are being made. Current regulations do not provide cost-versus-benefit guidance for the development or maintenance of specifications. Several instances were identified where the cost to develop or revise a specification exceeded the cost of the material to be procured. Also, repeated use of purchase descriptions (like specifications, but not formally approved by everyone affected by the product) was prohibited by regulation, although such use would frequently be more economical than specifications for small procurements.

GAO found specifications management inefficient. Information was not being gathered on the cost or expected benefits of developing specifications.

Also, duplication existed in several commercial-vehicle specifications, and over 50 percent of the active specifications were over 5 years old. The average specification age was increasing. (See pp. 18 to 30.)

RECOMMENDATIONS

The Secretary of Defense and the Administrator of General Services should consider changing the procurement regulations to:

- require that specifications be justified on the basis of cost versus benefits and
- permit repeated use of purchase descriptions on procurements up to \$100,000.

A system should be established where cost-versus-benefits or cost-versus-procurement volume would be a basis for approving standardization projects. Finally, the duplication in vehicle specifications should be eliminated and outdated, unused, and uneconomical specifications should be purged.

AGENCY COMMENTS

Defense agreed with most of the report but does not believe that purchase descriptions cost any less to develop than specifications. (See pp. 24 to 26.)

General Services generally agreed with the report but felt that GAO overemphasized the use of a cost-versus-benefit analysis to justify specification development. The agency felt that intangible benefits may outweigh the tangible benefits of developing a particular specification. (See pp. 23 to 24.)

Both agencies agreed to eliminate the duplication in commercial-vehicle specifications. General Services agreed that unused specifications should be eliminated and has a program to do that. Defense foresees

problems in determining which specifications are not being used and feels that the cost of keeping a specification is less than the cost of developing a purchase description should it be needed. (See pp. 27 and 29 to 30.)

C o n t e n t s

Page

DIGEST

i

CHAPTER

1	OVERVIEW OF GOVERNMENT AND INDUSTRY INVOLVEMENT IN STANDARDIZATION	1
	Government involvement	1
	Industry involvement	2
	Definitions and types of specifications and standards	2
2	STUDIES OF GOVERNMENT SPECIFICATIONS FOR COMMERCIAL PRODUCTS AND EFFORTS TO SOLVE PROBLEMS	4
	Commission on Government Procurement study of specifications and standards	4
	Defense Science Board studies identify specification problems	5
	Our reports on specification problems	6
	Current studies to examine the procurement and supply of commercial products	7
	Efforts to make greater use of commercial standards	9
3	DESCRIBING WHAT THE GOVERNMENT PLANS TO BUY	12
	Describing Government requirements to achieve maximum competition	12
	Need for standardization and its effect on competition	13
	Describing a product design or performance	14
	Qualified products lists	16
	Conclusions	17
4	CHANGES NEEDED AND CURRENT EFFORTS UNDERWAY TO IMPROVE SPECIFICATION DEVELOPMENT AND SPECIFICATION MANAGEMENT	18
	Need to give greater attention to costs associated with specification development and maintenance	18

		<u>Page</u>
CHAPTER		
	Conclusions	22
	Recommendations	23
	Agency comments	23
	Need for elimination of duplication in GSA and DOD commercial-vehicle specifications	26
	Conclusion	27
	Recommendation	27
	Agency comments	27
	Need for increased attention to improve specification management	27
	Conclusion	29
	Recommendation	29
	Agency comments	29
5	SCOPE OF REVIEW	31
APPENDIX		
I	problems identified by GAO relating to Government specifications for commercial products	32
II	GSA and DOD commercial-vehicle specifications listed as duplicative specifications in Army Tank Automotive Command study	35
III	GSA and DOD commercial-vehicle specifications listed as partially duplicative specifications in Army Tank Automotive Command study	35
IV	Letter from Principal Deputy Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics) dated July 21, 1977	38
V	Letter from Administrator of General Services dated July 7, 1977	42
VI	Principal officials responsible for administering activities discussed in this report	46

ABBREVIATIONS

DOD	Department of Defense
DLA	Defense Logistics Agency
FSS	Federal Supply Service
GAO	General Accounting Office
GSA	General Services Administration
CFPP	Office of Federal Procurement Policy
VA	Veterans Administration

CHAPTER 1

OVERVIEW OF GOVERNMENT AND INDUSTRY

INVOLVEMENT IN STANDARDIZATION

GOVERNMENT INVOLVEMENT

The Federal Property and Administrative Services Act of 1949 gave the General Services Administration (GSA) the responsibility to establish and maintain a Federal-supply catalog system. Additionally, GSA was authorized to prescribe standards and specifications for use by Federal agencies. From this authority, a system of Federal and interim Federal specifications and standards was created. Currently, about 4,550 specifications and 1,550 standards are cataloged by GSA. Responsibility for developing and managing specifications and standards within GSA rests with the Federal Supply Services--Office of Standards and Quality Control.

The Defense Cataloging and Standardization Act of 1952 required the Department of Defense (DOD) to achieve the highest practicable degree of item standardization by using single specifications. The act was implemented by DOD Directive 4120.3 which established the present military series of specifications and standards. To date, some 40,000 different standardization documents (including specifications, standards, and handbooks) have been developed and issued through DOD. In DOD, 88 activities are responsible for the Defense standardization program.

Over the last 25 years, DOD, GSA, and other Federal agencies have developed a body of specifications to further standardization program objectives and provide formal, coordinated descriptions for use by Government agencies in purchasing products. In general, procurement laws require the Government buyer to give each seller an equal opportunity to compete. Formal advertising is the preferred procurement method. Specifications setting forth the buyer's minimum needs are essential to effective use of formal advertising so that interested sellers can prepare and submit responsive sealed bids.

Since the Government uses products that are the same as or similar to commercial products produced for the general public, many specifications were developed to be used for procuring commercial products. For this report's purposes, commercial products are commercially developed items sold in substantial quantities to the general public.

INDUSTRY INVOLVEMENT

A large body of industry specifications and standards have been developed by national and international industry associations, societies, and standardization organizations.

The American National Standards Institute is the coordinating agent for approximately 6,000 national standards. There are many other organizations that develop and publish industry specifications and standards. Some examples are: the American Society for Testing and Materials, the Underwriters Laboratory, and the Technical Association of the Pulp and Paper Industry.

DEFINITIONS AND TYPES OF SPECIFICATIONS AND STANDARDS

The Government uses two basic types of standardization documents in contracting: (1) specifications and (2) standards. A specification is defined as a document that clearly and accurately describes the essential and technical requirements for items, materials, or services, and that includes the procedures by which a determination can be made that the requirements have been met. Government specifications for items and materials may also contain preservation, packing, and marking requirements.

Federal and military specifications are the two major types of Government specifications. Federal specifications are designed and developed for procurement of goods or services to be used by two or more Government agencies and are maintained by GSA. Military specifications are developed by DOD and are tailored to meet the requirements and needs of one or more of the military services. Other Government agencies (such as the National Aeronautics and Space Administration, or the Veterans Administration (VA)) may also develop specifications for products that meet their special needs.

Federal and military standards establish engineering and technical limitations and applications for items, materials, processes, methods, designs, and engineering practices. Standards are primarily to achieve uniformity in materials or products and, unlike specifications, are not normally used alone as procurement documents.

The words "standard" and "specification" are used interchangeably in industry. In most cases, the documents are referred to as industry standards rather than specifications.

These documents also define engineering and technical limitations to obtain commonality in methods for developing or testing materials or products.

A basic difference exists between Government specifications and industry standards. Government specifications are usually documents that outline design and performance characteristics of a product for procurement. While there are industry standards for products, most industry documents cover product safety standards or testing methods for materials or substances that will go into the making of a product rather than the complete item.

CHAPTER 2

STUDIES OF GOVERNMENT SPECIFICATIONS FOR COMMERCIAL PRODUCTS AND EFFORTS TO SOLVE PROBLEMS

In recent years several studies have addressed the Government's methods of obtaining commercial products and the need for Government specifications. The Commission on Government Procurement, the Defense Science Board, and our office have identified Government specifications and standards as a problem area in the acquisition of commercial products. As a result efforts are underway to develop policies and implementing procedures designed to obtain greater use of those products already available in the commercial marketplace and to reduce the burden and cost associated with Government specifications and standards.

COMMISSION ON GOVERNMENT PROCUREMENT STUDY OF SPECIFICATIONS AND STANDARDS

The Commission on Government Procurement was established by Public Law 91-129 to undertake a study of Federal Government procurement. One Commission topic was the acquisition of commercial products, including Government specifications and standards. The Commission report published in late 1972 cited the following problems:

- Many specifications have become too complex for needs and inhibit or exclude commercial products.
- The process of developing specifications is very costly, time consuming, and often poorly coordinated.
- Many specifications are of marginal value because of their age.

The Commission recognized that Government specifications have advantages in that they provide a basis for standardization, establishing quality levels, and competitive procurement. If the specifications are too complex or obsolete many commercial products will not meet the requirements, fewer producers will compete for Government business, and higher prices will be paid for special features.

As a result of its study the Commission's recommendations were:

- Require that development of new Government specifications for commercial-type products be limited to those that can be specifically justified, including the use of total cost-benefit criteria.
- All commercial product-type specifications should be reevaluated every 5 years.
- Purchase descriptions should be used when Government specifications are not available.

The Office of Federal Procurement Policy (OFPP) was established in the Office of Management and Budget by Public Law 93-400 as a focal point for implementation of the Commission recommendations. OFPP has issued a statement of Government policy on procurement and supply of commercial products and is currently working jointly with DOD, GSA, and VA on implementing this policy. The direction and status of this work is discussed on pages to .

DEFENSE SCIENCE BOARD STUDIES IDENTIFY SPECIFICATION PROBLEMS

Two task force studies undertaken by the Defense Science Board (a senior technical advisory group to the Secretary of Defense) identified Government specifications as a source of problems in the procurement process.

In February 1976 the Task Force on Electronic Test Equipment reported its findings and recommendations to the Defense Secretary. The task force noted that the military services often use military specifications calling for specially designed electronic test equipment when modified-commercial or off-the-shelf equipment would perform the required function. Using current military specifications tends to complicate contract administration and increase costs, delay delivery, foster the production of obsolescent equipment, sharply increase logistic support costs, and create operational, maintenance, and calibration problems. Moreover, many obsolete military specifications remain in the system.

The task force made 28 recommendations of which 3 were directed to specifications as follows:

- Implement a procedure requiring justification for development of a new military specification where off-the-shelf electronic test equipment can meet requirements. Augment resources as necessary to eliminate obsolete test-equipment specifications.

- Raise the priority of the ongoing task of revising general military specification MIL-T-28800 (test equipment for use with electrical and electronic equipment) and assure that it facilitates the procurement of commercial off-the-shelf test equipment.
- Reduce overapplication of specification requirements such as those dealing with: environmental requirements; military parts, materials, and processes; and excessive drawing and documentation requirements.

Another effort involved in this area was the Task Force on Specifications and Standards, convened to identify the factors contributing to unnecessary contract costs arising from military specifications and standards. In mid-1975 this task force reported its preliminary findings to the Deputy Secretary of Defense. A formal report was issued on April 14, 1977. The study's primary emphasis was on the nonproduct specifications and standards covering requirements such as quality control, configuration management, reliability and maintainability, etc. The task force concluded that problems and increased costs arose more from a tendency to overdo both application and enforcement rather than from the detailed content of the documents themselves.

The task force made a number of recommendations directed toward (1) improving the climate of application of these specifications throughout DOD and industry, (2) evolutionary improvement in the existing body of specifications and standards, and (3) strengthening and focusing management resources and attention on the problem. One recommendation was to foster increased use of applicable commercial specifications and standards. Work is continuing in DOD and the military services to reduce the burden and cost associated with non-product specifications and standards by implementing the improvements suggested by the task force.

OUR REPORTS ON SPECIFICATION PROBLEMS

We issued several prior reports that identified problems with Government specifications. The problems involved:

- Packaging specifications and standards were repetitious, redundant, or not applicable and commercial packaging may be suitable for military requirements.
- A low number of bids received repeatedly for the same items without revision of specifications or purchase descriptions to increase competition.

- Defense procuring agency has been unable to depart from rigid food specifications when market conditions change and result in higher costs and shortages of some items.
- The number of beef suppliers is limited because specifications are costly, complex, and possibly more stringent than required for the military services needs although institutional meat specifications do exist.
- High management, investment, and storage costs associated with military stocking of common-use commercial-type items when many of these items are available from commercial sources.
- Indications that there were no major differences between commercial medical products and the products required under military specifications.

A brief synopsis of our reports is included in appendix I. Corrective action has been taken in response to many of the specific problems.

CURRENT STUDIES TO EXAMINE THE PROCUREMENT AND SUPPLY OF COMMERCIAL PRODUCTS

During our review, two studies were initiated--one by OFPP, the other by DOD--to evaluate present methods for procurement and supply of commercial products to meet Government requirements. One topic to be considered in both studies is the need for Government specifications for commercial products.

OFPP study

On May 24, 1976, OFPP announced a policy change to effect the procurement and supply of commercial products. The new policy states:

"The Government will purchase commercial, off-the-shelf, products when such products will adequately serve the Government's requirements, provided such products have an established commercial market acceptability. The Government will utilize commercial distribution channels in supplying commercial products to its users."

This policy change was a direct result of the work done by the Commission on Government Procurement and its recommendations for changes in the acquisition of commercial products.

One of the areas that OFPP identified as a potential costly problem was the use of Government specifications to purchase commercial products. OFPP stated that:

"Government specifications are costly to develop and maintain. In many instances, such costs are justified in that specifications help to assure that the Government receives products which meet its requirements. In other instances, however, the Government's specifications merely add embellishments to commercial products for the purpose of establishing a competitive base. In such cases the Government is unable to acquire these unique items through commercial distribution channels and must establish and maintain its own costly supply network. Government specifications in these instances add to the complexity and, thus, the cost of the procurement process by requiring separate production runs for Government unique requirements. Too often, moreover, they discourage the submission of bids by established commercial suppliers, and foster the creation of suppliers whose products have not been tested in the marketplace and whose only customer is the Government."

OFPP issued a memorandum to the Secretary of Defense, the Administrator of Veterans Affairs, and the Administrator of General Services on December 6, 1976, giving them guidance on implementation of the new policy. The guidance contemplated a planning and analysis phase where implementation of the new policy would be tested. Approximately 300 items covered by Government specifications were selected for study. The items cover a wide range of commercial products--from soup to semiconductors at DOD; stretch socks to hospital beds at VA; and toothpicks to washers and dryers at GSA. Over two-thirds of the specifications being studied are Federal specifications.

The objectives of the specifications portion of the planning and analysis phase are to (1) eliminate overly stringent Government specifications and develop a simplified system for the competitive purchase of commercial products and (2) prevent development and use of Government specifications that unnecessarily change features of already acceptable commercial products.

In addition to specifications, other areas will be studied which include: requirements forecast planning; commercial distribution channels; marketing research requirements, warranties, and the socioeconomic impact.

In December 1976 the planning and analysis phase began and will continue through the fall of 1978. The study had not progressed to the point where we could evaluate what effect the policy's implementation would have on commercial-product acquisition, particularly in the area of Government specifications. We believe, however, that implementation of the new OFPP policy could solve many of the problems identified by the Commission on Government Procurement and others as discussed on pages 4 to 7.

DOD commercial-commodity acquisition program

Responding to Commission on Government Procurement recommendations, DOD initiated the Commercial Commodity Acquisition Program in late 1975. The program's objective is to procure and utilize commercial commodities that meet DOD mission requirements and that promise a lower cost of ownership. Directing implementation of its new policy on commercial-product procurement and supply, OFPP recognized that the DOD program had developed another list of items for analysis under the auspices of the new policy. DOD is conducting a pilot test involving about 40 items to identify potential problems throughout the entire procurement/supply cycle from solicitation of bids through user acceptance of the product. This test will continue through December 1978 and serve as the basis for development of appropriate policies and procedures to establish a continuing program. Also, a joint DOD and industry workshop is planned for January 1978 to evaluate the experience to date and solicit industry suggestions to assist in formulating policies and procedures for the continuing program.

EFFORTS TO MAKE GREATER USE OF COMMERCIAL STANDARDS

The Interagency Committee for Standards Policy has recommended issuance of a Government standards policy that would place increased emphasis on the use of non-Government specifications and standards. Also, DOD has issued a similar policy for the military services.

Interagency Committee for Standards Policy

The Interagency Committee for Standards Policy, under the Department of Commerce's leadership, was established in 1968 to study how Federal agencies should or could work with commercial standards-setting bodies to develop, improve, and use standards for materials, products, systems, and services.

In August 1976, the Committee (composed of representatives from 22 Federal agencies) forwarded the results of its work to the Office of Management and Budget for consideration. A proposed OMB circular will be issued in the future to solicit comments from the public and Government agencies. The proposed circular states that it is Government policy to rely on commercial standards, both domestic and international, whenever feasible. To implement this policy executive agencies shall:

- Participate in commercial standard-setting activities when such participation is in the public interest and is compatible with the agency's missions and authorities.
- Encourage commercial standards-setting bodies with which they interact to observe rules and procedures that assure prompt and full consideration of the views by and interests of all that might be materially affected by their actions, and evaluate participation in these bodies in light of their adherence to such rules and procedures.
- Use commercial standards in lieu of inhouse standards when they will serve the agency's purpose and are consistent with applicable laws and regulations, and give such commercial standards preference in procurement actions unless use of such standards would result in higher cost to the Government.
- Cite applicable commercial standards in Federal Register publications, regulatory orders, or related inhouse documents.
- Plan with the commercial sector to assure a coordinated effort in resolving priority standardization problems.

DOD policy on use of commercial standards

DOD issued an instruction entitled "Development and Use of Non-Government Specifications and Standards," on December 28, 1976, which emphasizes participation in the development of specifications and standards by non-Government associations, institutes, and professional societies. It provides guidance for the use of Federal and military specifications and standards for commercial products where acceptable non-Government documents do not exist.

The instruction states that it is desired that non-Government specifications and standards be adopted and used in lieu of developing a new document when there is no substantial or demonstrable advantage of a new document to DOD. The advantage shall be determined by comparison to costs, logistic support, performance requirements, quality control, and usable item life under existing specifications versus the proposed new military specification or purchase description. Duplications in the military series and non-Government standards are to be avoided and eliminated to the maximum extent practical where such duplication now exists.

CHAPTER

DESCRIBING WHAT THE GOVERNMENT PLANS TO BUY

While the decision on whether or not to use Government specifications may appear to be simple, there are many factors that complicate that decision. For example, consideration must be given to attaining maximum competition so that all qualified suppliers have a fair chance at supplying the needed items. On the other hand, in many cases there is a need to standardize and limit the numbers of different makes and models in the supply system. This dilemma and other considerations are discussed in further detail below.

DESCRIBING GOVERNMENT REQUIREMENTS TO ACHIEVE MAXIMUM COMPETITION

To achieve effective competition as required by procurement laws a rather complete description of the product to be purchased or the functions it is to perform is required. The degree of precision used in developing that description gives Government buyers the flexibility to choose among several options. In describing the item for soliciting competitive bids, the Government may either (1) develop a detailed specification, (2) develop a performance specification descriptive of the end item's performance requirements, or (3) use a purchase description such as a brand name or equal. Depending on the specifics of each procurement, the buyer must exercise judgment in selecting the most appropriate specification.

The greatest degree of precision is contained in detailed specifications. These describe the material to be used, as well as the exact physical characteristics (i.e., shape, size, color, etc.) of the product to be purchased. Also, the criteria and test procedures that will be used to determine whether the seller's product is acceptable are described. As might be expected, detailed specifications are both costly and time consuming to develop and maintain. Furthermore, the specifications must be periodically reviewed and updated to assure currency.

Performance specifications generally describe a product by its capacity, function, or operation instead of physical characteristics. The seller need only demonstrate performance to achieve acceptability. Therefore, performance specification development and maintenance costs should generally be less than those associated with detailed specifications.

Furthermore, performance specifications allow a greater degree of innovation by sellers and should require less updating.

When it is impracticable or uneconomical to develop either detailed or performance specifications, a purchase description may be used. The purchase description should describe essential physical and functional characteristics. Generally, the minimum acceptable purchase description is the use of a brand name followed by the words "or equal." Purchase descriptions are like specifications, but not formally approved by everyone affected by the product. While the brand-name-or-equal description is much simpler and therefore less costly than detailed or performance specifications, it involves the problem of determining whether items meet the "or equal" test and how the Government can assure itself that an acceptable-quality product is delivered.

Complicating what appears to be a simple decision of selecting the lowest initial-purchase price is the concept of purchasing a product that will be of the best overall value for the Government. This concept is termed "life-cycle cost" and attempts to determine the best overall value to the Government by considering the initial purchase price plus the operation and maintenance costs over the product's useful life. Procurement of an item on a life-cycle-cost basis requires a specification in sufficient detail to provide the buyer with the necessary criteria to judge which product meets the Government's needs at the lowest life-cycle cost.

A buyer faces many difficult decisions in determining whether to seek competition by requiring a detailed specification or whether sufficient competition can be achieved by using a brand-name-or-equal description. Departing from detailed specifications complicates efforts to obtain items with the lowest life-cycle cost. Also, definitive criteria helps to defend against possible bias charges in selecting the successful bidder.

NEED FOR STANDARDIZATION AND ITS EFFECT ON COMPETITION

A dilemma exists between the fundamental concepts of standardization and competitive procurement. Standardization tends to limit the number of items entering Government inventory. The reduction in the number of items entering the supply and distribution system leads to lower costs associated with cataloging, supply support, and maintenance support.

Standardization is even more important in situations where the Government intends to purchase a piece of equipment that will require maintenance and spare parts during its useful life. It is therefore necessary to try to limit the wide variety of makes and models of commercial equipment to one or very few of the available equipment. Standardizing on a smaller number of basic equipment types can achieve economies by reducing the variety of spare parts needed to support the equipment during its useful life, by simplifying the training of maintenance personnel, and by providing for greater parts interchangeability among equipment models in use.

Competitive procurement, on the other hand, has as its objective getting the greatest number of qualified manufacturers to compete for a contract, preferably through the use of formal advertising, sealed-bid procedures. This is to get the lowest possible price for a product that meets requirements. The result may be numerous and varying items in the supply system because, conceivably, each procurement could result in the acquisition of a new make or model. Consequently, initial savings on the purchase price achieved through competition may be more than offset by the increased costs associated with the support of many varieties of items in the supply and distribution system. Likewise, savings attributable to standardization may be at the expense of sacrificing savings attainable through maximum competition.

DESCRIBING A PRODUCT DESIGN OR PERFORMANCE

Both standardization and competition are important Government procurement objectives. To accomplish these objectives, specifications are developed and used. As discussed earlier, these specifications take two basic forms--detailed design specifications and performance specifications. Many pros and cons have been associated with the application of each.

A logistics problem associated with Government use of design specifications is the creation of a costly Government storage and distribution system for items that are not generally used commercially. Design specifications often lead to the procurement of unique Government items. In the commercial marketplace it would be unlikely that manufacturers would invest heavily in producing and stocking unique commercial products for the Government. Although the Government represents the largest single concentration of purchasing power in the United States, most industries that produce commercial products sell a relatively small share of their total output to the Government.

Logistics problems have also been associated with performance specifications. In 1965 DOD initiated a study of mobile electric generators because of problems encountered in Vietnam. In 1965, there were over 2,000 different makes and models of generators in the DOD inventory. The generators deployed with the troops were commercial or quasi-commercial models that had been procured to performance specifications.

The study identified 74 different makes and models of generators located throughout Vietnam, making responsive logistic support of repair parts almost impossible. DOD was able to reduce the number of different models from 2,000 to 35 by going to a specification tailored more to military needs. By standardizing on 35 models, DOD cited support costs reductions of \$83 million, avoidance of \$7.5 million in research and development costs, and intangible benefits.

The example above raises a related issue. Performance specifications have the advantage of permitting flexibility of design which could lead to improved products on the basis of new technology. On the other hand, this flexibility in specifications could work in reverse. Marginal suppliers look for loopholes in specifications and often find them. As long as the contractor's product meets specified performance requirements the Government has no alternative but to accept it even though a portable electric fan may be made of cast iron or a broom handle made of cardboard. Consequently, attempts to close loopholes cause more and more detailed specifications.

Other pros and cons of design and performance specifications include (1) it is easier to measure compliance with a design specification, but it is easier to purchase commercially available items with performance specifications and (2) constant revision and updating of design specifications is required to keep up with technology while, on the other hand, it is more difficult to state minimum requirements in a performance specification.

It is difficult to find a Government specification that is completely design or performance. Many of them contain elements of both types. The correct mix of each is a gray area; however, it is believed that using design and performance characteristics allows suppliers some flexibility to furnish products that fit their normal production processes and at the same time provides the Government sufficient control to be assured that it gets the desired product.

QUALIFIED PRODUCTS LISTS

One procurement method used to overcome specification complexities is the Government's Qualified Products List. As of January 1976, 116 Federal specifications and approximately 1,700 military specifications were covered by qualified products lists. Generally, the method used to determine whether products meet specifications is through a product acceptance test after it has been produced under Government contract. In some cases, however, acceptance testing a product would be so complex, expensive, or extensive that such testing would cause significant delays in product delivery. To avoid such delays, the product goes through qualification testing for compliance with specification requirements in advance of and independent of any specific procurement action. Product qualification involves submitting a product by the manufacturer for qualification testing, examining and testing the product, and then identifying the manufacturer's product on a qualified products list if it meets specifications. Subsequent procurements are limited to manufacturers' qualified products.

However, before including qualification in a specification it must be determined that (1) no other procurement means is practical, (2) sufficient suppliers are available that would be willing to submit their products for qualification, and (3) test facilities are available to establish and maintain the Qualified Products List. Specific criteria for qualified products are set forth in GSA and DOD standardization manuals.

Like the other methods previously mentioned, the Qualified Products List has its advantages and disadvantages. The Qualified Products List helps to speed up the procurement process and reduce the possibility of contracting with a manufacturer that is incapable of complying with specifications. Also, qualification procedures in specifications cannot be used to encourage development of an item for which there may be no known manufacturer in order to avoid potential development costs.

On the other hand, the very nature of qualified products tends to reduce competition because the items are purchased only from those manufacturers whose products are on the Qualified Products List. Furthermore, qualification-test costs that are borne by manufacturers can limit competition because the probability of future Government business may not be large enough to justify the expense of having products qualified.

CONCLUSIONS

The numerous conflicting factors related to Government specifications for commercial products indicate that formal advertising, brand-name-or-equal buying, life-cycle costing, qualified products lists, design specifications, and performance specifications are not a panacea for solving all Government procurement problems. No one of these alternatives can be applied in procuring all commercial products.

The most appropriate type of specification or method of procurement depends on factors such as the item's complexity, the extent of maintenance support required, the item's availability on the commercial market, and the number of qualified producers. Therefore, no one approach is appropriate for acquiring all commercial products and numerous conflicting factors must be considered as they apply to product types or groups.

The complexity of Government specifications for commercial products has been an issue for many years. Sound judgment and common sense must be exercised on an individual case-by-case basis. As discussed in this report, many efforts are underway to solve the problems involved.

CHAPTER 4

CHANGES NEEDED AND CURRENT EFFORTS UNDERWAY TO IMPROVE SPECIFICATION DEVELOPMENT AND SPECIFICATION MANAGEMENT

In reviewing GSA and DOD procedures related to the development and use of specifications for commercial products, we found that (1) current regulations do not provide guidance for using cost-benefit criteria for specifications development and maintenance, (2) some duplication or partial duplication of specifications exists between DOD and GSA, and (3) efforts to keep specification documents current have not been effective.

NEED TO GIVE GREATER ATTENTION TO COSTS ASSOCIATED WITH SPECIFICATION DEVELOPMENT AND MAINTENANCE

In its 1972 report, the Commission on Government Procurement recommended that new specifications for commercial products be limited to those that could be justified by using total cost-benefit criteria. We found that current regulations do not provide sufficient guidance for using cost-benefit criteria for specifications and there was little evidence that cost was a factor considered in specification development or maintenance at GSA and DOD. During this review, however, GSA's Federal Supply Service (FSS) established a cost-benefit criteria for specification development. Also, the Army's Mobility Equipment Research and Development Command took steps to accumulate information on the cost of specification projects.

Insufficient attention given to cost versus benefits of specification activities

No provisions were found in either DOD or GSA regulations that required a cost-benefit determination before development of a new specification or in evaluating the need to revise or cancel current specifications. In addition, several instances were found where specifications were developed or revised although the procurement volume was unknown or was less than the dollar criteria cited in regulations.

GSA and DOD regulations state that Federal and military specifications need not be used for items where the total purchase amount will not exceed \$10,000. Further, regulations prohibit the repetitive use of purchase descriptions in lieu of a Federal or military specification. Therefore, when there are repetitive procurements over \$10,000, specifications are required as a basis for soliciting prices.

Armed Services Procurement Regulation 1-1202 states that specifications need not be prepared when

"* * * it is impracticable or uneconomical to prepare a specification, however, repetitive use of a purchase description containing the essential characteristics of a specification will be construed as evidence of improper use of this exception."

FSS officials stated that in fiscal year 1976 they estimated that 56 new specifications and standards would be developed. We reviewed 80 specification files at FSS and the Army's Mobility Equipment Research and Development Command; 45 of these files were new Federal specifications and standards developed by FSS in fiscal years 1975 and 1976. The specifications covered items such as a paper towel dispenser and office furniture for GSA, and mosquito traps and railway cars for items purchased by the Army.

There were no costs, actual or estimates, calculated for the development, revision, or amendment of specifications. In most cases, the files contained estimates of the number of hours to be expended by the specification manager in developing or revising the specification. However, no efforts appeared to have been made to relate costs to these staff-hour figures, nor were any efforts made to calculate additional costs associated with specification projects such as laboratory support, internal coordination costs, printing costs, and other administrative support.

Based on budget information furnished by the FSS Office of Standards and Quality Control, the average cost to develop a new specification in fiscal year 1976 was \$17,241, the average cost to revise a specification was \$6,773, and the average cost to develop a purchase description was \$1,127.

In this regard, for 2 of the 45 new specifications (for steel overfile storage sections and for latex-polyurethane clear coating for interior use) the estimated annual procurement cost for the specified item was \$10,000. For eight other cases the files provided no indication of the purchase amount to be made under the new specifications. Another specification (for traffic and airfield marking paint) was developed in fiscal year 1975 in anticipation of sales estimated at \$800,000 although the known user agency, the Air Force, was purchasing a commercial product to meet its requirement.

Reviewing seven specification revisions completed by FSS in fiscal year 1976, we found that one specification for ready-mixed paint was revised where the estimated purchase volume was only \$2,000. A second specification was revised and there had been no purchases using the specification. The latter specification was the one developed in fiscal year 1975 for traffic and airfield marking paint.

Because of the low procurement-dollar volume in the above examples, development and revision of these specifications was uneconomical particularly since (as mentioned above) the average cost in fiscal year 1976 to develop and revise a specification or standard was \$17,214 and \$6,773, respectively. Also, a specification costs about 15 times as much to develop as a purchase description.

Items covered by specifications at the Defense Logistics Agency have low demand

Another indication of possible uneconomical specification development was noted at the Defense Logistics Agency (formerly the Defense Supply Agency) where little or no demand was being experienced for many items covered by specifications.

The Defense Logistics Agency (DLA) provides logistic support to the military services and various Government civil agencies. DLA manages consumable common-use commercial-type supply items similar to GSA although generally the items are used only by the military. (For a description of the DLA and GSA supply roles, see our report "Status and Progress Toward Implementing a National Supply System," LCD-75-232, Feb. 18, 1976.) A review of standardization reports prepared by DLA depots showed that specifications have been developed for items that have little or no demand for issuance. At four DLA depots 33 percent of the 189,445 active supply items covered by specifications showed no issues in fiscal year 1976 and an additional 18 percent of the items purchased by specifications had an annual demand of \$400 or less.

In a previous GAO report ("Greater Use of Commercial Distribution Systems for Minor, Low-Use Supply Items Can Reduce Defense Logistics Cost," LCD-76-422, Aug. 9, 1976) we reported that most items managed by DLA are low-cost, low-use items and many of these items are readily available from established commercial supply sources. We recommended that DLA (1) give greater consideration to commercial availability and costs of central management when deciding the best supply method for items entering its supply system and (2) stress greater use of Federal Supply Schedules, indefinite-delivery contracts,

and local purchase authority for those low-cost, low-use items that are readily available from established commercial sources.

DOD agreed with our recommendations, and advised that the recommendations would be considered in revising the DOD Instruction for Centralized vs. Decentralized Management.

Recent actions taken to improve specification management

During this review, the GSA Office of Standards and Quality Control developed the Specification Improvement Program that provides for new controls as follows:

- Establishment of criteria to justify development, revision, or maintenance of a Federal specification.
- Establishment of a specification review board to review, monitor, and approve all specification-related actions.
- Post audits of specification projects.

The new criteria states that to justify development of a new specification (1) at least an annually recurring requirement for the materials, products, or services must exist and (2) the annual requirement's value must exceed the specification development cost by at least a 10-to-1 ratio. Development cost is calculated by multiplying an estimate of the staff-hours needed to develop the specification times a \$30-per-hour, productive-staff-hour rate (the staff-hour rate does not include laboratory support). However, operating cost data indicates that laboratory support made up 39 percent of the total dollars spent on specification revisions. In our opinion, these factors indicate that a more accurate cost per staff-hour would be \$40 to \$45 if laboratory support is included in specification projects.

In addition, FSS estimated that 56 new specifications would be developed in fiscal year 1976 and 13,079 staff-hours would be expended on these new specifications--an average of 234 staff-hours per new specification (excluding packaging and laboratory support). Using the FSS criteria for development of a new specification and the average staff-hours expended in fiscal year 1976, we estimated that an annual requirement of \$70,200 $[(234 \times \$30) \times 10]$ would be necessary to justify development of a new specification. When packaging and laboratory support hours are included, the requirement

figure would be \$116,100 [(387 x \$30) x 10]. This far exceeds the current criteria of \$10,000 stipulated in procurement regulations.

Since FSS has only recently formulated new criteria for development of new specifications, we could not evaluate the criteria's effectiveness in reducing the number of uneconomical specification-development projects. However, we believe that, if properly used in evaluating specification needs, the new criteria can lead to fewer specifications and more economical management of the specification program.

Effective July 1, 1976, the Army Mobility Equipment Research and Development Command instituted a procedure to accumulate costs for specification projects. The procedures provide for establishing and maintaining expenditure records for standardization projects and preparation of monthly status reports. The new procedures should assist the manager by providing him information about the dollars spent on specification projects. However, this information is after the fact and the manager needs information to determine whether to initiate specification projects.

CONCLUSIONS

The criteria for specification development under current GSA and DOD regulations is limited and does not give sufficient consideration to the cost versus benefit of developing a specification. As suggested by the Commission on Government Procurement, we believe that a cost-benefit determination should be made for each new specification development project.

We found instances where the average cost to develop or revise specifications in 1976 exceeded the cost of material to be purchased under some specifications. DOD and GSA have only recently begun to accumulate information on the cost of specification projects. Since development and maintenance of a specification can cost much more than a purchase description, we believe purchase descriptions should be used for low-dollar procurements. In addition, greater use of purchase descriptions for low-dollar-volume procurements would reduce the specification writer's workload and provide more time to correct the problem of coverage specifications discussed on pages 27 to 29 of this report.

The absence of information on the estimated cost of specification projects limits management's ability to decide whether a project is economical. While recent procedures have been instituted to better identify specification

project costs, further improvements are needed to assure that the best possible cost information is available to management and that this information is used to approve those projects that show an economic advantage.

RECOMMENDATIONS

We recommend that the Secretary of Defense and the Administrator, General Services Administration,

- develop a system for accumulation of development costs for each specification or standardization project and the expected benefits or procurement volume as a basis for approval of each project,
- change current procurement and standardization regulations to require that development of all new specifications be justified by consideration of development cost versus expected benefits, and
- revise procurement regulations to permit repeated use of purchase descriptions for commercial products on a repetitive basis where annual procurements do not exceed \$100,000.

AGENCY COMMENTS

Commenting on a preliminary draft of this report, the Administrator of General Services generally concurred with our recommendations but felt that we had placed too much emphasis on the stringent use of numerical cost-benefit criteria as the basis for the development of specifications and standards. (See app. II.) Intangible benefits such as health, safety, environment, energy savings, standardization, compatibility, interchange, and critical-function end use should be recognized as valid justifications. GSA believes that mathematical equations cannot serve as an accurate decisionmaker and should be stated only as guidelines. Further, these intangible benefits should be recognized as valid justifications in changing procurement and standardization regulations on development of all new specifications and standards. Also, GSA feels that other considerations besides dollar volume must be recognized as factors in determining the need or desirability of published specifications and standards.

GSA states that since the time of our study the Federal Supply Service has implemented specific guidelines to better manage and control the expenditure of resources for

specification development and maintenance. In addition, a management-level Specification Review Board has been established to review and approve all project initiations, maintenance actions, and other related activities requiring resources expenditure.

Intangible benefits such as those cited by GSA can be a secondary factor in justifying the development of a Government specification or standard. However, following from GSA's authority to prescribe purchase standards and specifications to be used by Federal agencies is the need to purchase and supply those agency needs. In this context, specifications and standards are created principally as procurement documents with the expectation of tangible benefits through procurement or supply-management economies. Therefore, we believe that expected tangible benefits should be the primary consideration in a decision to develop a new specification or standard. The new system instituted by GSA to use a cost-benefit factor of 10-to-1 as an evaluation factor for new specification-development projects conforms to the intent of our recommendation. To assure that tangible benefits are the primary consideration for new specification projects, we believe that development costs should be considered in project approval decisions, and both procurement and standardization regulations need to recognize the primary importance of a cost-benefit consideration.

The guidelines developed by GSA to better manage and control resources expenditure for specification development and maintenance and the establishment of the Specification Review Board should reduce future unnecessary or uneconomical Federal specifications and standards developed and maintained by GSA.

The Principal Deputy Assistant Secretary of Defense (Manpower, Reserve Affairs and Logistics) did not agree completely with all our conclusions and recommendations, but did concur in general with the report's main thrust. (See app. IV.) DOD agrees that specifications should not be developed unless the preparation cost can be justified by expected benefits. Although pessimistic about the effect on the number of specifications prepared, DOD agreed to add appropriate guidance to the governing regulations. DOD notes that the examples in this report are principally Federal specifications used in GSA purchases and do not normally affect Defense contractors. For military or Federal specifications that cover components purchased by or processes used by Defense contractors, cost-benefit judgments must be subjective and not based solely on procurement volume. The statistics

on low-demand items discussed on page 20 are considered misleading because of a high rate of procurement and use of DLA items by contractors. DOD estimates that only 5 percent of the procurements based on military electronic specifications are made by DLA and the balance by original-equipment manufacturers.

As for the specification development cost, DOD believes that there is no substantial cost difference between specifications and purchase descriptions. DOD believes that there is a much higher payoff in concentrating on eliminating non-essential specification requirements than in performing cost-benefit analyses. This is the direction that the several specification improvement efforts being undertaken by DOD (such as the Commercial Commodity Acquisition Program) is progressing.

DOD cites greater use of nationally organized specifications and standards produced by non-Government bodies as an additional area of high return that is being pursued. In this regard, DOD states that it is eliminating military specifications that duplicate usable industry documents.

DOD believes that an increase in the dollar limitation for which purchase descriptions may be used in lieu of specifications would foster preparation of duplicate purchase descriptions and result in deviations in product features that unnecessarily proliferate the number of items in the supply system.

We did not review the use of Federal specifications by Defense contractors since the primary use of such specifications is for direct procurements by DOD. Furthermore, many of the items purchased and managed by DLA, other than the electronic items cited by DOD such as medical and dental equipment and supplies, are not procured by original-equipment manufacturers.

As discussed on page 19 information was not available to determine the DOD cost of developing either specification or purchase descriptions. However, we believe that specifications are more expensive to develop because they are coordinated with manufacturers and other Government users, are catalogued and printed, and are maintained in a formal repository. On the other hand, purchase descriptions are prepared by the buying activity as a procurement document and do not require extensive coordination, cataloging, and continual maintenance or distribution.

We agree that an elimination of nonessential specification requirements can lead to substantial savings. We believe, however, equal attention should be given to the initial screening of specification development projects to reduce expenditure of resources at a later date to eliminate nonessential requirements. We believe DOD should continue the specification improvement efforts currently underway as well as institute measures to reduce the number of duplicate military specifications currently in existence and help prevent unnecessary future duplications.

NEED FOR ELIMINATION OF DUPLICATION IN GSA AND DOD COMMERCIAL-VEHICLE SPECIFICATIONS

A 1971 House Appropriations Committee staff study concluded that duplication existed between DOD and GSA commercial-vehicle specifications. The study concluded that there were economies to be gained by consolidating duplicate specifications and recommended such action. In appropriations hearings DOD said that consolidation action was being taken.

We found, however, that duplication and partial duplication still exists between GSA and DOD commercial-vehicle specifications. For example, a 1975 report prepared by the Army's Tank Automotive Command cited seven DOD vehicle specifications that were essentially the same as existing GSA specifications. The report recommended that the seven duplicative military specifications be canceled.

Duplicate specifications cover sedans, station wagons, and light commercial trucks under 10,000 pounds gross vehicle weight. (See app. II.) Federal Procurement Regulations require that GSA purchase all vehicles for the Government under 10,000 pounds gross vehicle weight. Presently, however, purchases of these vehicles are accomplished by using Federal standards and specifications for vehicles used by civil agencies and military specifications for vehicles used by DOD.

We reviewed the May 1976 edition of DOD's Index of Specifications and Standards to see if the seven military specifications that duplicated Federal specifications were still active. We noted that six of the seven were still listed. GSA officials stated, however, that they have a proposed consolidation plan whereby the remaining duplicative military specifications would be phased out by 1978. DOD approval of the consolidation plan was still pending at the end of our review.

The Army report cited another 24 DOD specifications that partially duplicated existing GSA specifications, but it recommended retention of the military specifications. The specifications reported as being partially duplicative included ambulances, trucks, and truck tractors, most of which exceed 10,000 pounds gross vehicle weight. (See app. III.) For vehicles over 10,000 pounds, GSA develops specifications and purchases vehicles for civil agencies, while DOD develops specifications and purchases vehicles for military use.

CONCLUSION

Savings can be realized by eliminating additional administrative costs associated with the development and maintenance of duplicative vehicle specifications. Further, because many vehicles over 10,000 pounds are of a commercial nature, we believe that there is a potential for use of a common set of specifications for many vehicles that currently have partially duplicative specifications. In addition to reducing the unnecessary administrative costs of duplicate specifications, a potential exists for economies attributable to greater volume procurements using a single specification.

Although work is underway to eliminate duplicate specifications for vehicles under 10,000 pounds, we believe that renewed effort is needed by GSA and DOD to finalize and implement phaseout of duplications. Also, GSA and DOD should work jointly to eliminate the partial duplication that exists in specifications for commercial-type vehicles over 10,000 pounds.

RECOMMENDATION

We recommend that the Secretary of Defense and the Administrator, General Services Administration, take action to eliminate the duplication and partial duplication that exists between GSA and DOD commercial-vehicle specifications.

AGENCY COMMENTS

DOD and GSA concurred with our recommendation.

NEED FOR INCREASED ATTENTION TO IMPROVE SPECIFICATION MANAGEMENT

We found that the number of Federal specifications and standards over 5 years old has increased since the Commission on Government Procurement recommended that all commercial product-type specifications be reevaluated at least every 5 years. We also found that many military specifications and standards managed by DOD were overage (more than 5 years old).

Increased number of overage specification documents at GSA

The Commission on Government Procurement reported that many specifications in existence as of June 30, 1970, " * * * were of marginal value because of their age, although age alone was not a sufficient criterion for obsolescence." The Commission recommended that all commercial-product specifications be reevaluated every 5 years. DOD and GSA supported this recommendation.

We compared the ages of GSA documents as of January 1, 1976, with those that were reported by the Commission on Government Procurement. The Commission reported that 5 percent of the Federal specifications and standards were 16 years old or older in 1970. We found that as of January 1, 1976, the number of documents in this category had increased to 12 percent. In addition, we found that 3,627 (56 percent) of the 6,148 Federal specifications and standards were over 5 years old, whereas the Commission reported that 46 percent were over 4 years old.

GSA officials said that those documents that are frequently used are kept current, and although GSA has a program to review specifications every 5 years, the staff reviews overage documents as time permits. GSA pointed out that its staff resources in this area have declined by 12 percent (25 positions) since 1974 while its workload such as that imposed by Public Law 94-580 (requiring a review of all specifications and standards for inclusion of recycled materials) is steadily increasing.

Overage specifications and standards at DOD

Our review of a random sample of 4,476 specifications and standards listed in the DOD Index of Specifications and Standards showed that 2,434 (54 percent) were more than 5 years old. Projected over the universe of approximately 40,000 DOD specifications and standards, 54 percent represents 21,600 documents over 5 years old.

A table showing the age of the DOD specifications and standards follows.

<u>Age</u>	<u>Number sampled</u>	<u>Percent</u>	<u>Projection over universe</u>
Less than 6 months	179	4	1,600
6 months to 5 yrs.	1,863	42	16,800
6 yrs. to 10 yrs.	1,326	30	12,000
11 yrs. to 15 yrs.	675	15	6,000
16 yrs. and over	<u>433</u>	<u>9</u>	<u>3,600</u>
Total	<u>4,476</u>	<u>100</u>	<u>40,000</u>

We did not obtain data on the personnel resources of the 88 DOD activities involved in the DOD standardization program; however, discussions with personnel at two DOD activities indicated that they, like GSA, have an increasing workload and declining personnel resources.

CONCLUSION

We believe that elimination of uneconomical specification development or revision projects such as those discussed on pages 19 and 20 would result in more effective use of available resources and provide additional time to keep specifications up to date.

In view of GSA officials' statements about the review of frequently used specifications and our analysis of the age of active GSA and DOD specifications, it would appear that a large number of specifications are not being used and should be purged. To preclude the accumulation of overage and infrequently used specifications, we believe consideration should be given to a procedure for automatic cancellation of any specification that has not been used within a 5-year period.

RECOMMENDATION

We recommend that the Administrator, General Services Administration, and the Secretary of Defense establish procedures whereby specifications are screened and eliminated from the system if they are not used in a 5-year period or when it is not economical to revise and maintain them.

AGENCY COMMENTS

The Administrator of General Services agreed that specifications and standards should be revised and updated at least every 5 years and has made this one objective in the GSA Specification Improvement Program. However, as a result

of shrinking resources and an increasing workload, priorities are being established in relation to the dollar volume of scheduled annual procurements, and other specifications and standards are pursued as resources permit. GSA also agreed that if a Federal specification or standard is not being used it should be eliminated. In the past year over 300 specifications and standards have been canceled or replaced by simpler purchase descriptions.

DOD stated that it already employs a procedure that requires that specifications be reviewed as they become 5 years old and be (1) verified as current, (2) updated, or (3) canceled if no longer required. Because of the broad use of specifications by contractors, it is not practical to determine if they have actually been used in a procurement. As long as a specification is current and useable, DOD feels that the cost of keeping it is lower than the cost of canceling it and risking the additional cost of new purchase descriptions.

Our analysis indicated that over half the military specifications were over 5 years old and 9 percent were over 16 years old. We believe that the DOD review procedure has been ineffective in eliminating outdated and apparently unused specifications. Since a Government specification is a procurement document, the buying activity responsible for the specified items can supply purchase-volume information. In our opinion, possible contractor utilization is not a valid basis for retention of overage Government specifications. Although cost information was not available at Mobility Equipment Development Command, staff-hour charges to standardization projects showed that 2 to 3 hours were expended to cancel a specification, whereas hours expended to update overage documents ranged from 38 to 161. Information was not recorded separately for development of purchase descriptions.

CHAPTER 5

SCOPE OF REVIEW

We made our review to identify areas where improvements could be made in the Government's specification program. Our efforts concentrated on GSA and DOD specifications for commercial products.

We interviewed agency officials knowledgeable about Government specifications at (1) GSA/FSS, (2) DOD/DLA headquarters, (3) the Defense Construction Supply Center, (4) the Army Mobility Equipment Research and Development Command, (5) OFPP, and (6) the National Bureau of Standards.

We reviewed (1) specification files at GSA/FSS and the Army Mobility Equipment Research and Development Command, (2) procurement files at GSA/FSS and the Defense Construction Supply Center, and (3) industry specifications at the National Bureau of Standards.

PROBLEMS IDENTIFIED BY GAO RELATING TO GOVERNMENTSPECIFICATIONS FOR COMMERCIAL PRODUCTS

"Savings Attainable By Revising Packaging in the Department of Defense." (May 21, 1973, B-157476.)

DOD spends millions of dollars a year for packaging it does not need. It requires bidders to review voluminous standards, specifications, and guidelines that are repetitious, redundant, or not applicable. Contractors whose own commercial packaging often equals that specified are further confronted with inconsistent packaging methods required by different DOD buyers.

We recommended that DOD determine the suitability of commercial packaging for military requirements and make greater use of commercial packaging when it meets minimum Government standards.

"Use of Formal Advertising for Government Procurement Can And Should Be Improved" (Aug. 14, 1973, B-176418.)

A low number of bids have been received repeatedly for the same items without revision of specifications or purchase descriptions. This report was directed to DOD, GSA, and the Tennessee Valley Authority.

We suggested that the agencies monitor bid solicitations that elicit limited responses to identify and improve specifications that restrict competition. When there is a low bid response rate after a brand-name-or-equal purchase description was used, broader specifications should be developed if feasible or practical.

"Methods of Purchasing Food for the Military Services Are Costly And Inefficient." (Jan. 14, 1975, LCD-74-430.)

DOD's inability to depart quickly enough from rigid specifications cause higher costs and frequent shortages of required items. This could be reduced if DOD's food-purchasing agency had the flexibility to adjust to market conditions. Requirements in military food specifications and purchase descriptions that differ from commercial practice may not necessarily result in higher quality items or items that differ appreciably from the commercial products.

However, such requirements may seriously reduce the number of interested suppliers and may increase product costs.

We recommended that DOD improve the Defense Personnel Supply Center's ability to respond to changing market conditions for food products.

"Status And Progress Toward Implementing A National Supply System." (Feb. 18, 1976, LCD-75-232.)

The concept of a national supply system has been underway in the Government for more than a decade. We found that dual management of items by DLA and GSA still exists despite some improvements over the years. The review showed that inventory reductions and savings of about \$20.8 million could be realized if dual-managed items were consolidated under a single manager. In addition, we concluded that the national supply system had never been formally defined.

We recommended that OFPP and the Congress establish a formal definition of the national supply system and establish short- and long-range goals for implementing the system. We also recommended that, to eliminate dual management between DLA and GSA, OFPP should establish policy and guidance for determining which agency will manage the items, and OFPP should act as final arbitrator when disagreements arise about which agency should manage the items.

"Defense Supply Agency Could Reduce War Reserve Requirements for Medical Items." (Mar. 5, 1976, LCD-76-405.)

We found that for medical items, suppliers responding to a questionnaire said that there were no major differences between their commercial products and the products required under military specifications. A program was instituted at the Defense Personnel Supply Center in 1974 to apply current industrial technology and standards to military purchase descriptions and interim specifications. The program provides for continuing coordination of specifications for medical items with industry and the military services.

"Procurement of Beef By The Department Of Defense." (May 25, 1976, PSAD-76-142.)

DOD beef specifications are costly, complex, and possibly more stringent than required to meet the needs of military services. As a consequence, there is a limited number of meat processors that are willing or able to sell beef to DOD.

Further, it was demonstrated that much of the beef accepted from contractors did not meet specifications. Thus, DOD beef specifications are not achieving the purposes for which they were designed.

We recommended that DOD reappraise the policy of using special military beef specifications when there exist alternative institutional meat-purchase specifications that are accepted by meat processors, institutional customers, grocery stores, and Government agencies.

"Greater Use of Commercial Distribution Systems For Minor-Low-Use Supply Items Can Reduce Defense Logistics Costs." (Aug. 9, 1976, LCD-76-422.)

Most items managed by the Defense Supply Agency are low-cost, low-use items, and many of these items are readily available from established commercial supply sources. The Agency should consider supply alternatives to centrally stocking common-use, commercial-type items at high management, investment, and storage costs. We recommended that the Defense Supply Agency:

- Give greater consideration to commercial availability and central management costs when deciding the best supply method for items entering its supply system.
- Stress greater use of the Federal Supply Schedules, indefinite-delivery contracts, and local purchase authority for those low-cost, low-use items that are readily available from established commercial supply sources.

GSA AND DOD COMMERCIAL-VEHICLE SPECIFICATIONS LISTED AS
DUPLICATIVE SPECIFICATIONS IN ARMY TANK AUTOMOTIVE

COMMAND STUDY

<u>Title</u>	<u>Federal standard no.</u>	<u>Federal specification</u>	<u>Military specification</u>
Automobiles: sedans and station wagons	00122M	KKK-A-00811	MIL-A-45168
Automobiles: sedans executive	00122M	KKK-A-00850	MIL-A-45365
Trucks: 5,000 to 9,000 lbs. GVW, (note a) 4 x 4	00292	KKK-T-00645	MIL-T-12171
Trucks: 4,800 to 10,000 lbs. GVW, 4 x 2	00307	KKK-T-00723	MIL-T-45338
Trucks: utility 3,200 to 3,500 lbs. GVW 4 x 2 and 4 x 4	00307	KKK-T-00723	MIL-T-45350
Trucks: compact, 5,200 to 6,200 lbs. GVW 4 x 2	00292	KKK-T-00645	
Trucks: compact, 5,200 to 6,200 lbs. GVW 4 x 2	00307	KKK-T-00723	MIL-T-45366
Buses: school, 20-, 28-, 36-, 44-, and 60-passenger	None	KKK-B-001579	MIL-B-45368

a/Gross vehicle weight.

GSA AND DOD COMMERCIAL-VEHICLE SPECIFICATIONS LISTED AS
PARTIALLY DUPLICATIVE SPECIFICATIONS IN ARMY TANK

AUTOMOTIVE COMMAND STUDY

<u>Title</u>	<u>Federal standard no.</u>	<u>Federal specification</u>	<u>Military specification</u>
Truck, refuse compaction, rear	None	KKK-T-00701	MIL-T-2452
Trucks, ambulance, conversion	None	KKK-A-1822	MIL-T-12407
Truck, hopper, coal delivery	None	KKK-T-00701	MIL-T-13300
Truck, refuse: compaction, side	None	KKK-T-00720	MIL-T-18479
Trucks, tank: sewage and waste	None	KKK-T-00720	MIL-T-23435
Truck, bookmobile	None	KKK-T-00720	MIL-T-45305
Trucks and truck tractors: gaso- line and diesel, 14,000 to 21,000 lbs. GVW, 4 x 2	None	KKK-T-00720	MIL-T-45339
Trucks and truck tractors: Gaso- line and diesel, 24,000 to 32,000 lbs. GVW, 4 x 2	None	KKK-T-00701	MIL-T-45340
Trucks and truck tractors: gaso- line and diesel, 34,500 to 64,000 lbs. GVW, 6 x 4	None	KKK-T-00701	MIL-T-45341
Trucks and truck tractors: gaso- line 14,000 to 34,000 lbs. GVW, 4 x 4	None	KKK-T-00706	MIL-T-45354
Trucks, maintenance multiposition	None	KKK-T-00720	MIL-T-45398
Truck, tilting frame container handling	None	KKK-T-00701	MIL-T-46701

APPENDIX III

APPENDIX III

<u>Title</u>	<u>Federal standard no.</u>	<u>Federal specification</u>	<u>Military specification</u>
Trucks and truck tractors: gasoline and diesel, 36,000 to 60,000 lbs. GVW, 6 x 6	None	KKK-T-00706	MIL-T-46731
Truck: refuse compaction, front	None	KKK-T-00701	MIL-T-46748
Truck, tank aircraft fueling	None	KKK-T-00701	MIL-T-46763
Truck, tank sewage and waste	None	KKK-T-00701	MIL-T-46765
Truck, dump high lift	None	KKK-T-00701	MIL-T-46797
Truck tractor, diesel 32,000 lbs., GVW 65,000 lbs., GVW 4 x 2	None	KKK-T-00701	MIL-T-62004
Truck: pipe and sewer cleaner	None	KKK-T-00720	MIL-T-62021
Truck: tank aircraft fueling	None	KKK-T-00720	MIL-T-62032
Truck: maintenance 65-ft. aerial platform	None	KKK-T-00701	MIL-T-62035
Truck, tank propar delivery	None	KKK-T-00701	MIL-T-62051
Trucks, tank water distributor	None	KKK-T-00701	MIL-T-62068
Trucks, elevating body	None	KKK-T-00701	MIL-T-62145



ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, D. C. 20301

MANPOWER, RESERVE AFFAIRS
 AND LOGISTICS

81 JUL 1977

Mr. R. W. Gutmann, Director
 Procurement and Systems
 Acquisition Division
 U.S. General Accounting Office
 Washington, D.C. 20548

Dear Mr. Gutmann:

This is in reply to your letter to the Secretary of Defense, dated April 18, 1977, regarding GAO's draft report entitled, "Government Specifications for Commercial Products--Necessary or Wasted Effort?" (Code 950290, OSD Case 4603)

Although we cannot agree completely with all the conclusions and recommendations, we concur in general with the main thrust of the report.

It is particularly noteworthy that this report is submitted at the same time that the Department of Defense (DoD) is addressing identical issues. As examples, the Commercial Commodity Acquisition Program (CCAP) is currently being tested so as to preclude DoD design specifications in favor of off-the-shelf items; the recent issuance of DoDD 4120.20, "Development and Use of Non-Government Specifications and Standards," is encouraging greater adoption and use of industry documentation in lieu of military and federal specifications; and DoD is participating in the Interagency Committee on Standards Policy (ICSP) in response to Office of Federal Procurement Policy (OFPP) initiatives to emphasize the procurement and supply of commercial products. We believe that these actions and related programs being conducted by military activities under the Defense Standardization Program coupled with the increased emphasis that is being placed upon specification management within the OSD, will result in significant cost benefits to the government.

DoD comments concerning GAO's recommendations are contained in the enclosure hereto.

We appreciate the opportunity to comment on your draft report.

Sincerely,

ROBERT B. PIRIE, JR.
Principal Deputy Assistant Secretary
of Defense (MRA&L)

Enclosure
 Comments



DOD COMMENTS ON RECOMMENDATIONS CONTAINED IN GAO DRAFT REPORT
"GOVERNMENT SPECIFICATIONS FOR COMMERCIAL PRODUCTS --
NECESSARY OR A WASTED EFFORT?" (CODE 950290)

GAO RECOMMENDATIONS (Page 34): [See GAO note, p. 41.]

"-- Develop a system for accumulation of development costs for each specification or standardization project and expected benefits or procurement volume as a basis for approval of each project.

-- Change current procurement and standardization regulations to require that development of all new specifications be justified on the basis of consideration of development cost vs expected benefits."

COMMENT:

The DoD agrees that specifications should not be developed unless the cost of preparation can be justified on the basis of expected benefits. Appropriate guidance in this respect will be added to the governing regulations. It must be pointed out, however, that this can not be accomplished to the degree of precision envisioned by the GAO. Nor is it expected that this policy will have a significant effect on the number of specifications prepared. The examples used in the GAO report to demonstrate the rationale for the recommendations were based principally on federal specifications used in GSA purchases. These normally do not impact on defense contractors. For military specifications and federal specifications which cover components or processes used by Defense contractors, cost/benefit judgements must be subjective. Such judgements can not be based solely on government procurement volume, but must consider a number of factors such as the supply impact, the cost of duplicating purchase descriptions, the extent of contractor use, and the number of different items that can be included in individual specifications, etc. In the case of "low demand" items of the Defense Logistics Agency (DLA) used as an example on page 29 of the draft report, the statistics are misleading because of a high rate of use of DLA items by contractors. It is estimated that only 5% of the procurements to military electronic specifications are made by DLA. The balance are procured by original equipment manufacturers.

A more important basis of concern with these GAO recommendations is that they are predicated on a premise that preparation of specifications is necessarily "costly and time-consuming," and that in any event specifications cost significantly more than "purchase descriptions." A cost ratio of 15 to 1 for preparing specifications versus purchase descriptions (based on GSA cost data) is listed several places in the report. Limited information available within the DoD indicates that the ratio is not nearly this high in the Defense Department. But more specifically, the DoD believes that

there is no justification for any substantial difference in cost between specifications and purchase descriptions. If DoD's essential needs can be expressed in a purchase description, they should be expressible in a specification at essentially the same preparation costs. It is believed that there is much higher payoff in concentrating on eliminating non-essential specification requirements than in performing cost/benefit analyses. This is the direction in which the several specification improvement efforts being undertaken by the DoD, such as the Commercial Commodity Acquisition Program, is progressing.

An additional area of high return being pursued by the Defense Department lies in greater use of nationally organized specifications and standards produced by non-government bodies. Many of these documents are directly useable by the DoD. The DoD is eliminating military specifications which duplicate useable industry documents, and is encouraging the GSA to do the same for federal documents.

GAO RECOMMENDATION (Page 34): [See GAO note, p. 41.]

"-- Revise procurement regulations to permit repeated use of purchase descriptions for commercial products on a repetitive basis where the annual procurements do not exceed \$100,000."

COMMENT:

This recommendation is similarly based on an assumption that purchase descriptions are significantly less costly than specifications, and the comments made above apply. It is considered that an increase in the dollar limitation for which purchase descriptions may be used in lieu of specifications would foster preparation of duplicate purchase descriptions resulting in deviations in product features which unnecessarily proliferate the number of items in supply.

GAO RECOMMENDATION (Page 37): [See GAO note, p. 41.]

"We recommend that the Secretary of Defense and the Administrator, General Services Administration take action to eliminate the duplication and partial duplication that exists between GSA and DoD commercial vehicle specifications."

COMMENT:

Concur.

GAO RECOMMENDATION (Page 41): [See GAO note, p. 41.]

"We recommend that the Administrator, General Services Administration and the Secretary of Defense establish procedures whereby specifications are screened and eliminated from the system if they are not used in 5-year period, or when it is not economical to revise and maintain them,"

COMMENT:

The Department of Defense already employs a procedure which requires that specifications be reviewed as they become five years old and be either (1) verified as current, (2) updated, or (3) cancelled if no longer required. Because of the broad use of specifications by DoD contractors, it is not practical to determine if they have actually been used in a procurement. So long as a specification is current and useable, the DoD feels that the cost of keeping it is less than the cost of cancelling it and risking the additional cost of new purchase descriptions.

GAO note: Page references in this appendix refer to the draft report and do not necessarily agree with the page numbers in the final report

UNITED STATES OF AMERICA
GENERAL SERVICES ADMINISTRATION
WASHINGTON, DC 20405



July 7, 1977

Honorable Elmer B. Staats
Comptroller General of the United States
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Staats:

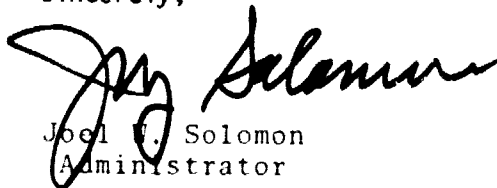
Thank you for your letter of April 18, 1977, transmitting a copy of your draft report to the Congress entitled "Government Specifications for Commercial Products--Necessary or a Wasted Effort?" We appreciate the opportunity to comment on this report.

The General Services Administration supports the objectives of a commercial products policy; however, we believe the GAO has placed too much emphasis on the stringent use of numerical cost-benefit criteria as the basis for the development of specifications and standards. The benefits to be obtained from the use of specifications and standards need not be strictly tangible. Intangible benefits such as health, safety, environment, energy savings, standardization, compatibility, interchange, and critical function end use should be recognized as valid justifications. Mathematical equations cannot serve as an accurate decision maker and should be stated only as guidelines.

Since the time of the GAO study, the Federal Supply Service has implemented specific guidelines to better manage and control the expenditure of resources for specification development and maintenance. In addition, a management level Specification Review Board has been established to review and approve all project initiations, maintenance actions, and other related activities requiring the expenditure of resources.

With one exception we concur with the recommendations contained in this report. Comments to each are provided in the enclosure to this letter.

Sincerely,


Joel T. Solomon
Administrator

Enclosure

COPY

GSA COMMENTS ON GAO DRAFT REPORT
TO THE CONGRESS ENTITLED
"GOVERNMENT SPECIFICATIONS FOR COMMERCIAL PRODUCTS---
NECESSARY OR A WASTED EFFORT?"

Recommendation. We recommend that the Secretary of Defense and the Administrator, General Services Administration:

(a) Develop a system for accumulation of development costs for each specification or standardization project and expected benefits or procurement volume as a basis for approval of each project;

(b) Change current procurement and standardization regulations to require that development of all new specifications be justified on the basis of consideration of development cost vs. expected benefits; and

(c) Revise procurement regulations to permit repeated use of purchase descriptions for commercial products on a repetitive basis where the annual procurements do not exceed \$100,000.

Comments.

(a) GSA concurs with this recommendation with the exception that benefits need not be strictly tangible; i.e., intangible benefits such as health, safety, environment, energy savings, standardization, compatibility, interchange, and critical-function end use be recognized as valid justifications. Mathematical equations alone cannot serve as an accurate decision maker and should only be stated as guidelines.

(b) We concur that appropriate regulations should be changed as recommended, with the inclusion of intangible benefits described above. However, we believe the more appropriate vehicle for incorporation of such changes is the Federal Property Management Regulations (FPMR) 101-29 Federal Specifications and Standards).

(c) We do not concur with this recommendation and proposed a replacement recommendation since other considerations besides dollar volume must be recognized as factors in determining the need or desirability of published Federal specifications and standards. We suggest a rewrite as follows:

"Revise procurement regulations or other applicable rules to permit the use of purchase descriptions on a repetitive

basis when in the best interests of the Government and where a uniform purchase specification is not required by law or otherwise deemed desirable for mandatory application of all Federal departments and agencies."

Recommendation. We recommend that the Secretary of Defense and the Administrator, General Services Administration take action to eliminate the duplication and partial duplication that exists between GSA and DOD commercial vehicle specifications.

Comment. We concur with this recommendation.

Recommendation. We recommend that the Administrator, General Services Administration and the Secretary of Defense establish procedures whereby specifications are screened and eliminated from the system if they are not used in a 5-year period, or when it is not economical to revise and maintain them.

Comment. We agree that Federal specifications and standards should be revised and updated at least every 5 years and have therefore made this one of our objectives in the GSA Specification Improvement Program. It is also true that our resources are shrinking while workload such as that imposed upon us by Public Law 94-580 to review all 6,148 Federal specifications and standards for the inclusion of recycled material requirements is increasing steadily. As a practical matter, we are establishing our resource priorities in relation to the dollar volume of scheduled FSS annual procurements. We are also pursuing average specifications and standards as resources permit based on:

- Known problem areas
- Criticality of the item considering health, safety, or environmental regulations
- Changes in industry practice or state-of-the-art
- Changes in dollar volume
- Regulatory or legislative requirements.

In the past year over 300 Federal specifications and standards have been canceled and/or replaced by simpler purchase descriptions. We also agree that if a Federal specification or standard is not being used by FSS or any other Federal department or agency, it should be eliminated.

GENERAL COMMENTS

The statistical figures cited in the report as to the numbers of Federal specifications and standards, and the ages of them in the various categories are incorrect as reflected in FSS records as of the time of the GAO review; e.g., Chapter 1, page 1 and Chapter 2, page 12. The numbers of specifications and standards as well as age statistics change daily so that approximations or numbers as of a certain date should be used.

page 16 [See GAO note 1.]

- GSA believes that specifications should be developed for commercial products whenever significant dollar volume exists, competition can be obtained, and applicational selectivity by Federal agencies is not a significant factor.

[See GAO note 2.]

GAO note 1: Page references in this appendix refer to the draft report and do not necessarily agree with the page numbers in the final report.

GAO note 2: Portions of this letter have been deleted because they are no longer relevant to the matters discussed in this report.

PRINCIPAL OFFICIALS RESPONSIBLE FOR ADMINISTERING
ACTIVITIES DISCUSSED IN THIS REPORT

Tenure of office
From To

DEPARTMENT OF DEFENSE

SECRETARY OF DEFENSE:

Dr. Harold Brown	Jan. 1977	Present
Donald Rumsfeld	Nov. 1975	Jan. 1977
James R. Schlesinger	June 1973	Nov. 1975
William P. Clements, Jr. (acting)	Apr. 1973	June 1973
Elliot L. Richardson	Jan. 1973	Apr. 1973

ASSISTANT SECRETARY OF DEFENSE
(MANPOWER, RESERVE AFFAIRS AND
LOGISTICS) (FORMERLY INSTALLA-
TIONS AND LOGISTICS):

Dr. John P. White	May 1977	Present
Dale R. Babione (acting)	Jan. 1977	May 1977
Frank A. Shrontz	Feb. 1976	Jan. 1977
John J. Bennett (acting)	Apr. 1975	Feb. 1976
Arthur T. Mendolia	Apr. 1973	Mar. 1975

GENERAL SERVICES ADMINISTRATION

ADMINISTRATOR OF GENERAL SERVICES:

Joel W. Solomon	May 1977	Present
Robert T. Griffin (acting)	Feb. 1977	May 1977
Jack Eckerd	Nov. 1975	May 1977
Dwight A. Ink (acting)	Oct. 1975	Nov. 1975
Arthur F. Sampson	June 1972	Oct. 1975

COMMISSIONER, FEDERAL SUPPLY
SERVICE:

J. H. Bolton (acting)	Apr. 1977	Present
Wallace H. Robinson, Jr.	Feb. 1976	Apr. 1977
J. H. Bolton (acting)	Nov. 1975	Feb. 1976
Michael J. Timbers	June 1973	Oct. 1975

Tenure of officeFrom ToOFFICE OF FEDERAL PROCUREMENT POLICY

ADMINISTRATOR:

Lester A. Fettig

May 1977 Present

Vacant

Feb. 1977 May 1977

Hugh E. Witt

Dec. 1974 Feb. 1977