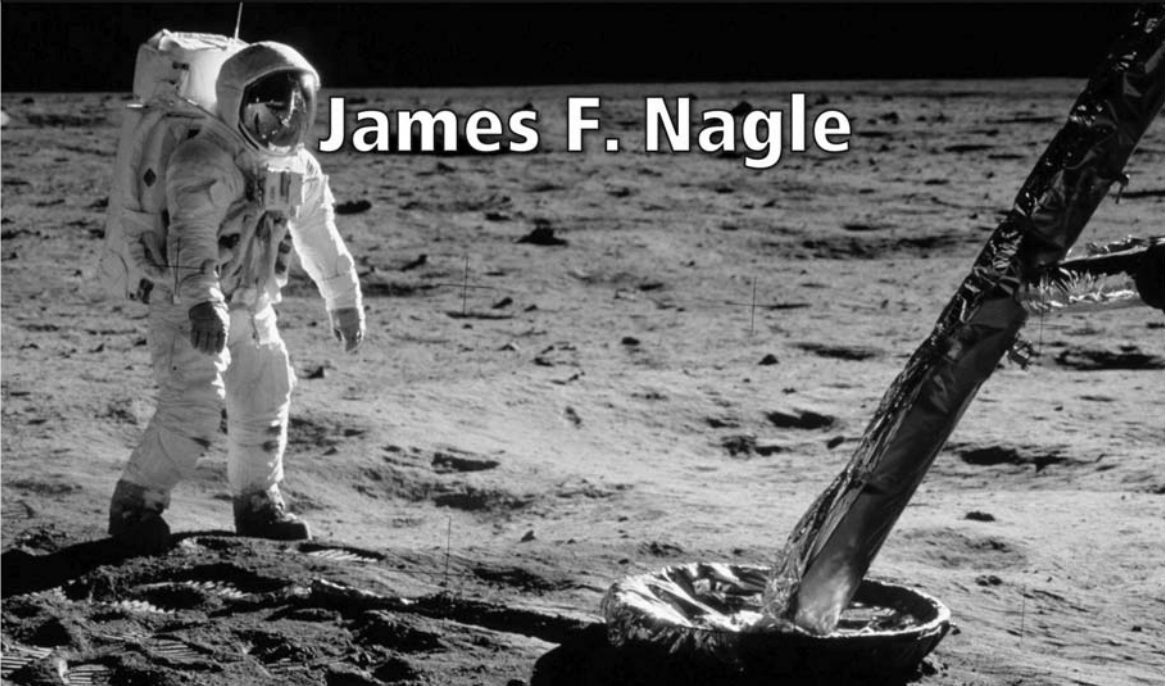


# A History of Government Contracting

Third Edition, Vol. II

James F. Nagle



Astronaut Buzz Aldrin, lunar module pilot, walks on the surface of the Moon near the leg of the Lunar Module (LM) "Eagle" during the Apollo 11 extra-vehicular activity (EVA). Astronaut Neil A. Armstrong, commander, took this photograph.

Published by



Government Training Inc.™

ISBN: 978-1-937246-37-2

### **About the Publisher – Government Training Inc.™**

All rights reserved. No part of this book may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, except for the inclusion of brief quotations in a review, without the prior written permission of the publisher. For information, contact Government Training Inc. Printed in the United States of America.

This publication is designed to provide accurate and authoritative information in regard to the subject matter covered. It is sold with the understanding that the publisher is not engaged in rendering legal, accounting, or other professional service. If legal advice or other expert assistance is required, the services of a competent professional person should be sought.

— From the Declaration of Principles jointly adopted by a Committee of the American Bar Association and a Committee of Publishers and Associations.

This book does not represent an official position of the U.S. Government or any U.S. Government agency.

Copyright © 2012 Government Training Inc.

All rights reserved. Printed in the United States of America. This publication is protected by copyright, and permission must be obtained from the publisher prior to any prohibited reproduction, storage in a retrieval system or transmission in any form or by any means, electronic, mechanical, photocopying, recording or likewise. For information regarding permissions, write to:

Government Training Inc.™  
Rights and Contracts Department  
5372 Sandhamn Place  
Longboat Key, Florida 34228  
Don.dickson@GovernmentTrainingInc.com

**ISBN: 978-1-937246-37-2**



## Government Training Inc.™

### A word from the Publisher...

This has been a very personal project for us. I first bought Mr. Nagel's book in 1993 – the first edition. At that time, I was VP for Business Development with a DC-based federal systems integrator, and federal contracting was my business.

I am also a history buff and quickly became absorbed in Nagel's book. Actually, my friends kidded me about reading a 575-page book titled "A History of Government Contracting." Looking back on it, I really don't blame them.

The book is fascinating. It takes the reader through U.S. history as a series of pendulum swings to our acquisition system. Nagel did a superb job in documenting his sources and bringing pages to life through quotes and anecdotes. The book was tough to put down. I still have my original copy of this book, a bit worn and filled with my hand-written notes.

The reader quickly learns that our contracting system was born in the Roman Empire, taken to Great Britain to support the far-flung legions of the Roman Empire, then formalized into a logistics system by the Brits called the Quartermaster System, and then brought to the U.S. and adopted here prior to our independence. Many of the common terms we use to define quality, such as "shoddy," came out our contracting system. Each war from the Revolutionary War through recent middle-east actions brought change to the system's rules and how they are applied.

This book is an invaluable resource to acquisition and contracting professionals. It provides a perspective on the system, its flaws, its maturing, and its resilience. The fundamental terms of today's acquisition system were in place during the Revolutionary War and have withstood both wars and times of peace.

I contacted James Nagel and his publisher, George Washington University Press, and the parties graciously agreed to transfer publishing rights to Government Training, Inc. for a Third Edition. James diligently updated the book with recent events, legislation, and policy changes.

Government Training, Inc. offers this book to the acquisition community. We also wish to sincerely thank James Nagel for his years of loyalty to this project and express our gratitude for the cooperation of the George Washington University.

Don Dickson  
Vice-President  
Government Training, Inc.

## Contents

Acknowledgments to First and Second Editions.....	ix
<b>Chapter 15. The War Begins.....</b>	<b>1</b>
The Initial Chaos and Corrective Actions .....	1
Setting Prices .....	4
Food .....	5
The Priority System .....	6
Railroad Problems .....	6
Contracting Adapts to War.....	7
Aircraft.....	8
Automobiles.....	12
Munitions.....	16
Construction.....	17
Ships.....	18
Labor Standards .....	21
Results.....	21
<b>Chapter 16. The Interwar Period .....</b>	<b>25</b>
Airmail.....	26
The Military Between the Wars .....	41
Take the Profits Out of War .....	41
The Bethlehem Steel Controversy.....	42
Aircraft.....	44
Anti-Contractor Sentiment.....	48
The Vinson-Trammel Act.....	51
The Army Hearings.....	52
The Merchants of Death Theory.....	55
Efforts to Reform Contracting .....	57
<b>Chapter 17. Socioeconomic Statutes and Goals .....</b>	<b>61</b>
Efforts to Curtail Government Competition .....	61
Contracting for the Civilian Conservation Corps .....	63
Hoover Dam.....	63
Bonneville Dam.....	71
<b>Chapter 18. The Mobilization Begins.....</b>	<b>73</b>
More and Better Weapons.....	74
Ships.....	74
Submarines .....	75
Tanks .....	76
Aircraft.....	77
The Mobilization Picks Up Steam .....	79
The Rules Slowly Change.....	81
Early Mobilization Organizations .....	83
The Wheels Start Turning .....	84

The Flood Gates Open.....	87
The Truman Committee.....	93
<b>Chapter 19. World War II Begins.....</b>	<b>95</b>
Initial Chaos.....	96
More Government Powers.....	97
Price Controls.....	98
Labor and Equipment Shortages.....	99
New Methods of Contracting.....	99
Standard Forms.....	100
Incentive Contracts.....	101
Cost Contracts.....	102
Reviewing Contractors' Costs.....	103
Renegotiation.....	104
Enforcement.....	106
Guidance.....	107
Small Business.....	108
<b>Chapter 20. Industry Responds.....</b>	<b>113</b>
The Automobile Industry.....	113
The Airline Industry.....	115
The Aircraft Industry.....	116
The Aluminum Industry.....	117
The Rubber Industry.....	117
DuPont.....	118
The Shipbuilding Industry.....	118
The Atomic Bomb.....	119
Terminations.....	121
Aftermath.....	121
<b>Chapter 21. Contracting in an Era of New Technology, Paperwork, Litigation.....</b>	<b>123</b>
The Post-War Period.....	124
The Armed Services Procurement Regulation.....	127
Civilian Procurement After the War.....	127
The Rise and Recognition of the Defense Industry.....	128
The Aerospace Industry.....	132
NASA Contracts.....	133
Development of the Nuclear Navy.....	138
The Truth In Negotiations Act.....	141
McNamara.....	142
The Contractors Change.....	145
Vietnam and After.....	147
<b>Chapter 22 .The Modern Era: A Sea of Paperwork.....</b>	<b>149</b>
Commission on Government Procurement.....	154
The Age of Lawyers and Litigation.....	157
<b>Chapter 23. The Modern Age—The 1980s and 1990s.....</b>	<b>159</b>
1983-1989—Huge Amounts, Big Scandals, Fearsome Remedies.....	160
The Competition in Contracting Act.....	160

The Packard Commission .....	161
Operation III Wind .....	162
The Procurement Integrity Act .....	162
Criminalization .....	163
False Claims Act Amendments.....	164
Intensive Congressional Management .....	165
1989-1993 The Pendulum Swings .....	166
The Procurement Budget Shrinks.....	166
Paperwork.....	167
Loss of Contractors.....	169
Service Contracts Predominate.....	170
Reform.....	170
Section 800 Panel.....	171
National Performance Review .....	171
Quest for Commercial Contracting .....	172
The Federal Acquisition Streamlining Act .....	174
Electronic Commerce .....	175
Conclusion.....	176
Epilogue .....	176
<b>Notes .....</b>	<b>179</b>
<b>Bibliographical Essay.....</b>	<b>197</b>

---

## Dedication

for helping me keep things in perspective

To my wife Ann and my children James, John and Steve

## Acknowledgments to First and Second Editions

Writing a book is a cooperative effort, no matter how many names appear on the title page. Many people contributed to this book, in a variety of ways. People like Mike Hordell, Thomas Payne, B. Alan Dickson, Dorn McGrath, Leroy Haugh, Jacques Gansler, William Kovacic, Ed Leakley, Robert Leslie, Bob Titlow, and F. Trowbridge vom Baur all provided me with material. Richard and Heather Click generously allowed me the use of their private library. Paul Dembling helped me by sharing his experiences during the early days of NASA. Ralph Nash and John Cibinic, the leading experts in the field, helped me first by educating me, as they have thousands of others, on government contracting. Chuck Culver helped and supported by sharing his extensive knowledge. The National Contract Management Association provided a grant of financial support to begin this project, and Professor Stanley Sherman, the grant director, was especially encouraging. I must also thank all the authors noted in the Bibliographical Essay, whose research and scholarship enabled me to compile this history. I am solely responsible for the contents.

I am indebted to Bill Reilly for his careful editing to improve the clarity of the text throughout, to Midge Easter for editorial support, to Claudia Jao for page design, and to Clare Perry for cover design. I must extend a special heartfelt thanks to Maureen Fountain, a true wizard of the keyboard, who for years has been able to read my hen-scratch penmanship and follow my convoluted instructions to return, in amazingly short time, error-free typewritten pages.

Finally, I must thank my family, whose support and tolerance of me during this project is admirably summarized in the words of my nine-year old son, John. I apologized to him one morning after I had shoed him out of the room in which I was working the night before. He replied, in an analogy he understood, "That's OK Dad, I don't want you to get a bad mark on your book."

## **Preface**

In the first edition of this book, I stated that people would be surprised at how many important recent events I had omitted. While such happenings have great import now, I explained that in the stream of history, they have no more than a temporary ripple. So writing a chapter for this second edition which focuses on the last 15 years gives me great trepidation.

To condense the past 15 years into one average size chapter, I have selected only those milestones which appear to represent significant trends which a historian even 50 years from now will still consider important.

In addition to the fore people listed in the acknowledgments section for the first edition, I would like to thank two more people: Karen O'Brien, the director of publications for the George Washington University Law School's Government Contracts Program who sheparded the project to completion and Christine Jordon Smith, my secretary, who typed, edited and formatted my words with speed, clarity and cheerfulness.



---

## About the Author

James F. Nagle is a nationally known expert in government contracts and construction law. Mr. Nagle received his Bachelor's degree from Georgetown University School of Foreign Service; his J.D. from Rutgers; and his LL.M. and S.J.D. in government contracts from the National Law Center, George Washington University. He is one of only an estimated three people who have ever received this distinction.

In addition to *The History of Government Contracting*, Mr. Nagle has written three other books on federal contracting, *Federal Procurement Regulations: Policy, Practice and Procedures* (American Bar Association Press, 1987); *How to Review a Federal Contract and Research Federal Contract Law* (American Bar Association, 1990); and *Federal Construction Contracting* (Wiley Law Publications, 1992). His over 75 articles, on subjects as diverse as protests, changes, terminations, claims, and the Federal Acquisition Regulation, have appeared in such publications as the *Public Contract Law Journal*, *Military Law Review*, *National Contract Management Association Journal*, and *Contract Management*.

He is a partner with Oles Morrison Rinker & Baker, LLP in Seattle, Washington. He is a former Chief of the Logistics and Contract Law Branch of the Department of the Army Staff and trial team chief in the Army's Contract Appeals Division. His extensive experience includes supply and services, international, major system and construction contracts. Besides representing contractors, he has mediated disputes both between the government and the prime, and between the prime and its subcontractors. Other lawyers often consult Mr. Nagle on government contracts and use him as an arbitrator. Both the Justice Department and contractors have used him to explain federal contracting as an expert witness. Mr. Nagle often advises clients on ethics issues stemming from his experience as an ethics advisor in the government, culminating with his serving as Ethics Advisor with the Office of Chief of Staff of the United States Army.

Actively involved in professional organizations, Mr. Nagle serves as the past President of the BCA Bar Association; on the Board of Editors of the NCMA Journal, as the Book Review Editor for the *Public Contract Law Journal* and *The Construction Lawyer*, and as the Director of Publications for several organizations. He has won the Federal Bar Foundation Award for Distinguished Accomplishment in the Study of Procurement Law and is listed in *Who's Who in American Law*.

He has lectured in nineteen states, the District of Columbia, and three foreign countries on all aspects of government contracts, construction law and contract management for the Graduate Program on Contract Management at the Florida Institute of Technology, the George Washington University's School of Business and Public Management, the George Washington University Law School, the University of Washington, and other professional organizations.

---

## CHAPTER 15

# The War Begins

---

Congress declared war on April 6, 1917. The next day, the quartermaster general asked permission to buy by negotiation whenever an emergency existed. On April 8, 1917, Secretary of War Baker met with the various bureau chiefs (quartermaster general, chief of ordnance, etc.), the Council of National Defense, and its Advisory Commission. They decided that the system of competitive bidding would harm the war effort and the economy in general as the services raced for supplies. So, on April 12, 1917, Secretary Baker ordered that, for the duration of the emergency, contracts for all army supplies, equipment, and fortifications could be made without advertising for bids. He also directed the supply chiefs to inform the General Munitions Board, a committee of the Council of National Defense, of projected supply requirements so the board could coordinate purchases with the navy and other departments. The Navy Department took similar action. Thus, as in all wars, the nation abandoned the luxury of the competitive bid process.

### **The Initial Chaos and Corrective Actions**

All the prewar coordination planning immediately fell apart. The army and navy bureaus awarded thousands of contracts, without any coordination at all, within weeks after America entered the war. The ordnance and quartermaster departments competed frantically with each other for scarce labor, plants, and material. Within three months of the declaration of war, the army had placed more than 60,000 orders. By the end of 1917, all this frantic buying caused confusion and industrial constipation. Because of production bottlenecks, not a single American-made 75-millimeter field gun or 155-millimeter howitzer—the main artillery weapons—reached the front. The early competition among the supply departments for materials, supplies, facilities, fuel, labor, and transportation led to the market chaos that typified America's mobilizations. In July 1918, purchases of supplies,

contract awards, and issuance of orders for both the Office of Quartermaster General and the Ordnance Corps were consolidated under a Director of Purchase, Storage, and Traffic. The Medical and Engineer Corps also used this procedure, except for highly technical supplies.

Two committees of the Council of National Defense dominated the early days of the war: the General Munitions Board and the Committee on Supplies. The General Munitions Board, consisting of seventeen army and navy officers and seven civilians, coordinated the purchase of munitions for the army and navy, helped in buying materials, and assigned priorities to war orders. Although there was some overlap, the Committee on Supplies performed the same function in the procurement of clothing, equipment, and subsistence. Indeed, that committee virtually preempted the various departments' operations under a later order of Secretary Baker.

The General Munitions Board was far weaker since it could review and coordinate only such purchasing activities as the bureau chiefs had time to bring to its attention. Most contracts were placed without the board's review. Because of this, President Wilson created the War Industries Board on July 28, 1917, to replace the General Munitions Board. This new board had more authority but still lacked essential overall control to curtail the chaos. Nevertheless, Congress feared that the Council of National Defense had usurped too much power and was not using it wisely."

Early in the war, the secretary of war approved a list of articles prepared by the Council of National Defense that were to be bought exclusively through the council. The list included woollens, cottons, knit goods, leather, and shoes. The quartermaster general estimated the needed yardage and then asked the Committee on Supplies where, with whom, and at what price the department should make the necessary contracts. At first, the purchasing quartermaster at the Philadelphia Depot executed such contracts, but this arrangement soon proved too cumbersome. He and his assistants were moved into the Washington office of the Committee on Supplies. There, according to the vice-chairman of that committee, "he was attached to us to sign and validate the contracts" and "generally O.K.'d everything that we O.K.'d."<sup>3</sup>

Technically, as long as a quartermaster officer met with the committee and signed the contract, the Committee on Supplies itself did not purchase cloth. The quartermaster general argued that the purchasing quartermaster still retained responsibility. Having the assistance of the Council of National Defense in procurement, he maintained, was "one of the most prudent steps" taken by the War Department. Since companies were not eager to enter into contracts, the council had to induce manufacturers to take government business, and the Quartermaster Corps did not have enough personnel for the job.

Nevertheless, critics charged that such actions of the council reduced the contracting officers to nothing more than "a rubber stamp." Although clothing was the principal industry involved, the criticism touched all the council's activities and prompted a hearing by the Senate Committee on Military Affairs. Critics contended that the council "absorbed constitutional functions belonging to regular departments of the government"; that it transferred the power to negotiate contracts and prices to advisory commodity or trade committees so that only nominal responsibility remained with the legally liable contracting officers; and that it evolved into a plan under which "representa-

tives of interested industries acted on committees which both sold [to] and bought from the government in the same act.”The council, however, had merely filled a vacuum left by the lack of coordination in the pre-war supply bureau system. It assumed the role of a coordinating agency.

The Committee on Supplies’ contract procedures particularly aroused congressional ire. The committee allocated awards among the mills, according to capacity, and argued that this method had to be used wherever demand exceeded capacity. It avoided overloading any one plant, while still allowing industry to sell in the lucrative civilian market. The committee used two contract types. A cost-plus contract was used for woolens, cottons, and knit goods. The committee considered all labor and material costs, overhead expenses, and plant investment in arriving at actual cost, and allowed a 10 percent profit, which it considered reasonable. Otherwise, the committee used a firm-fixed-price contract based on competitive bidding. Since there were enough shoe manufacturers to fill army requirements, the committee used competitive bidding in awarding contracts for shoes and leather.

Defenders of the Council of National Defense admitted that the organization was never ideal but argued that, during an emergency, one could not quibble over technicalities. The administrative machinery worked, they maintained, and did not abuse the council’s trust in the men chosen to operate it. The Committee on Supplies handled contracts aggregating approximately \$800 million in the nine months of its existence. Its work ended when the War Department’s reorganization in 1918 provided for coordination of the supply bureaus. The army’s Clothing and Equipment Division abandoned the allocation method and contracted on a competitive basis for textiles, clothing, and equipment. Finally, when the council was not considered strong enough, a War Industries Board was created.

The council was one of many issues that caused many members of Congress to condemn Wilson’s management of the industrial mobilization. The crisis in the winter of 1917-1918 emboldened them to propose sweeping reorganization proposals. Early in 1918, Senator George Chamberlain of Oregon, chairman of the Committee on Military Affairs, introduced a bill to create a new department modeled after the British ministry of munitions. Three civilians would head the new department, which would control all aspects of war mobilization, including the procurement functions so jealously guarded by the army and the navy. Recognizing that the plan would strip him of authority, Wilson resisted it.<sup>4</sup>

To thwart Chamberlain’s challenge and quiet the critics, Wilson submitted a bill authorizing him to rearrange and strengthen the agencies without Congress’ case-by-case approval. Senator Lee Overman of North Carolina introduced the bill early in February. After a spirited debate in which one senator argued that the bill would make Wilson a king in everything but name, it became law on May 20, 1918.

Using his new powers, Wilson reorganized the mobilization apparatus. His most important step was to separate the War Industries Board (WIB) from the Council of National Defense, giving it substantial power. The WIB had been “a clearing house rather than a directorate;” it now became “a sort of inspector-general of the other war agencies” directly responsible to him.<sup>5</sup> Bernard Baruch,

who had headed one of the old board's committees, became its new chairman and America's industrial dictator with the masterful assurance lent by Wilson's backing.

While Baruch "should act as the general eye of all supply departments in the field of industry," Wilson told him to "let alone what is being successfully done and interfere as little as possible with the normal processes of purchase and delivery in the several departments."<sup>6</sup> So, the army, the navy, the Emergency Fleet Corporation, the Railroad Administration, and all the other governmental agencies contracting for goods and services would keep their procurement powers, but for the rest of the war this board acted as a funnel through which purchase requests had to pass.

The WIB always tried to convince contractors to comply voluntarily with its decisions. It would appeal, if necessary, to the companies' patriotism and stress how unfair it was for some at home to profit—even profiteer—while American soldiers fought and died.<sup>7</sup> It could often impose irresistible pressure by having the Railroad Administration deny transportation services, the Fuel Administration withhold fuel, or the War Trade Board prohibit international trade. Finally, it could ask the War Department or another authorized agency to commandeer the company's property. In fact, the military authorities so often commandeered plants that the WIB often had to restrain rather than request this ultimate sanction. The War Department alone made 510 requisitions of goods and issued 996 compulsory production orders.

The contracting effort obviously required contractors to invest huge sums in start-up costs. The government helped with advance payments and other arrangements that involved "carrying" contractors for considerable periods. In April 1918, President Wilson created the War Credits Board and the War Finance Corporation, which eventually took over the whole financial problem. Actually, one of the greatest incentives to the mobilization had been adopted on August 22, 1911, during the navy buildup. Congress allowed the navy "to make partial payments from time to time during the progress of the work done under all navy contracts, but not in excess of the work already done."<sup>8</sup> These progress payments enabled more small contractors to take government contracts.

## Setting Prices

Contract pricing was a continuous process of give and take. A separate committee within the WIB, directly responsible to the president, had the unpleasant task of fixing prices. The committee was headed by Robert S. Brookings, a retired lumber merchant. It could not set prices unilaterally; instead its dollar-a-year men tried to agree voluntarily with selected industrialists, mostly producers of metals, chemicals, construction materials, textiles, and leather goods. The steel industry again proved especially troublesome. In the face of soaring steel prices, the secretary of war directed that all further contracts for steel contain a provision that the price would be adjusted to that agreed upon by government officials. The manufacturers refused to accept orders under these conditions, and ordnance work was therefore delayed. In early July 1917, President Wilson told Secretary Baker that he would nationalize the steel industry and set prices by presidential edict unless the manufacturers agreed to sell steel to the government at "reasonable prices."<sup>9</sup>

The steel barons met in Washington on July 11, 1917, with members of the WIB and opposed any plan to stabilize prices on government orders. The steelmen did not oppose the principle of price

controls, but feared they would be caught in a “profit squeeze”: selling prices would be fixed, but the costs of labor and raw materials, which were not subject to controls, would rise. The meeting ended inconclusively.<sup>109</sup>

Within two months, however, the men representing the steel industry offered to establish and adhere to a schedule of prices based on “average costs” and a “fair return” to the companies. Still smarting from the defeat over the armor plant, they knew that nationalization was a strong possibility as an alternative to controls. In September, after a heated session, the WIB and representatives of the steel industry reached an agreement. Instead of adopting industry’s program, the government forced what the steelmen had feared: an arrangement in which the steel prices were fixed but the costs of production continued to rise. The cost of producing rails rose from \$23.02 a gross ton in 1916 to \$32.18 in mid-1917, and to \$40.78 in early 1918. For the same period, the cost of producing steel plates rose from \$30.95 to \$44.33 to \$53.43.

The war thus brought the steel companies more business but at a lower rate of profit. In 1917, Bethlehem earned nearly as much as it had in 1916 but on a much greater sales volume. Although Charles Schwab criticized government control of steel prices, he nonetheless believed that the agreement with the WIB had averted the totally unpalatable alternative of nationalization.

On May 27, 1918, President Wilson warned a joint session of Congress about the heavy war profiteering going on: “There is such a profiteering now, and the information with regard to it is available and indisputable.” One month later, the Federal Trade Commission (FTC) published a brief report entitled “Profiteering,” containing evidence of “inordinate greed and barefaced fraud,” deceptive accounting practices, artificial price inflation, and huge profits taken by basic industries such as steel, oil, and gas. The FTC also exposed the extraordinary salaries and bonuses paid to corporate officers of war suppliers. For example, the American Metal Company, in 1917, paid salaries and bonuses of over \$135,000 to four of its officers, to another more than \$200,000, and yet to another more than \$350,000. The contrast with the soldier’s \$1.25 per day pay appalled the average citizen.”

## Food

By the summer of 1917, the government realized how scarce certain food commodities would become, so it implemented an allocation system for contracts. The Council of National Defense, working through the National Cannery Association, filled the needs of the army and navy without unduly raising the price paid by civilians. It secured quotas of such articles as canned peas, corn, beans, tomatoes, and fruits by allotment to all the canners of the country.”

When the Food Administration was organized in August, it continued to make such allotments. Items such as flour, sugar, all canned vegetables, canned and evaporated fruits, salmon, sardines, canned milk, and fresh beef were in such great demand that control of their sale and distribution became necessary. On October 8, 1917, the President placed twenty principal food items under the control of the Food Administration. The military services then obtained items on the allocated purchase list through the Food Administration. It allotted the amount to the producers of the commodity in question, dividing the business among them in proportion to their capacity. After the

allotment had been made, the individual service bought the items under terms and at prices decided upon by the Food Purchase Board. The Food Administration handled about 40 percent of all food requirements for the army.

### The Priority System

American industry had never been organized and controlled as it was under the War Industries Board. "The most important instrument of control," Baruch declared, "was the power to determine priority—the power to determine who gets what and when." The "vitals" of the board were its fifty-seven (as of November 11, 1918) commodity sections, which functioned as miniature WIBs for particular commodities. The members of each section (plus members from the army and navy) were experts in the particular industry. The Purchase, Storage, and Traffic Division developed a priorities system within the army. This division set up a series of army commodity committees, made up of representatives from the interested supply bureaus, to parallel the commodity sections of the WIB. The chairman of each of these committees served as a member of the corresponding commodity section of the WIB, where he represented the army as a whole.<sup>11</sup>

Thus, a system evolved that classified the orders according to different degrees of importance; graded industries, and even certain plants within an industry, according to their relative importance in the war effort, and, finally, imposed a scheme of automatic classifications under which certain classes of orders required no priority certificates. In the army, for example, a priorities committee within each supply bureau settled questions of preference within the bureau, then the requests went to the army priorities officer in the Purchase, Traffic and Storage Division to resolve conflicts among bureaus, after which the requests went to the Priorities Committee of the WIB. By the end of the war almost all the industries concerned were operating under priority schedules closely correlated with the army program, under the auspices of the WIB.

### Railroad Problems

The government's mad rush to mobilize only exacerbated the railroad problems. The draft snatched skilled and unskilled railroad workers, and contractors lured others away with higher wages. Companies in the Northeast received most of the government's business, so the region's already heavily congested railroad traffic was snarled even further. Moreover, when the military commandeered many Atlantic coastal vessels for shipments to Europe, this diverted still more traffic onto the railroads. The military authorities issued transportation priorities so cavalierly that they further complicated an already chaotic situation.<sup>14</sup>

To break the logjam, the government used the authority granted by the Army Appropriations Act of 1916, seizing the railroads by proclamation on December 26, 1917. William McAdoo, secretary of the treasury and director general of railways from 1917-1919, explained, "Neither the President nor anybody else in the Administration wanted to take them over. It was done as an imperative war measure."<sup>15</sup>

In the Federal Control Act of March 21, 1918, Congress promised to pay the railroad owners an annual rent equal to each company's average net operating income during the three years ending June

30, 1917. Many thought this was too generous but the payment spiraled downward in real value. Wartime inflation raised the Consumer Price Index 56 percent between 1917 and 1920.

### Contracting Adapts to War

During the war, the War Department alone entered into some thirty thousand contracts worth more than \$7.5 billion.

At the behest of the attorney general, all contracts contained a clause requiring a contractor to disclaim the employment of any third party, who, for a fee, (normally five percent) promised to obtain the contract. Just as they had during the Civil War, these “five percenters” descended upon Washington to interpose themselves between departments and the market. The War Department also adopted the policy that purchases through jobbers should be made only rarely.

The most common irregularities were probably the informal procurement orders, sometimes oral, sometimes without the required clauses or signed by a subordinate officer for the authorized contracting officer. When the comptroller of the treasury ruled that contracts so signed were unenforceable, mass confusion resulted because four thousand of some twenty-seven thousand War Department contracts at the time of the armistice were said to have been “proxy signed.” A special act of Congress was needed to permit payment to the contractors.

A further complication was that, in the army alone, each of the six supply branches had devised or adapted its own contracts, with the result that some four hundred different forms had been used to let War Department contracts.

In peacetime, the government normally used the lump-sum or fixed-price contract. The Quartermaster Corps, the Engineer Corps, and the Medical Corps continued this practice throughout the war for most purchases. This type of contract, however, had serious disadvantages for major projects or new products involving unknown costs, frequent changes in specifications, and other conditions. It lacked provision for price escalation or variation to meet unpredictable changes in the costs of materials and labor. This caused the use of the cost-plus-a-percentage-of-cost type of contract seen so often during the Revolution.

Early in April 1917, the General Munitions Board of the Council of National Defense realized that the government vitally needed to build cantonments, enlarge its arsenals, and expand manufacturing concerns engaged in producing war materials. A group of civilian experts, formed into the Committee on Emergency Construction, began to study the problem.

In the spring of 1917, some two hundred builders and contractors met in Washington with the General Munitions Board to discuss the gigantic task of building new camps and cantonments. They concluded that the best way to do the job would be with contracts allowing for payment of costs plus a percentage of costs as profit. Such contracts were known in private industry, and the navy had used them before the war, but cost contracting on such a vast scale had not been proposed since the eighteenth century. The General Munitions Board accepted the principle and recommended approval, which was given in turn by the Advisory Commission, the full Council of



National Defense, and the president. Cost-plus-percentage contracts were never used without a maximum fee.

While the cost-plus principle overcame the disadvantages of the lump-sum contract, everyone realized the opportunities for waste and extravagance. The cost-plus contract encouraged carelessness and padding—for the higher the costs, the higher the profits. After this form of contract had been used for construction work for several months, the War Department called a committee of leading engineers, architects, contractors, and businessmen to study the various types of contracts and recommend the one best suited to the conditions. The committee unanimously recommended the use of a cost-plus contract—with a fixed fee.

The government could make changes in this kind of contract, substitute materials wherever desirable, furnish materials at will, pay the contractors' costs as they were incurred, and automatically acquire all surplus materials. None of these were possible under an ordinary lump-sum contract.

Another type of contract closely related to the cost-plus was the agency contract in which a reliable firm acted as agent for the government in building or operating a plant. The government paid all the bills, and the agent received a fee for its service, either a percentage of the costs or a fixed fee.

The Aircraft Board first hit upon what was called the "bogey price" contract. Under this form, any manufacturer was assured a 15-percent profit on his work and might, if he saved on costs and still met specifications, add to this a bonus representing one quarter of the sum he saved. Solutions such as this first use of incentive contracts were generally applied throughout the whole procurement program."<sup>16</sup> This arrangement often had good results and, in some cases, savings resulting from lower costs were divided three ways— among the contractor, the workers, and the government. As we shall discuss later, one contract like this caused a twenty-year litigation between the wars that symbolized the animosity of some toward the arms merchants.

Since a major problem in the cost contracts was controlling the costs, the government representative had complete control of the contractor's expenditures. Firms accepting such contracts were expected to keep a completely separate set of records pertaining to their government work, including daily time reports on each workman; and to give government inspectors and auditors access at all times to all places where materials were received, stored, used, processed, and shipped, and to all records pertaining to them. An attempt in June 1917 to apply price redetermination, however, resulted in serious delays for ordnance.

## Aircraft

When the war began, the military did not consider the airplane an important offensive weapon. At the beginning of the war, pilots fired at one another with pistols and dropped fluted darts intended to pierce the helmets of the troops below. Soon the airplane's lethality drastically increased.<sup>17</sup> Actually, the conversion had begun before the war with Scott's bombsight and Lewis' machine gun. By the time the United States entered the conflict, the plane had become a decisive weapon. The allies desperately needed more powerful planes, in great quantity. The infant aircraft industry alone could not support the incredible demand. The automakers and the government had to build planes.