

GAO

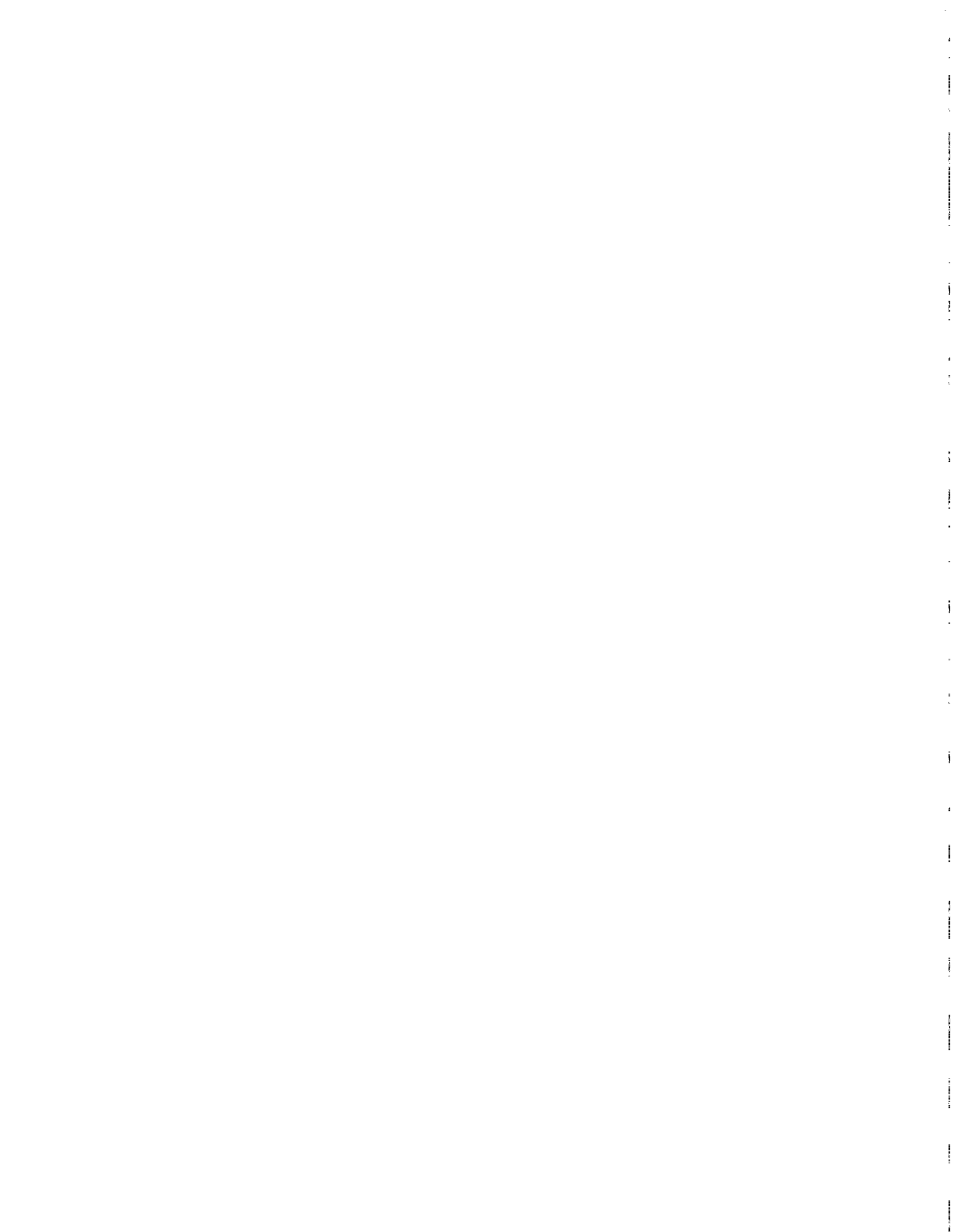
Report to the Chairman, Subcommittee  
on Defense Technology, Acquisition and  
Industrial Base, Committee on Armed  
Services, U.S. Senate

April 1994

# ACQUISITION REQUIREMENTS

## Impact on Company Structures and Operations







United States  
General Accounting Office  
Washington, D.C. 20548

National Security and  
International Affairs Division

B-253864

April 19, 1994

The Honorable Jeff Bingaman  
Chairman, Subcommittee on Defense Technology,  
Acquisition and Industrial Base  
Committee on Armed Services  
United States Senate

Dear Mr. Chairman:

A number of efforts are underway to reform the Department of Defense's (DOD) acquisition system. It is widely held that the defense acquisition system should be streamlined to, among other things, reduce the administrative burden it poses for DOD and its contractors and foster greater integration between the defense and commercial sectors of industry. We strongly support the need for acquisition reform.

We recently visited eight contractors to discuss this issue and talked to various experts and trade associations. As agreed with your staff, we are providing our observations for use by your subcommittee and others in considering acquisition reforms. This report discusses in broad terms (1) how eight contractors integrate or separate their structures and operations to do business with the defense and commercial sectors and (2) whether these structures and operations are caused or influenced by defense acquisition laws, policies, regulations, practices, and specifications. Such requirements are henceforth referred to as acquisition requirements.

---

## Background

Companies that sell goods to the defense market vary widely in terms of the total dollar volume and proportion of their sales to that market. Although some companies, both large and small, sell only in the defense market, many companies have a mix of defense and commercial business.

For fiscal year 1992, DOD awarded contracts of \$135 billion for goods and services, as compared to \$65 billion in contract awards made by all other federal civilian agencies combined, according to the government's contract data reporting system.

Defense acquisition requirements stipulate how companies do business with DOD. They include such requirements as those relating to cost and pricing data; cost accounting standards; contract specifications;

government rights to technical data; financing arrangements, such as progress payments; socioeconomic requirements; and flowdown of contract requirements to subcontractors. Many of these requirements are intended to serve as safeguards to protect the government's and taxpayers' interests, while others are intended to assist suppliers or help achieve a variety of national goals, including providing contracting opportunities for small and small disadvantaged businesses.

No database exists concerning the organizational structures and operations of companies that produce the same or similar defense and commercial products and services. Likewise, quantitative data on the impact of acquisition requirements are very limited. Accordingly, data are not available to fully assess the extent to which companies' defense and commercial structures and operations are integrated or the impact of acquisition requirements.

A number of studies have addressed the extent to which contractors separate their defense and commercial business structures and operations. The studies we reviewed are listed in appendix I.

## Results in Brief

Integration of the U.S. defense and commercial industrial sectors is a complex issue covering a broad spectrum of conditions. We reviewed eight companies and found varying forms and degrees of integration in their administrative, research and development (R&D), and production activities.<sup>1</sup> For example, all but one of the eight companies either separated their defense and commercial administrative operations or assigned additional people to comply with acquisition requirements. On the other hand, the companies generally have integrated production in terms of using, to the extent warranted by similarities in the products,<sup>2</sup> the same facilities and production lines for defense and commercial customers. Research and development operations were integrated to varying degrees.

Company officials advised us that several factors influenced their decisions about separating or integrating their companies' structures and

<sup>1</sup>The companies are Aluminum Company of America (ALCOA); General Electric (GE) Aircraft Engines; Hewlett-Packard Company; International Business Machines Corporation (IBM); Litton Systems, Inc., Navigation, Guidance, and Control Systems Group; Reynolds Metals Company; Sundstrand Corporation; and United Technologies' Pratt and Whitney.

<sup>2</sup>Our review did not examine the extent to which alternatives to the contract specifications and standards would effectively meet DOD's needs and result in increased acquisition of commercial products.

operations, including the similarity of items produced, acquisition requirements, and economic considerations.

The extent to which greater integration will provide DOD with (1) savings in development and production costs, (2) access to new technologies, and (3) a broader defense and technology base, is uncertain. Any reform efforts to foster greater integration must recognize (1) the diversity and complexity of the universe of companies involved or potentially involved in producing defense goods and services and (2) the lack of quantitative or empirical data to assess the impact of such reforms.

## Companies' Structures Varied Widely

Our review indicated that the extent of integration by contractors doing business with both the defense and commercial sectors varies. According to the companies, administration was largely separated, either by maintaining separate groups for similar functions (e.g., accounting) or by adding staff for work that was unique to defense contracts (e.g., screening unallowable costs). Four companies (the two aircraft engine manufacturers, plus Litton and IBM) reported having separate organizations for administering government contracts.<sup>3</sup> Three others in three different industry sectors (Hewlett-Packard, Reynolds Metals, and Sundstrand) reported that they assign additional people to their single administrative organization for the specific purpose of ensuring compliance with acquisition requirements. For example, Sundstrand reported having 27 employees for government financial administration, who do only government contract work. It also has other organizations that do both government and commercial work for contract functions, such as pricing and cost management. The remaining company, ALCOA, also has a single administrative organization, but ALCOA officials said they do not have additional people to deal with the acquisition requirements. However, officials of ALCOA, as well as Hewlett-Packard, stated that their companies place a significant limitation on their sales to the government, selling on a commercial basis only.<sup>4</sup>

The companies we reviewed have generally integrated production in terms of using, to the extent feasible based on similarities in the products for

<sup>3</sup>According to the companies, administering government contracts includes such functions as marketing and sales, pricing, accounting, finance, quality control, contract management, and audit liaison.

<sup>4</sup>ALCOA and Hewlett-Packard described "commercial basis" as including selling to the government only if the procurement is competitive, the product meets the definition of a commercial product sold in substantial quantities to the public, or the company obtains a waiver to acquisition requirements such as cost and pricing data.

---

defense and commercial customers, the same facilities and production lines. For example, Litton manufactures its newest-generation gyro for an inertial navigation system that it sells to both defense and commercial customers. Although these items are sold through different divisions, one for commercial sales and one for military sales, Litton uses the same production line for both items, to the extent that the items are the same. Where commonality stops, the gyros are split off of the line and tailored for their intended user.

Officials at the two aircraft engine manufacturers we visited told us that their companies have integrated production of parts but separate the final assembly according to the model number of the end product, regardless of whether the product is for a defense or commercial customer. Both metals processing companies produce all their products, defense and commercial, via the same processes. For example, Reynolds Metals uses the same processes to produce wing skins for the C-17 aircraft as it does to produce commercial aircraft wing skins.

R&D operations were integrated to varying degrees. Three companies in three different industry sectors (IBM, Litton, and Pratt & Whitney) maintain separate organizations for defense and commercial R&D operations. Two other companies, GE Aircraft Engines and Sundstrand, have single R&D organizations that serve both defense and commercial purposes. The remaining three companies, including both of the metals processing companies and Hewlett-Packard, have limited or no government R&D and do not maintain separate R&D organizations for commercial and government business.

---

## Several Factors Influence Companies' Structures

The companies we reviewed cited the acquisition requirements as one of several factors influencing the integration or separation of their structures and operations. According to company officials, a number of factors influenced their decisions to integrate or separate company structures or operations, including the similarity of the goods they produced for DOD and commercial customers; the acquisition requirements, especially government oversight/audit requirements, cost accounting standards, and cost and pricing data for the administrative function and rights in technical data for R&D; and other economic factors, such as decreasing opportunities in either government or commercial business. Product similarity affected decisions about production structures and operations. The acquisition requirements primarily affected decisions about administrative structures and operations, although some companies also reported that they refuse to

---

sell directly to the government if it would subject them to certain requirements. Economic factors ranged in their effect on decisions, from a choice to integrate only one function to actually limiting business with any one customer.

---

### Product Similarity

The similarity of goods that a company sells to DOD and commercial customers influences how it organizes production. The eight companies we studied use the same production lines to make the same or similar items for their defense and commercial customers. For example, products that Sundstrand manufactures for commercial and military customers use the same basic technologies and are assembled on common production lines. Both military and commercial products are tailored for their intended uses toward the end of the production process. According to some of these companies (GE Aircraft Engines, Litton, and Pratt & Whitney), product similarity makes it more economical, despite the acquisition requirements, to maintain a single production organization. In addition, ALCOA and Hewlett-Packard use the same production line for their government and commercial customers because they sell only commercial products to the government.

---

### Acquisition Requirements

Acquisition requirements seem to have the greatest effect on administrative structures and operations. According to company officials, seven of the eight companies either maintain two separate administrative structures or assign additional people to administration, for at least some of their defense work. Four companies (GE Aircraft Engines, IBM, Litton, and Pratt & Whitney) have a separate administrative structure for government sales, and two other companies (Reynolds Metals and Sundstrand) have added employees to their administration to handle their government contracts, in order to ensure compliance with the acquisition requirements. The remaining two companies (ALCOA and Hewlett-Packard) have subsidiaries that they reportedly keep separated to avoid being burdened with requirements, especially cost accounting standards and cost and pricing data requirements.

R&D structures are affected to some extent by the acquisition requirements. Three companies (IBM, Litton, and Pratt & Whitney) said they have separated defense and commercial R&D structures in order to protect their commercial business from acquisition requirements. A fourth company (Hewlett-Packard) reported that, in order to protect its technical data rights, it does not accept government R&D funds.

---

## Other Economic Factors

Other economic factors can greatly affect how a company structures production or otherwise does business. For example, officials of Litton told us that nongovernment market conditions recently influenced their company to combine production of a product sold to defense and commercial customers into a plant previously used only for military production. Hewlett-Packard also reported that it limits the amount of business that it does with any one customer, including DOD.

---

## Agency Comments

We obtained comments on an earlier draft of this report from DOD, the Office of Technology Assessment, the Center for Strategic and International Studies, and the eight companies we visited. As a result of the comments received, we have streamlined the final report to focus on the results of our work at the eight companies. In so doing, we have deleted discussions of other studies listed in appendix I.

---

## Scope and Methodology

We interviewed officials, experts, and other representatives, and obtained documents from various U.S. government agencies; seven trade associations; academic and independent research organizations; and eight companies.<sup>5</sup> We also toured companies' facilities in order to better understand their operations. In addition, we reviewed available reports and discussed relevant ongoing studies.

We selected eight companies to study their structures and operations and the effect of requirements on those structures. The selection process was a complex one. Because no database on company structures was available, we consulted officials at the Analytical Sciences Corporation, the Center for Strategic and International Studies, the law schools of George Washington University and George Mason University, and trade associations. Criteria for selecting companies included the following: (1) companies reported to be integrated and those reported to have separated structures/operations; (2) large and smaller companies; (3) a mix of industry-paired companies that manufacture different types of products, from metals to electronics and computers; and (4) manufacturers of subsystems, components, and materials. We did not select large contractors that assemble weapon systems because we believe that these companies' issues are different from others that primarily manufacture systems, components, or parts of systems. We conducted our

---

<sup>5</sup>IBM declined to continue in our study after our preliminary data collection ended. However, company representatives did review the information we collected and provided clarifying information.



---

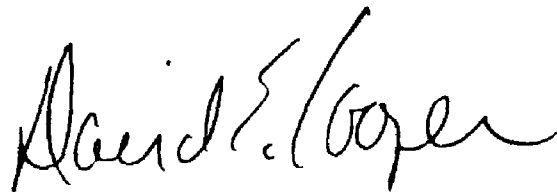
review from November 1991 to January 1994 in accordance with generally accepted government auditing standards.

---

We are sending copies of this report to the Secretary of Defense and interested congressional committees. We will also provide copies to others upon request.

I may be reached on (202) 512-4587 if you or your staff have any questions concerning this report. Major contributors are listed in appendix II.

Sincerely yours,

A handwritten signature in black ink that reads "David E. Cooper". The signature is written in a cursive, flowing style.

David E. Cooper  
Director, Acquisition Policy, Technology,  
and Competitiveness Issues

---

# Studies Relating to Integration

---

Integrating Commercial and Military Technologies for National Strength: An Agenda for Change, Center for Strategic & International Studies, March 1991.

Redesigning Defense—Planning the Transition to the Future U.S. Defense Industrial Base, Office of Technology Assessment, July 1991.

National Security Assessment of the Domestic and Foreign Subcontractor Base: A Study of Three U.S. Navy Weapon Systems, U.S. Department of Commerce, March 1992.

Adjusting to the Drawdown, Defense Conversion Commission, December 1992.

Krikorian, George. Unpublished data on company structures prepared as part of study for the Section 800 Panel, Defense Systems Management College, 1992.

Integrating Civilian and Military Technologies: An Industry Survey, Center for Strategic & International Studies, April 1993.

---

# Major Contributors to This Report

---

National Security and  
International Affairs  
Division Washington,  
D.C.

Rosa Johnson  
Kevin M. Tansey

---

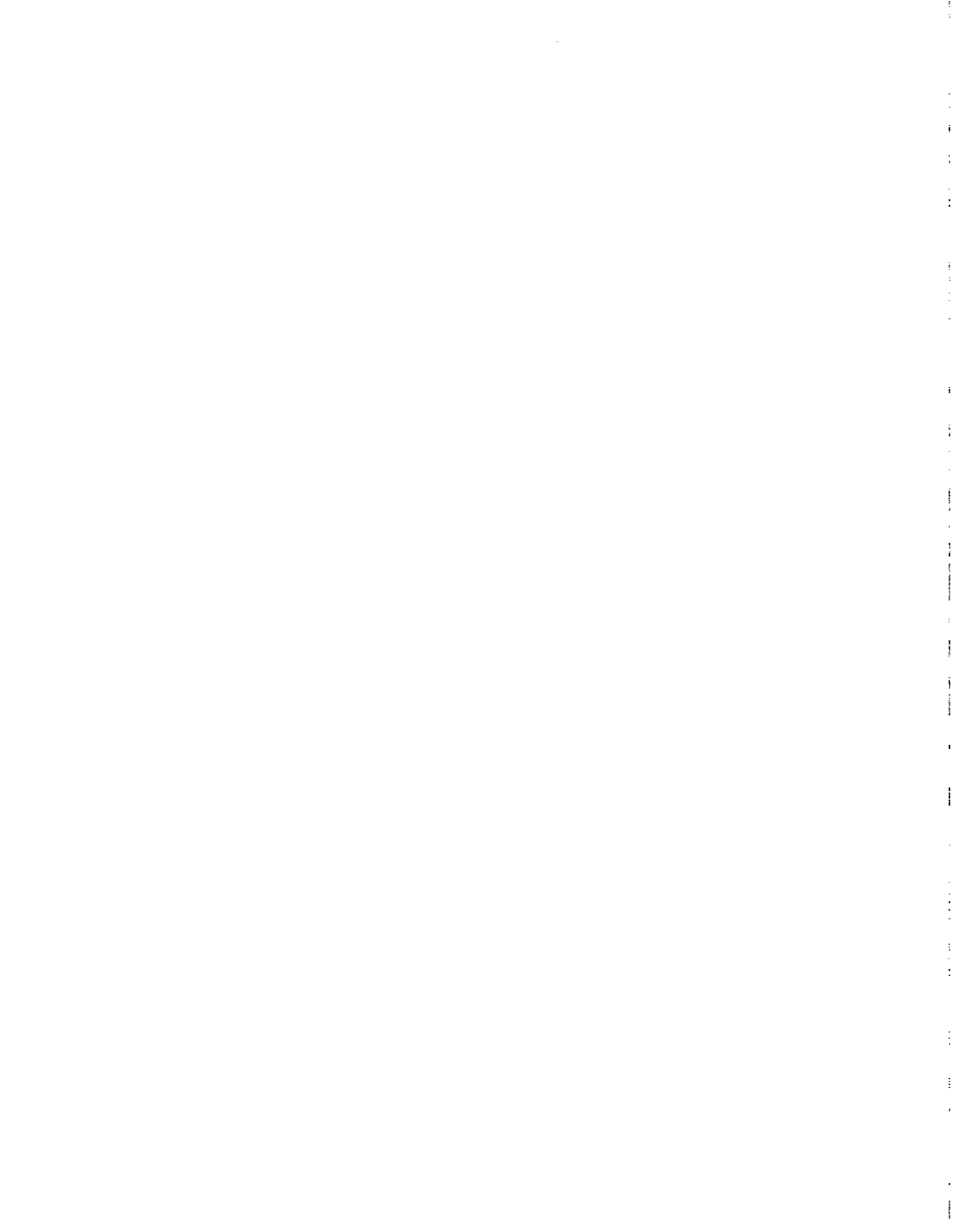
Norfolk Regional  
Office

John R. Beauchamp  
Leslie Gregor  
Fred S. Harrison  
Linda H. Koetter  
Allison C. Pike

---

Office of the General  
Counsel

John A. Carter  
William T. Woods



---

### Ordering Information

The first copy of each GAO report and testimony is free. Additional copies are \$2 each. Orders should be sent to the following address, accompanied by a check or money order made out to the Superintendent of Documents, when necessary. Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.

**Orders by mail:**

**U.S. General Accounting Office  
P.O. Box 6015  
Gaithersburg, MD 20884-6015**

**or visit:**

**Room 1000  
700 4th St. NW (corner of 4th and G Sts. NW)  
U.S. General Accounting Office  
Washington, DC**

**Orders may also be placed by calling (202) 512-6000  
or by using fax number (301) 258-4066.**

