

Y4
.Ap 6/1
D 36/5/977/PT. 7

10 11
977/pt. 7
D36/5
Apr 6/1
977/4

DEPARTMENT OF DEFENSE APPROPRIATIONS FOR 1977

GOVERNMENT
Storage
10 19/6

IMENTS

THE LIBRARY
KANSAS STATE UNIVERSITY

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS HOUSE OF REPRESENTATIVES

NINETY-FOURTH CONGRESS

SECOND SESSION

SUBCOMMITTEE ON THE DEPARTMENT OF DEFENSE

GEORGE H. MAHON, Texas, *Chairman*

ROBERT L. F. SIKES, Florida
DANIEL J. FLOOD, Pennsylvania
JOSEPH P. ADDABBO, New York
JOHN J. McFALL, California
JOHN J. FLYNT, Jr., Georgia
ROBERT N. GIAIMO, Connecticut
BILL CHAPPELL, Jr., Florida
BILL D. BURLISON, Missouri

JACK EDWARDS, Alabama
J. KENNETH ROBINSON, Virginia
JACK F. KEMP, New York

SAMUEL RALPH PRESTON, JOHN M. GARRITY, PETER J. MURPHY, Jr., DEREK J. VANDER
SCHAAF, GORDON CASEY, CHARLES W. SNODGRASS, and DONALD P. SMITH, *Staff Assistants*

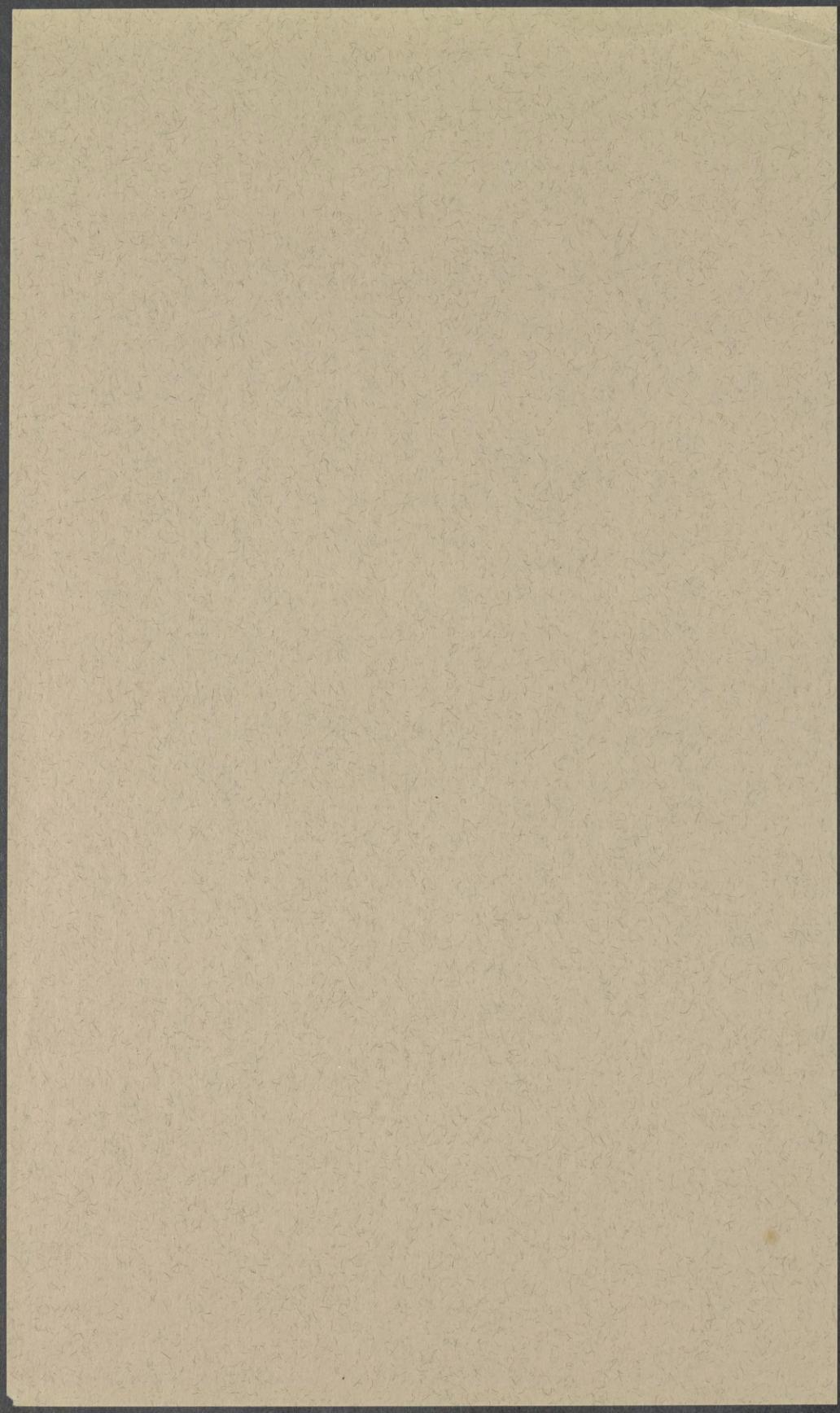
PART 7

TESTIMONY OF ADMIRAL HYMAN G. RICKOVER

Printed for the use of the Committee on Appropriations



KSU LIBRARIES
9454948
11900 454948



DEPARTMENT OF DEFENSE APPROPRIATIONS FOR 1977

HEARINGS BEFORE A SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS HOUSE OF REPRESENTATIVES NINETY-FOURTH CONGRESS SECOND SESSION

SUBCOMMITTEE ON THE DEPARTMENT OF DEFENSE

GEORGE H. MAHON, Texas, *Chairman*

ROBERT L. F. SIKES, Florida
DANIEL J. FLOOD, Pennsylvania
JOSEPH P. ADDABBO, New York
JOHN J. McFALL, California
JOHN J. FLYNT, Jr., Georgia
ROBERT N. GIAIMO, Connecticut
BILL CHAPPELL, Jr., Florida
BILL D. BURLISON, Missouri

JACK EDWARDS, Alabama
J. KENNETH ROBINSON, Virginia
JACK F. KEMP, New York

SAMUEL RALPH PRESTON, JOHN M. GARRITY, PETER J. MURPHY, Jr., DEEEK J. VANDER
SCHAAF, GORDON CASEY, CHARLES W. SNODGRASS, and DONALD P. SMITH, *Staff Assistants*

PART 7

TESTIMONY OF ADMIRAL HYMAN G. RICKOVER

Printed for the use of the Committee on Appropriations



U.S. GOVERNMENT PRINTING OFFICE

70-638 O

WASHINGTON : 1976

COMMITTEE ON APPROPRIATIONS

GEORGE H. MAHON, Texas, *Chairman*

JAMIE L. WHITTEN, Mississippi
ROBERT L. F. SIKES, Florida
OTTO E. PASSMAN, Louisiana
JOE L. EVINS, Tennessee
EDWARD P. BOLAND, Massachusetts
WILLIAM H. NATCHER, Kentucky
DANIEL J. FLOOD, Pennsylvania
TOM STEED, Oklahoma
GEORGE E. SHIPLEY, Illinois
JOHN M. SLACK, West Virginia
JOHN J. FLYNT, Jr., Georgia
NEAL SMITH, Iowa
ROBERT N. GIAIMO, Connecticut
JOSEPH P. ADDABBO, New York
JOHN J. McFALL, California
EDWARD J. PATTEN, New Jersey
CLARENCE D. LONG, Maryland
SIDNEY R. YATES, Illinois
FRANK E. EVANS, Colorado
DAVID R. OBEY, Wisconsin
EDWARD R. ROYBAL, California
LOUIS STOKES, Ohio
J. EDWARD ROUSH, Indiana
GUNN McKAY, Utah
TOM BEVILL, Alabama
BILL CHAPPELL, Jr., Florida
BILL D. BURLISON, Missouri
BILL ALEXANDER, Arkansas
EDWARD I. KOCH, New York
YVONNE BRATHWAITE BURKE,
California
JOHN P. MURTHA, Pennsylvania
BOB TRAXLER, Michigan
ROBERT DUNCAN, Oregon
JOSEPH D. EARLY, Massachusetts
MAX BAUCUS, Montana
CHARLES WILSON, Texas

ELFORD A. CEDERBERG, Michigan
ROBERT H. MICHEL, Illinois
SILVIO O. CONTE, Massachusetts
GARNER E. SHRIVER, Kansas
JOSEPH M. McDADE, Pennsylvania
MARK ANDREWS, North Dakota
BURT L. TALCOTT, California
JACK EDWARDS, Alabama
ROBERT C. McEWEN, New York
JOHN T. MYERS, Indiana
J. KENNETH ROBINSON, Virginia
CLARENCE E. MILLER, Ohio
LAWRENCE COUGHLIN, Pennsylvania
C. W. BILL YOUNG, Florida
JACK F. KEMP, New York
WILLIAM L. ARMSTRONG, Colorado
RALPH S. REGULA, Ohio
CLAIR W. BURGNER, California

KEITH F. MAINLAND, *Clerk and Staff Director*

(II)

III

STAFF ASSISTANTS

DONNA M. BROTHER
GORDON E. CASEY
NICHOLAS G. CAVAROCCHI
DONALD L. DENTON
ROBERT B. FOSTER
JOHN M. GARRITY
AUBREY A. GUNNELS
CHARLES G. HARDIN
F. MICHAEL HUGO
THOMAS J. KINGFIELD
ROBERT L. KNISELY
EDWARD E. LOMBARD
RICHARD N. MALOW
WILLIAM A. MARINELLI

AMERICO S. MICONI
DEMPSEY B. MIZELLE
FREDERICK G. MOHRMAN
ENID MORRISON
PETER J. MURPHY, Jr.
HENRY A. NEIL, Jr.
ROBERT C. NICHOLAS III
BYRON S. NIELSON
DAVID R. OLSON
JOHN G. OSTHAUS
FREDERICK F. PFLUGER
JOHN G. PLASHAL
EDWIN F. POWERS
SAMUEL R. PRESTON

DONALD E. RICHBOURG
EARL C. SILSBY
G. HOMER SKARIN
C. WILLIAM SMITH
DONALD P. SMITH
CHARLES W. SNODGRASS
HUNTER L. SPILLAN
BEVERLY THIERWECHTER
PAUL E. THOMSON
GEORGE A. URIAN
DEREK J. VANDER SCHAAFF
MICHAEL S. WEINBERGER
J. DAVID WILLSON

SURVEYS AND INVESTIGATIONS

C. R. ANDERSON, *Chief*
DAVID B. SCHMIDT, *Director*
MARION S. RAMEY, *First Assistant*
JAMES B. HYLAND, *Second Assistant*

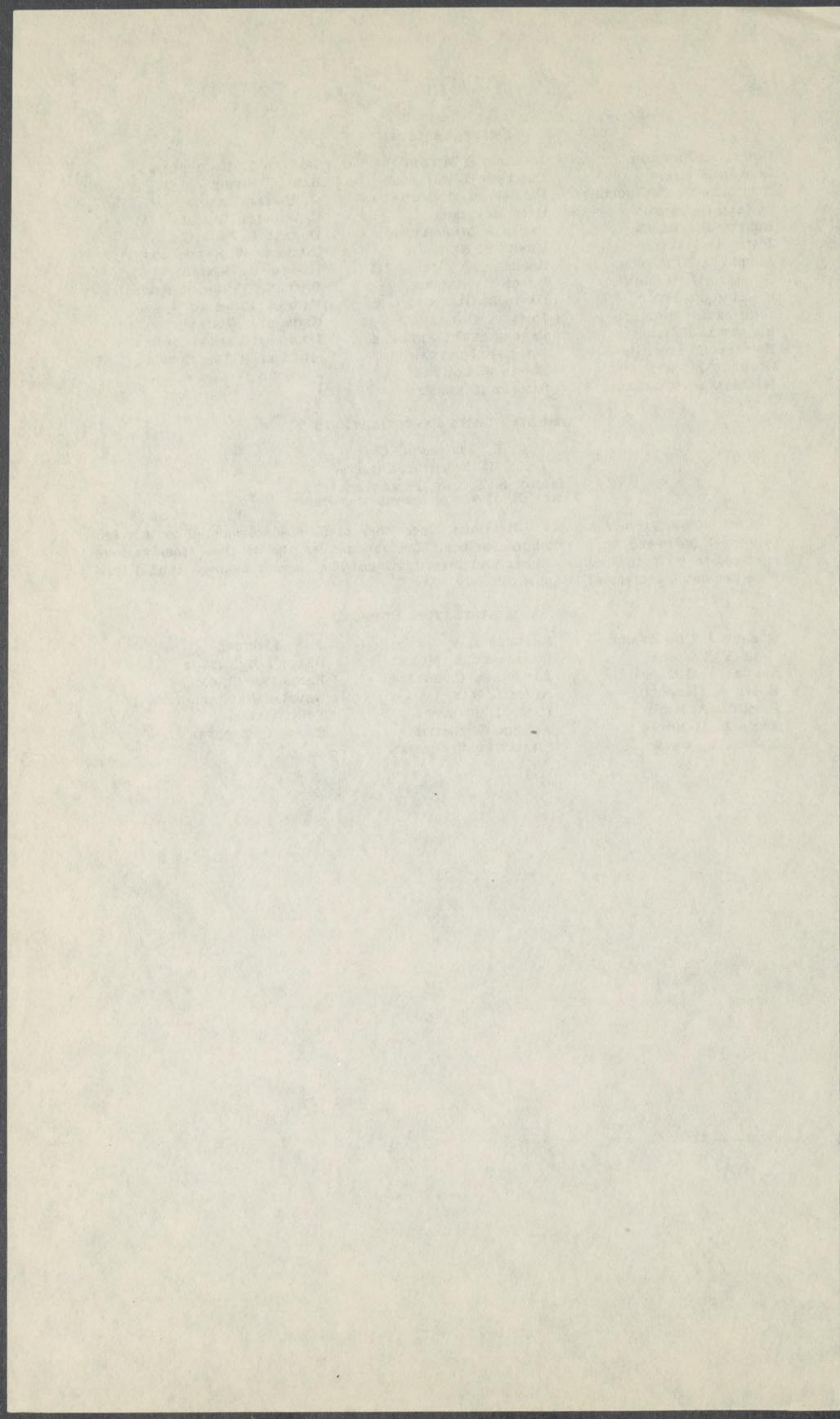
NOTE.—The Surveys and Investigations supervisory staff is supplemented by selected personnel borrowed on a reimbursable basis for varying lengths of time from various agencies to staff up specific studies and investigations. The current average annual full-time personnel equivalent is approximately 42.

ADMINISTRATIVE SUPPORT

GERARD J. CHOUNARD
PAUL V. FARMER
SANDRA A. GILBERT
ROBIN A. HARROLD
PATRICIA A. KEMP
ANNA L. MANNING
MARCIA L. MATTS

FRANCES MAY
GENEVIEVE A. MEALY
LAWRENCE C. MILLER
KITTY L. RAY
DALE M. SHULAW
AUSTIN G. SMITH
CHRISTINE STOCKMAN

ANN M. STULL
BETTY LOU TAYLOR
RANDOLPH THOMAS
GEMMA M. WEIBLINGER
TONI WILLIAMS
ELLEN C. ZACOFSKY



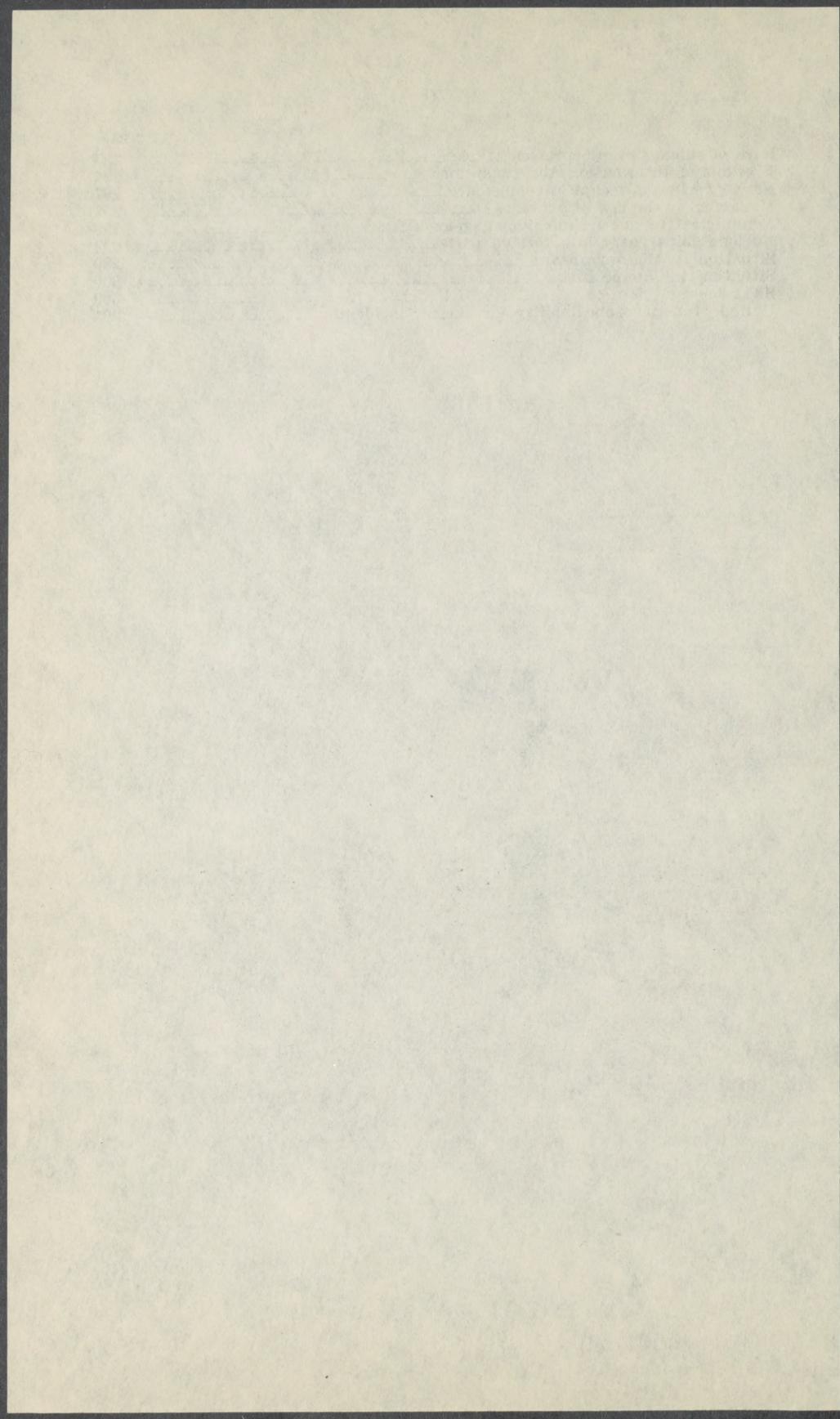
CONTENTS

	Page
Introduction	1
Need for strong military	2
Historical perspective on war	4
The will to fight	5
Personal views of witness	72
Peace through treaties and law	73
United States must be prepared	73
Soviet interests	74
Congress has responsibility	75
Changing plans for Aegis ships	75
Basis of opposition to nuclear Aegis ships	76
What the Navy needs	76
House Armed Services Committee action	76
Reasons for nuclear power in Aegis ships	79
Cost of nuclear power	79
Initial cost	80
Life cycle cost	80
Value of nuclear propulsion	81
Title VIII	82
Time to construct nuclear ships	83
Cost comparison	83
Surface effects ships	83
Not all ships should be nuclear	84
Concept of fighting future wars	84
Ships must be ready to fight	85
Training course for senior officers	85
Turnover of senior officials	85
U.S. Navy appears complacent	87
Built-in system for failure	87
Soviet surface ship construction	88
Soviets build major and minor combatants	89
Missions of United States and Soviet Navies	89
Soviet carrier	90
Soviet submarine program	91
Policy on types of ships	91
World War II experience	92
Submarine operations in World War I	93
Quality versus quantity	93
Future war at sea	94
Need for nuclear powered strike force ships	95
Position of Admiral Moorer	95
Need for carrier task forces	95
Size of aircraft carriers	96
Alternate carrier concepts	98
Balance between strategic and tactical weapons	99
Nature of man	99
Attempts to avoid war	100
Fundamental change needed to stop war	101
Act to avoid sliding into the future	101
Statistics on shipbuilding claims	102
Considerations in settling claims	102
Shipbuilder dealings with senior officials	103
Demoralized Government personnel	104

	Page
Claims certification.....	104
Business' pursuit of profit.....	105
Use of double standard.....	106
Hiring outside counsel.....	107
Navy general counsel rejects outside counsel.....	107
Proposal delayed.....	108
Navy needs help with claims.....	108
Armed Services Board of contract appeals.....	109
Recommendations on appeals process.....	110
Recommendations on shipbuilding claims.....	111
Independent research and development.....	112
Recommendations for I.R. & D.....	112
Renegotiation Act.....	113
Compliance with cost accounting standards.....	113
Waiver not justified.....	114
SSN 688 class submarine program.....	115
Feast or famine nature of Navy building program.....	115
Trident.....	116
Trident advantages.....	116
Shipbuilding experience on SSN 688 class.....	117
New facility at Electric Boat.....	118
Long lead time for equipment.....	118
"Design to cost".....	120
Delays in carrier construction.....	120
CVN 71.....	121
Impact of title VIII.....	121
Navy recommendations.....	122
Number of strike cruisers needed.....	123
OMB and OSD analysts' position.....	124
Application of systems analysis.....	124
Oilers should not be nuclear.....	125
<i>Long Beach</i> conversion.....	125
Nuclear capable shipyards.....	126
Cost considerations.....	127
Shipbuilding backlog.....	127
Firm long range program needed.....	128
Construction of CVN 71.....	130
Construction of strike cruisers.....	130
Timing of CVN 71.....	130
Shipbuilding program plans.....	131
Ingalls wants to build submarines.....	132
Ship cost estimating.....	132
Pope Pius' experience with cost estimating.....	133
Manning of nuclear powered ships.....	134
Requests for equitable adjustment.....	135
Use of Public Law 85-804.....	135
Admiral Rickover's position on claims.....	136
Senior officer material readiness school.....	239
Senior officers trained in social sciences not engineering.....	239
Purpose and content of course.....	240
Speech on engineering in the Navy.....	241
Long life cores.....	286
Advance design nuclear propulsion plant.....	286
Only option for greater performance.....	287
Nuclear trained officer retention.....	289
Navy training aids commercial nuclear industry.....	289
Navy people save industry money.....	290
Federal training of civilian reactor operators.....	290
Manning levels on nuclear ships.....	291
Excessive DOD bureaucracy.....	291
Growth of all government.....	292
Lawyers switch sides.....	293
Lobbying behind-the-scenes.....	294
Retirement Modernization Act.....	294

VII

	Page
Rate of submarine procurement.....	295
Freedom of Information Act exemption.....	296
Navy's decline in technical competence.....	297
Managing by the law of averages.....	297
Administrative not technical management.....	298
Nuclear ships entry into foreign ports.....	299
Situation in Mediterranean.....	299
Situation in Pacific.....	300
Situation in Spain.....	300
United States accepts liability for nuclear incidents.....	301



DEPARTMENT OF DEFENSE APPROPRIATIONS
FOR FISCAL YEAR 1977

WEDNESDAY, MARCH 31, 1976.

NUCLEAR PROPULSION FOR SHIPS, DEFENSE
CONTRACTING PROCEDURES, AND OTHER MATTERS

WITNESSES

- ADM. HYMAN G. RICKOVER, DIRECTOR OF THE DIVISION OF NAVAL
REACTORS, ENERGY RESEARCH AND DEVELOPMENT ADMINIS-
TRATION, AND DEPUTY COMMANDER FOR NUCLEAR PROPULSION
OF THE NAVAL SEA SYSTEMS COMMAND
- D. T. LEIGHTON, ASSOCIATE DIRECTOR FOR SURFACE SHIPS AND
LWBR, NAVAL REACTORS, ERDA
- T. L. FOSTER, ASSOCIATE DIRECTOR FOR FISCAL MATTERS, NAVAL
REACTORS, ERDA
- W. WEGNER, DEPUTY DIRECTOR, NAVAL REACTORS, ERDA

INTRODUCTION

Mr. MAHON. The committee will come to order.

Admiral Rickover, we have asked you to appear before us from time to time through the years, and we are pleased that you are able to be with us again today. You have always presented a clear and forthright statement to the committee, and we find these statements which you make to us helpful.

Of course your principal concern is the development and procurement of nuclear reactors for the Navy for both submarines and surface ships. You have testified with respect to those matters many times. Your contributions in the field of nuclear propulsion have been tremendous.

This year, the Budget Control Act has imposed upon us a very tight schedule. Our time is limited, and our hearing schedule has been shortened as a result of the requirements. We would like to talk to you specifically about the nuclear shipbuilding program of the Navy.

As I understand it, the Navy has studied ship requirements and has made a report to the Secretary of Defense. There are indications that the Defense Department may submit an amended Defense budget. We don't know about that as yet. Of course you are aware of the fact that the House Armed Services Committee, in reporting out an authorization bill for Defense, included \$2.2 billion for new ships not included in the President's January budget.

This Committee on Appropriations must decide what ships to recommend for funding in the fiscal year 1977 Defense appropriation bill. We must make judgments as to whether or not the ships proposed are required and if they are required at this time.

We must weigh the need to fund ships against other Defense needs such as the possible need for additional strategic offensive weapons. We must consider the need for additional ships as related to other requirements of the Government.

There is some question that has been raised as to the adequacy of shipbuilding capacity. We would welcome hearing from you along these lines.

I might pose a question that is a little bit unrelated to what I have been saying. The question is: What do we expect our Military Establishment to achieve? Of course in the event of war we expect the Military Establishment to achieve victory.

Mr. FLYNT. Since when?

Mr. MAHON. Well, you have a point there, but we still would expect that victory be achieved. We talk about deterrence. The various administrations through the years have been recommending less and less for strategic weapons and more and more, especially this year, for general purpose forces.

Undoubtedly strategic weapons do deter war. There is no doubt but that our nuclear power is such that no nation would consider attacking us under ordinary circumstances, because we would be able to destroy our opponents. On the other hand, our opponents might very well be able to destroy us, so we have a balance of terror more or less.

Some time ago I was talking to some of the military people about the deterrence that may be provided by general purpose forces, whether the general purpose forces do provide deterrence. We have had many problems in the international field. Despite our strength we had Russian placement in Cuba of ballistic missiles in the 1960's. We have had problems in Vietnam and in many other areas.

We didn't pursue our objectives very forcibly in Africa, especially with respect to Angola.

NEED FOR STRONG MILITARY

How valuable are our military forces? Undoubtedly we have got to have them and we have got to be number one, but is there something lacking? Are we going to withdraw from the world and let the Soviet Union, through Cuban troops or otherwise, take over Africa, and South America in this hemisphere, and so forth? Are we losing our credibility in the field of defense?

I know that this has nothing to do with building of submarines and nuclear reactors, but I thought you might have some thoughts with respect to how we could make our military policy more effective in international matters.

Admiral RICKOVER. Do you wish me to answer that question, sir?

Mr. MAHON. I wish you would comment on it.

Admiral RICKOVER. That question raises the whole issue of armed strength of all types, Army, Navy or Air Force, sir. From my

knowledge of history, I think it is quite credible to have a nuclear war. I will talk philosophically first. As one gets older, and I think you and I, Mr. Chairman, understand each other because I am older than you are.

Mr. MAHON. Well, not much.

Admiral RICKOVER. Well, sir, you are younger, but you also have reached the age of wisdom. I don't believe Mr. Sikes has yet. He is too young.

Mr. SIKES. Thank you.

Admiral RICKOVER. And that applies to the other members.

I was just saying that you may not be as wise as the chairman or I, because you are not as old. In becoming older, you find out you don't think as much of future generations as you did when you were younger. You realize that certain inevitable things are going to happen.

So it is possible that there could be a nuclear war. That would be a supreme misfortune if it should occur, but it still is possible. Therefore, Mr. Chairman, the most important work of man is to prevent war, particularly nuclear war. I believe you agree with me on that, sir.

One way to prevent nuclear war is to have strong conventional forces. I am not talking solely about the Navy now. I am talking about any type of conventional forces that we have. If we do not have conventional forces that match or nearly match those of a prospective enemy, that could lead him into adventures in which he thinks we will be afraid to oppose him.

You will remember that at the time when we were superior in conventional forces, the Soviets did not embark on many adventures where we were directly concerned. Today as we have become relatively inferior, the Soviets are challenging us more and more.

The basic question is whether it is worth spending about \$40 billion a year on conventional weapons.

To illustrate the problem, let me take an extreme case. Let us assume that Congress in its wisdom decided that we should spend zero dollars starting this year and continue to do so for 10 years, but the Russians continue to spend at their present rate. In 10 years half of our conventional weapons will be obsolete, considering the present rapid advances in technology. The rest of our weapons will have become obsolescent. The Russians at their present rate of spending for conventional weapons will have at least 75 percent modern weapons—all less than 10 years old. Ours, however, will all be over 10 years old and half of ours will be over 20 years old.

Assuming that today our conventional weapons are equal to theirs, 10 years from now, they would be about one-fourth to one-third equal to theirs.

The result will be that our conventional weapons will no longer constitute a real threat to anything the Russians wish to do, and therefore they will feel free to pursue any objective without fear of a nonnuclear reprisal. Thus far they have been able to interfere in Central Europe, in Cuba, and in Angola—even when there exists near equality in conventional forces. What would be the situation in a similar instance 5 or 10 years from now? Any protest we make will

be heeded about as much as Secretary of State Stimson's in 1932 when the Japanese invaded Manchuria.

In view of the present world energy situation, I believe that the major goal of the Soviets is to gain control of the Near East oil fields. Should they gain that control, they then would control Europe, Japan, and, to a great extent, the United States.

HISTORICAL PERSPECTIVE ON WAR

Frequently nations appear to tolerate incursions on their rights and their interests for long periods of time. The aggressor's appetite is whetted by his increased success, but eventually the time comes when the aggrieved nation will no longer continue to accept these relatively minor aggressions. Almost suddenly public opinion will solidify and will proclaim "No further, or we will fight."

This was the case in 1917 when we entered World War I. It was the case in England in 1939; with the American Revolution in 1775, with the North in 1861, with the Spanish-American War in 1898, and with our entry into World War II. There are numerous similar cases throughout history.

It happened in the case of Rome when Hannibal defeated their army, and the defeated army sent its sons back to plead with their fathers. They wouldn't let them into the city. They went back to certain death.

In World War I Woodrow Wilson was elected in November 1916 on a slogan "He kept us out of war with honor." In February 1917 we were at war, because things were out of control. It happened in our own Revolutionary War. Who would have thought in 1775 that we could defeat the British? Yet we went to war. It happened in the Civil War. Everyone wanted peace, and yet, a short time after Lincoln was elected, the feeling in the South was so high, that war started.

I think the fact that a country unilaterally disarms, and lets the other side get stronger, is no assurance there won't be a war. I think the time comes in every nation when they will decide to stand and fight, and it will be far better not to be the weaker nation when that happens. In my opinion, it is even more important today to have our conventional forces strong, certainly at least as strong as the Russians. You can argue about overkill in the nuclear forces, but you can't argue that for the conventional forces.

So what you do when you appropriate money for conventional forces today is, first, you attempt to prevent the holocaust of nuclear war by being able to give an adequate response without resorting to nuclear weapons; second, you make it less likely that there will be a conventional war.

But to prevent the conventional war requires that our conventional forces must be at least nearly equal to that of the other side. They must be strong enough to deter the other side from testing us with small ventures. This is the price we must pay because of our imperfection as human beings.

Therefore we must consider our expenditures for conventional weapons as insurance—as insurance to prevent a great loss. When you

consider \$40 billion annual expenditure as insurance, this works out to less than \$200 per person per year in this country.

Have I answered your question, sir?

THE WILL TO FIGHT

Mr. MAHON. I suspect you would say that much of deterrence depends upon will. Maybe it depends more upon will in many cases than upon military strength because it would have been military strength or the lack of it in these instances you have cited but will played a major part in the matter.

Admiral RICKOVER. But, Mr. Chairman, in the cases mentioned there may have appeared to be a lack of will prior to the crises, but at a certain point a nation felt its interests or its survival was threatened. Then the will came and it came quickly. At that time it is important to also have the necessary military power. That is the point I make, sir.

Mr. MAHON. Let's come back to more down-to-earth problems here. This is very interesting. We want your best judgment, based upon your experience and information otherwise, as to the shipbuilding program. We are aware that there is a big push on for additional ships, not only for certain ships that are in the budget, but for certain other ships that are not in the budget.

Ships are expensive, and we don't like to go beyond the requirements justified by the administration to this committee. What have you got to say with respect to the problem which confronts this committee, or will confront it later on?

Admiral RICKOVER. First, Mr. Chairman, may I request that you include my prepared statement in the record?

Mr. MAHON. We will of course include your prepared statement.

[The statement follows:]

STATEMENT

of

ADMIRAL H. G. RICKOVER, USN
DIRECTOR
NAVAL NUCLEAR PROPULSION PROGRAM

BEFORE
THE DEFENSE SUBCOMMITTEE
COMMITTEE ON APPROPRIATIONS

U.S. HOUSE OF REPRESENTATIVES

on
31 MARCH 1976

STATEMENT OF ADMIRAL H. G. RICKOVER, USN, DIRECTOR, NAVAL NUCLEAR PROPULSION PROGRAM, BEFORE THE DEFENSE SUBCOMMITTEE, COMMITTEE ON APPROPRIATIONS, U. S. HOUSE OF REPRESENTATIVES ON 31 MARCH 1976.

Mr. Chairman, I deeply appreciate this opportunity to state my views concerning the naval shipbuilding program as it affects the naval nuclear propulsion program.

INTRODUCTION

I have been associated with the naval nuclear propulsion program for more than a quarter of a century during which time there have been: 13 Secretaries of Defense; 15 Deputy Secretaries of Defense; 12 Directors of Defense Research and Engineering, including former positions of Chairman, Research and Development Board and Assistant Director for Research and Engineering; 8 Assistants to the Secretary of Defense for Atomic Energy, including former Chairmen of the Military Liaison Committee; 14 Secretaries of the Navy; 15 Under Secretaries of the Navy; 11 Chiefs of Naval Operations; 12 Vice Chiefs of Naval Operations; 5 Chiefs of Naval Material since the position was established in 1963; and 10 Commanders of the Naval Sea Systems Command, including the former positions of Commander, Naval Ship Systems Command, and Chief, Bureau of Ships.

On the average, each of these 115 key officials in the approval chain held his position a little over two years. In any given year, about 4 of these 10 top positions had a new incumbent. Since my own tour of duty in this program spans this entire period, I undoubtedly have a different view of the events which have occurred than do the legions of officials I have mentioned, and their numerous subordinates--all of these constantly rotating officials had to approve my requests before I could proceed with my work.

Mr. Chairman, your tour of duty and that of several of your illustrious colleagues also spans this entire period, so I am sure you fully understand this point.

In some of my remarks, I may express views contrary to those of my superiors in the Navy and those in the Department of Defense. You are aware that there have always been basic differences between my opinions and those of my superiors. I must make it clear that I claim no superior wisdom. Furthermore, my superiors have more responsibilities and problems different and more onerous than mine, and these responsibilities and problems may require different solutions than I propose. I make no claim that my views are right and theirs are wrong. I can only say what I think and what I believe.

My superiors have no obligation to justify their positions to me. Therefore, I wish to make it clear that I do not represent myself as knowing or understanding the full basis for their decisions. But, because I have held a responsible position for many years, I have an obligation to give you my own detached assessments. I cannot permit political or personal considerations to prevent me from discharging this obligation, nor can I permit what has been called the "decencies of human relations" to control my relationships with Congress. In that context, I will present to you my candid opinions concerning the issues before the Congress which affect the naval nuclear propulsion program.

MISSION OF THE UNITED STATES NAVY

Today, the Western world depends on the strength of the United States. Short of all-out nuclear war, this strength depends on the ability of the U. S. Navy to maintain the sea lines of communication to our allies. If the Soviets could prevent our Navy from assuring the flow of men and material across the seas, none of our armed services could conduct overseas military operations in any area where the Soviets choose to challenge us.

In this regard, it must be borne in mind that the mission of the United States Navy to ensure free use of the seas so as to defend us and our maritime allies is much more difficult than the mission of the Soviet Navy which is to deny us the free use of the seas. It is much more difficult to forge a chain than it is to cut a link.

There are those who dismiss as unrealistic the possibility of a direct confrontation between American and Soviet naval power. I think events may well show they are wrong, unless we build naval forces which can clearly counter the best Soviet naval forces. In the 1962 Cuban missile crisis, the U. S. with superior naval power and superior nuclear weapons, was willing to confront the Soviets with both. From now on, we are faced with the Soviets having at least equal, if not superior, nuclear weapons capability. If we also allow them to attain superior naval forces, why should we assume that they will not confront us with this naval power to obtain their objectives in areas where they consider we will not be willing to risk our own annihilation? In short, failure on our part to provide naval forces which can stand up to the best naval forces the Soviets develop could lead to our having to give in on all issues for

which we are not willing to go to nuclear war.

SOVIET NAVAL THREAT

The Soviets have made rapid progress in the design and construction of nuclear submarines in particular, as well as the rapid expansion and improved capabilities of their surface combatant fleet. As a student of naval history, I am concerned that there has never in peacetime been anything comparable to the current growth of Russian naval power. We need to view these efforts critically because such actions appear to be inconsistent with, if not a repudiation of, efforts to reduce tensions between the superpowers..

Unlike the United States, the Soviets are spending more of their military budget on procurement, research and development, and operations, than on manpower. While over 50 percent of the U.S. defense budget pays for personnel, only about 35 percent of the Soviet budget is required for personnel costs. The result is that in recent years, many new types of weapons systems have entered the Soviet arsenal, including new design planes, tanks, and ships.

From 1968 through today the Soviet Navy has increased both in numbers of ships and in capability. For example, the number of nuclear submarines in the Soviet fleet increased from 61 in 1968 to 135 today, surpassing us in this area in 1970. During the same period, the number of Soviet major surface combatants increased from 200 to 229 while the number of U. S. major surface combatants fell from 350 to 172. While their numbers continue to increase, ours continue to decline.

The U. S. Navy is scheduled to drop 27 ships from the active fleet in fiscal year 1976, including 2 carriers, 3 destroyers, and 1 submarine. The U. S. Navy active fleet level stands at 477, the lowest since 1939.

Looking at the submarine situation, specifically, the comparison is particularly ominous. Currently the Soviets have a total of 330 submarines, consisting of 135 nuclear powered and 195 diesel powered, all of which have been built since World War II. The total U. S. force is 116 submarines with 106 nuclear powered and 10 diesel powered.

In the critical area of strategic submarines, of the 55 Soviet nuclear ballistic missile submarines in operation, 34 are YANKEE Class submarines which are equivalent to our 41 POLARIS and POSEIDON submarines except they are all newer than ours.

The Soviets also have at sea 11 ships of their new DELTA Class ballistic missile submarines, with more under construction. These ships carry the 4,200 mile missile which means that from their operating areas in the Barents Sea and Northern waters they can cover the entire United States and most of Mexico. In total the Soviets have more nuclear powered ballistic missile submarines than we do and they are building new ones at a rate of about 6 a year compared to our TRIDENT rate of 1 or 2 per year.

In the area of attack submarines the Soviets have a total of 190 units compared to our 75. Of their total 40 are nuclear powered while 65 of the U. S. units are nuclear.

However, Russia has 65 additional submarines armed with the unique capability of firing cruise missiles. Of these 65 units, 40 are nuclear powered. The U. S. does not have any submarines capable of firing cruise missiles, although our Navy is developing a version of the HARPOON missile which will be capable of being fired from submarine torpedo tubes.

The Soviets have the largest and most modern submarine yards in the world. They are credited with a nuclear submarine production capability of 20 ships a year on a single shift basis. While not fully utilizing this vast building capacity, in 1975 they completed 10 submarines while we completed two. As late as 1966, the Russians had only two new construction yards building nuclear submarines; today they have four with this capability and further expansion of such facilities is currently in progress.

At present, while our POSEIDON conversions are going on, the maximum U. S. capacity to build nuclear submarines is less than half that of the Soviets. Upon completion of these conversions--about 1977--our present capacity would still be far below theirs.

Of even greater concern than total numbers is the fact that since 1968 the Soviets have introduced over 9 new designs, or major modifications in design, besides converting older designs to improve their capabilities. They have introduced significantly improved versions of their attack, cruise missile, and ballistic missile nuclear submarine designs. In the last 8 years they have introduced more new submarine designs than have ever been put to sea, during a comparable period, in all of naval history. The U. S., on the other

hand, has introduced only two new design submarines in this period. This comparison should not be surprising since we spend less than 20 percent of our naval budget on submarines while the Soviets spend approximately 40 percent.

The trends in the surface navy are also of concern. Today the Soviets have more major surface combatants than we, and many of their ships carry surface-to-surface missiles, which our ships do not yet have. As of February of this year the Soviets had 229 major combatants compared to our 172. Since 1962 the Soviets have built 800 major and minor surface combatants, mine warfare and amphibious ships, while the U. S. has built 167, or less than one-fourth as many. I will include with my statement classified comparisons of Soviet and U. S. surface ships and submarines.

Overall, I believe that our surface Navy is still more powerful because of our aircraft carriers. However, even this is not reassuring since, as a land power, they do not have to depend on sea lines of communication to conduct military operations. As a maritime power, we are dependent upon being able to control sea lines of communication in order to conduct military operations overseas. The mission assigned to our Navy is a far more difficult task than the Soviet Navy mission of preventing our Navy from maintaining such control. In light of the developments I have just described, it should be apparent that the threat we face from Soviet naval expansion is real and ominous.

TRIDENT

There is general acceptance that our nuclear powered ballistic missile submarines are a vital element of our Nation's deterrent to all-out nuclear war. The TRIDENT Program proposed by the Department of Defense for Fiscal Year 1977 includes construction funds for only one ship - the fifth submarine of the class. Originally the TRIDENT Program was planned to include construction of three submarines every year after the lead ship. Last year, two submarines were planned for Fiscal Year 1977, but the program was stretched out again, resulting in added costs. The Navy has estimated that the program stretchout proposed this year will add about \$225 million to the cost of the first ten TRIDENT submarines.

As I discussed earlier, the Soviets have deployed DELTA Class ballistic missile submarines capable of firing 4,200 mile missiles. In a sense, the Soviets are already operating their equivalent to our TRIDENT submarines.

In comparison, our first TRIDENT submarine will not deploy until 1979. The existing Soviet missile capabilities increase the threat to our land-based strategic forces and increase the reliance we must place on our sea-based strategic forces.

The TRIDENT submarines will enable the United States to maintain a secure and viable strategic deterrent in the face of the increasing Soviet threat. The longer range of the TRIDENT missiles will permit basing our ballistic missile submarines in the United States--no foreign basing will be required. This will eliminate the vulnerability of our ballistic missile submarine force

to international political action that could deny us the use of foreign bases. This is extremely important because we are always in danger of losing our foreign bases. For example, the treaty recently negotiated with Spain calls for removal of our ballistic missile submarines from the base in Rota, Spain, in three years.

The TRIDENT submarines will have increased survivability because they are being built with all the latest technology. They will be more difficult to detect than our existing POLARIS and POSEIDON submarines because the TRIDENT submarines will be quieter and the longer range missiles will give the submarines 10 to 20 times more ocean area to hide in. Our existing POLARIS and POSEIDON submarines are noisy compared to current standards. They were all built with the technology of the 1950's. Quieter submarines are necessary to decrease the probability of detection and ensure the survivability of our seaborne strategic deterrent.

The POLARIS and POSEIDON submarines are wearing out and we must plan now for an orderly construction program to provide replacements. I believe Congress understands the importance of our ballistic missile submarine force as a deterrent to nuclear war. I recommend that the Committee not allow more delays in this program, which is vital to our national survival.

GENERAL PURPOSE NAVAL FORCES

The bulk of our naval ships, our general purpose forces, are designed to carry out naval missions in conflicts short of all-out nuclear war. About half these are submarine and surface combatants designed to fight in areas of high threat; they are our naval strike force ships. The other half are assigned to non-strike force functions; such as underway replenishment groups, amphibious assault forces, convoy escorts, and support ships, which service the fleet. I have never recommended, and I know of no serious consideration ever having been given to providing nuclear propulsion for ships in the latter categories. Therefore, I will confine my comments to major combatants to be built for naval strike forces.

SSN 688 CLASS ATTACK SUBMARINES

Our nuclear powered attack submarines are the best anti-submarine warfare weapons system we now have. In FY 1975, the building rate for nuclear attack submarines was reduced from five per year to five every two years. Because of fiscal constraints, the planned building rate starting in FY 1978 was recently reduced further to two per year. Considering the rapidly improving quality and expanding number of Soviet nuclear submarines, I consider this to be an inadequate building rate. I have repeatedly recommended that we restore the building rate to a minimum of five ships per year.

The SSN 688, the first ship of the new class of high speed attack submarines, will be delivered this summer. Twenty-eight ships of this Class are under contract. The fifth ship, the MEMPHIS, will be launched this Saturday, April 3. I am convinced that when these ships join the fleet, they will be in great

demand to carry out many high priority missions.

ADVANCED DESIGN SUBMARINE NUCLEAR PROPULSION PLANT

The proposed Defense Department Fiscal Year 1977 budget includes \$12.581 million to continue development of the Advanced Design Submarine Nuclear Propulsion Plant. Development of this plant will enable the Navy to design various improved submarine configurations incorporating new weapon systems, advanced sonars, and other features while increasing the submarine's performance capabilities compared to our existing designs. In my classified remarks I will discuss further the need for this development work.

SURFACE WARSHIPS

Aircraft carriers and AEGIS fleet air defense ships are the only other major combatants currently planned to be built for naval strike forces. These ships are designed to fight in the areas of highest threat and will form the backbone of our first line naval strike force. Considering the difficulties of providing logistic support in the areas of highest threat, in my view it is essential that our first line warships be given the mobility and flexibility that only nuclear propulsion can provide. The United States has given up any possibility of matching the Soviet Navy in numbers of ships; therefore, our only hope to be able to carry out our naval mission in the areas of highest threat is superior ships. In my opinion, in the 1980's and beyond, in any area where the Soviets challenge us with their best naval forces, we will need all-nuclear carrier task forces if we are to be able to conduct sustained offensive operations.

AIRCRAFT CARRIERS

For the foreseeable future, the aircraft carrier will be the principal offensive striking arm of the Navy in a non-nuclear war. No other weapon system under development can replace the long-range, sustained, concentrated firepower of the carrier air wing. Torpedo firing nuclear submarines, cruise missile firing nuclear submarines, nuclear cruisers with anti-air and anti-submarine capabilities--all are needed to supplement and augment the capabilities of the nuclear carrier.

The number of overseas air bases available to us is rapidly declining. It must be clearly understood that there is no known alternative to carriers for providing tactical air power beyond the range of provisioned and protected land bases. If an opponent is successful in developing weapons that can sink large numbers of our carriers, and we are not successful in developing sufficient counterweapons--or if we simply do not build sufficient modern carriers to protect our sea lanes--the United States will have to change its national objectives to be consistent with our inability to conduct overseas military operations.

CARRIER SIZE

There are many who would push the Navy in the direction of constructing carriers much smaller than the NIMITZ, with the fighting capability selected based on a predetermined ship size or cost. Unfortunately, as H. L. Mencken has said, "For every difficult and complex problem, there is an obvious solution that is simple, easy, and wrong."

There are no cheap or simple solutions to the problem of building a Navy capable of meeting the Soviet threat. It should be obvious that such approaches, if we are to learn anything from the past, are destined to result in large cost growth when the cost of providing a reasonable capability is faced up to, or else result in ships which afford consolation during periods of peace, but leave the country inadequate defense in time of war.

Frankly, it does not make sense to me to set an arbitrary "design to cost" ceiling for the acquisition cost of an aircraft carrier, nuclear or conventional. The fighting capability of the air wing the carrier can support determines the offensive capability of the entire carrier task group. For the relatively small amounts "saved" in carrier acquisition cost, major reductions in combat capability of the air wing would result. Such reductions do nothing to cut carrier task group support costs such as escort force costs. In fact, they increase logistic support costs because of the more frequent replenishment required by the reduced capacity of smaller carriers for combat consumables. Further, the Navy has well documented experience that smaller carriers have higher aircraft accident rates. As the unit cost of aircraft continues to increase, this could become a significant cost factor.

It should be borne in mind that the design of the NIMITZ Class carriers evolved from 50 years of experience with the design, construction and operation of aircraft carriers. The present trend toward fewer carriers increases the number of types of aircraft the remaining carriers must be able to handle. This increases the number and variety of shops, maintenance facilities, spare parts, and personnel that must be accommodated.

Further, the reduction in the total number of carriers requires each to be large in order to accommodate as many aircraft as possible, so that the minimum number of carriers need be used for any given assignment. Also, the increasing sophistication of the projected Soviet air threat argues against a decrease in the capabilities of the carrier air wing which would be forced by a significant reduction in carrier size.

The CVNX Characteristics Study Group Report recently published by the Navy concludes:

"Overall, it is more cost effective to procure modified design NIMITZ Class carriers. The principal reasons are:

"Projected funding levels will support a force level of not more than 13 or 14 fully capable carriers.

"At force levels of 13 or 14 carriers, high individual carrier capability is required to meet tactical requirements.

"Carriers significantly smaller than the NIMITZ Class cannot support the practical minimum number and types of aircraft required to perform missions alone in the presence of an air threat. NIMITZ size carriers provide more than twice the combat capability of the smallest practical nuclear powered alternative.

"NIMITZ size carriers have more flexibility to incorporate changes in characteristics that may be required during the life of the ship due to changes in the threat and new technological developments.

"For a three-carrier procurement program, the cost of three Modified NIMITZ size carriers is about the same as the cost of three of the smallest sized carrier concepts developed."

I concur in the conclusion of the carrier study that we should continue building NIMITZ Class carriers.

A substantial portion of the higher investment cost of a nuclear carrier is directly offset by the elimination of the cost of buying and delivering propulsion fuel oil; also, by the reduced cost of the logistic support forces needed due to less frequent replenishment of combat consumables because of the larger capacity of the CVN for aviation fuel and ammunition. Navy studies have shown that it takes the equivalent of an extra fleet oiler just to provide the peacetime propulsion fuel support for an oil-fired aircraft carrier. Of course, in wartime the oil-fired carrier's vulnerability is largely determined by its requirement for a continuous supply of propulsion fuel and the extreme vulnerability of oilers.

THE FOURTH NIMITZ CLASS CARRIER, CVN 71

The Navy originally proposed that a fourth NIMITZ Class carrier, the CVN 71, be built for delivery in October 1984--four years after the contract delivery date of the nuclear aircraft carrier CARL VINSON, CVN 70. To achieve this delivery, the carrier must be authorized in FY 1978 or 1979 with a minimum of \$350 million in FY 1977 for procurement of long leadtime items. The President's FY 1977 budget authorization request submitted to Congress in January 1976 deferred the advance procurement funds to FY 1978.

Deferral of advance procurement funds from FY 1977 to FY 1978 would delay delivery of the carrier to at least October 1985. This would also delay

delivery of long lead equipment to the point that the earliest ship keel laying date that could be supported would be April 1980. This is 1½ years after the scheduled launch of the CARL VINSON. The projected October 1985 delivery is predicated on the assumption that the shipbuilder would be able and would agree to provide the skilled manpower necessary to build the carrier in this time period, even though most of the manpower used to build CARL VINSON could be expected by that time to have been reassigned to other work, or laid off.

In the past 25 years, the Newport News Shipbuilding and Dry Dock Company has been awarded contracts for the construction of eight aircraft carriers; the largest gap between these carriers has been four years. Therefore, the minimum five-year gap between the CVN 70 and the CVN 71, caused by deferral of long lead funds to FY 1978, would create greater disruption in the carrier building program at Newport News than has been experienced at any time during the last quarter century.

The long lead nuclear propulsion plant components for the NIMITZ Class carriers are the largest components produced for the naval nuclear propulsion program and, in many cases, required development of special production lines and facilities to produce them. The components for the NIMITZ, DWIGHT D. EISENHOWER, CARL VINSON, and a ship's set of shore based spares, were ordered between FY 1967 and FY 1973. An average of one ship's set of components was ordered every 21 months, with the longest gap between any two orders being three years. The last of these components was ordered in calendar year 1972. Deferral of long lead funds from FY 1977 to FY 1978 would put at least a five-year gap between the ordering of nuclear propulsion plant components for the CVN 70 and the CVN 71.

The October 1985 delivery for the CVN 71 is predicated on the assumption that the five-year gap after ordering the CVN 70 nuclear propulsion plant components will not increase new component lead time. This assumes that the component manufacturers involved will make their production facilities and manpower available at the time needed, even though these facilities can be expected to be shut down or diverted to other work due to the five-year gap between orders.

The Navy estimates that the minimum increase in the cost of the CVN 71 due to deferral of long lead funding to FY 1978 will be \$178 million.

Insofar as the next nuclear carrier, the CVN 71, is concerned, if we are ever going to build it, I don't see how there can be any question but that we should go ahead with the procurement of long lead items now. On the other hand, if a decision has been made that the CVN 71 is not to be built, the Navy should be told what reduced functions and missions it should be designing its forces to meet, and then expend its efforts to meet them.

The present situation is intolerable where on the one hand there is apparent agreement that the ship is required; and on the other hand, the approval actions all go in the opposite direction. The way this issue is being handled is creating distrust within the Department of Defense and within the cognizant committees in the Congress. This is a situation the U. S. defense establishment can ill afford at this critical time, and when there is general public distrust of all things military.

It should be borne in mind that a NIMITZ Class carrier is the largest and most complex device ever constructed. To manufacture the components and

systems and to build and test the whole ship with its multitudinous equipments requires the skill of many thousands of highly trained people. Therefore, when the program is stretched out and special production facilities are disrupted--as is happening on the CVN 71--large additional costs are unavoidable. The cost of delaying start of the CVN 71 is much higher than the inflation cost added to the much simpler ships that would be deferred to make funds available for the CVN 71.

NUCLEAR PROPULSION FOR GUIDED-MISSILE MAJOR COMBATANTS

Just as I recommend that new aircraft carriers be nuclear powered, so do I recommend that new guided-missile major combatants built to accompany them be nuclear powered. Previous studies have shown that each time a nuclear ship is substituted for a non-nuclear ship in a carrier task group, the capability of the task force as a whole will improve, with the greatest gain being made when the all-nuclear task group is achieved. The all-nuclear carrier task group has greater capability to penetrate and counter the projected Soviet naval threat than any other naval surface force we know how to build. By being far less dependent on logistic support than conventional forces, and by having the capability to retire at high speed for replenishment in low threat areas, the all-nuclear carrier task group has a capability to continue sustained operations in a high threat area which cannot be matched by any other currently foreseeable type of naval force. In my opinion these capabilities are well worth the added cost involved.

ADVANTAGES OF NUCLEAR PROPULSION FOR SURFACE WARSHIPS

Nuclear propulsion allows a submarine to operate completely independent of the earth's atmosphere; thus nuclear power provided a true submersible for the first time. Prior to the advent of nuclear propulsion the most modern submarines could only remain submerged below snorkel depth for a day or so, and could only run at full power submerged on their batteries for an hour. Nuclear propulsion gives submarines essentially unlimited high speed endurance, surfaced or submerged.

The advantages of nuclear propulsion for surface warships may not appear

to be as dramatic, but nevertheless they are very important from a military standpoint.

With existing designs of naval nuclear propulsion plants it is possible to provide enough energy for ten to 13 years of warship operation without the need to refuel. And new reactor designs now under development will last 15 years. In contrast, oil-fired naval warships must be refueled every few days. The initial nuclear fuel for a NIMITZ Class aircraft carrier contains the energy equivalent of 11 million barrels of Navy distillate fuel oil, or enough oil to fill a train of railway tank cars, stretching from Washington to Boston.

It was the concern for fuel for naval ships in time of war that led to establishment of the Naval Oil Reserves, which are now being considered as a quick source of additional oil during the present shortage. But even if part of this reserve is still available during a future war it will also be necessary to have the oil at hand where it is needed, before it can be used. Of what value is an oil-fired warship if it is unable to get oil? It is the need for a reliable worldwide fuel distribution system that is the Achilles' heel of our oil-fired Navy. The difficulty in obtaining foreign oil supplies to support operations in the Mediterranean and the Indian Ocean during crises in recent years shows this vulnerability.

If we are concerned that the improving Soviet naval capability will increase the vulnerability of our first line strike forces then we must recognize it is no longer reasonable to assume that our underway replenishment groups can be operated with impunity. Further, as the size of our Navy is decreased,

and with a commensurate reduction in the number of underway replenishment groups, it becomes increasingly important that we minimize the amount of logistic support required by the strike forces. The all-nuclear carrier task group, having essentially unlimited high speed endurance, carrying more combat consumables which permits longer periods between replenishment, and with the capability to retire at high speed for replenishment in low threat areas, has the capability to conduct sustained combat operations far greater than that of any other surface naval force we know how to build.

Against a sophisticated naval threat it could quickly turn out that our ability to conduct sustained combat operations would be controlled by the logistic support available. Under such circumstances the all-nuclear carrier task group has far greater striking capability than a conventional group.

When logistic supply lines are attacked during a real war, the decrease in the requirement for ships' fuel for the strike forces will have a compounding beneficial effect. The surviving fuel transportation and storage facilities can then all be concentrated on getting fuel for aircraft and other military vehicles to the forward areas. The escorts that would otherwise be required for the tankers which carry ships' fuel could then be assigned to assuring the safety of other supplies.

A major lesson of World War I, the first war in which fuel oil played a predominant role, was pithily expressed: "The Allies floated to victory on a sea of oil." In World War II also, the supply of oil was a controlling factor in most military operations.

Here is a statement about fuel that points out how lack of oil was instrumental in the defeat of Japan. It is quoted from the Strategic Bombing Survey conducted after the war. This report, entitled "Oil in Japan's War", states:

"In every phase of the war, oil determined Japan's strategy and governed the tactical operations of its Navy and Air Forces. The collapse of the Japanese war effort was the consequence of their inability to maintain their supply routes to the southern zone. "The effect of oil shortage on Japanese Naval strategy became devastatingly apparent in the campaign for the Marianas and the Philippines. Japanese fleet units had to be dispersed between the Japanese Inland Sea and Singapore, owing to limited fueling facilities, and failure to achieve satisfactory coordination between the fleets contributed substantially to the Japanese defeat. Fuel shortage in the Home Islands deprived the Japanese naval forces fighting off the Philippines of the services of at least three battleships, which, together with several aircraft carriers, were taken out of service and assigned to duties as port and anti-aircraft vessels because they consumed too much oil."

There are numerous examples where oil shortages have been a critical factor in military operations, examples that appear now to have been forgotten. Unfortunately, history has a way of taking revenge for forgetfulness.

Take the carrier task force. In the case of a conventional carrier, with four conventional escorts, one-third of the fuel is used for the carrier, one-third for the conventional escorts, and one-third for the aircraft.

By doing away with the need for fuel for the carrier and its escorts; by making them nuclear powered; only one-third the amount of propulsion fuel -- that used by the aircraft -- is needed. Further, we designed the NIMITZ Class nuclear carriers with the capacity for almost twice as much aircraft fuel and 50 percent more aircraft ammunition than the latest and largest conventional carrier. This reduction in logistic support becomes especially important when our naval forces are operating away from home, during a real war, when they are subject to enemy attack.

In general, a carrier with four conventional escorts will have one escort off its screening station about one-tenth of the time for refueling. Leaving station not only weakens the screen, but also increases the vulnerability of the escort and its fueling ship, whether it is an oiler or the carrier itself. This is so because of fueling restrictions on course, speed, and maneuverability.

When a nuclear carrier is substituted for a conventional carrier, the range of a carrier task group, with four conventional escorts, is doubled. When two of the four escorts with the nuclear carrier are nuclear, the range of the carrier task group is doubled again. When all the escorts are nuclear, the range of the carrier task group is essentially unlimited.

For these reasons, a nuclear task force is at least 50 percent more effective than a conventional task force; this is probably actually much greater than 50 percent.

Each nuclear ship added to the fleet also makes an additional unit available to the fleet commander for assignment to independent operations

where logistic support may be nonexistent or difficult to provide. Examples are quarantines, shows-of-force, rescues, protection of minesweeping operations, prevention of aerial minelaying, and submarine trailing and hold-down operations.

Each nuclear escort substituted for a conventional escort also increases task force flexibility and mobility through advantages which are difficult to describe in numerical form. For example, none of the numerical comparisons of the relative effectiveness and cost of nuclear and conventional escorts cited in Navy cost studies take into consideration losses due to enemy action. One Navy study on "Nuclear Power for Surface Warships" showed that:

Losses of underway replenishment ships can be expected to be greater when supporting conventional than when supporting nuclear warships;

Under several of the threat conditions studied, the number of replenishment ships lost supporting conventional warships was more than twice the number lost supporting nuclear warships; and that

The greater the threat to the underway replenishment ships, the larger is the loss differential to be expected--owing to the larger replenishment force required for the conventional warships.

I am sure you know the maxim learned through the bitter lesson of war that: "The art of war is the art of the logistically feasible." It is the elimination of the requirement for a continuous supply of propulsion fuel that makes nuclear powered warships so valuable.

The areas I have just mentioned represent a tremendous increase in military effectiveness. In my opinion, this effectiveness far outweighs the small increase in lifetime cost for the all-nuclear carrier task force.

There are many examples where the value of nuclear propulsion for surface warships has been demonstrated in real terms, in every day operational missions of the Fleet. I frequently receive letters from the Commanding Officers of our nuclear warships telling me of some of these advantages. As one of many examples, for 13 days during July, 1971, the TRUXTUN -- the cruiser that Congress changed to nuclear propulsion in the 1962 program -- provided an excellent demonstration of the capability of a nuclear powered ship to perform truly independent missions, free of the fuel oil umbilical cord.

While on a special mission, the TRUXTUN steamed 8,600 miles at an average speed of advance of 28 knots, traveling from Subic Bay in the Philippines to Perth, Australia and crossing the Indian Ocean twice en route. This is the longest period of such high speed operation ever sustained by any ship. This high speed could have been continued for an essentially indefinite period, had there been a need. At the conclusion of her mission, the TRUXTUN was fully ready to undertake protracted combat operations.

In contrast, our most modern oil fired cruiser would have had to refuel at least three times during such a transit, and would have arrived at her destination with close to minimum fuel reserves, unable to conduct extended combat operations. And, of course, there are no tankers normally available in the middle of the Indian Ocean from which to refuel. From a practical

standpoint, no non-nuclear ship could have performed the TRUXTUN's mission-- in peace or in war--because of the fuel support needed.

Last year the TRUXTUN completed her first overhaul and refueling since she was commissioned in 1967. Her new reactor cores will provide for at least ten years of operations. Last week I received a letter from her Commanding Officer, Captain B. F. Tally, reporting on a recent fleet exercise in which the TRUXTUN along with conventional ships operated with the nuclear carrier ENTERPRISE in task force operations. He said:

"TRUXTUN operated in a multi-threat environment and on occasion simultaneously engaged surface, submarine, and air threats. I was pleased with the results.

"The Fleet Exercise once again pointed out the advantages of nuclear power. Frequently, ENTERPRISE went to a high speed to avoid a threat, etc. On several occasions, TRUXTUN was the only member of the Task Group which could maintain station and keep up with ENTERPRISE particularly at speeds of 30 knots or greater. The mutual compatibility of nuclear powered warships appears to be well recognized today since TRUXTUN is scheduled to operate with ENTERPRISE in all exercises in the next several months and deploy with her."

Also to be considered in comparing nuclear powered to conventionally powered ships is the availability of fuel reserves during war. I mentioned that the Naval Oil Reserves are now being considered as an emergency source of fuel. These reserves are, therefore, not guaranteed.

The situation is different when we have nuclear fuel as a reserve. What

limited our industrial output, and therefore our fighting capacity in World War II, was the labor supply. But we can employ labor now--in peacetime--to manufacture nuclear fuel for our nuclear navy, and we can store the fuel in a small area. We would then be assured of having a nuclear fuel reserve for a long war, and we would not need labor during the war to manufacture nuclear fuel.

There are events in the nation's history that, to use Thomas Jefferson's phrase, are like "a fire bell in the night." The recent conflict in the Mid-East was such an event. For the first time, we were in a situation where the Soviet Fleet in the Mediterranean outnumbered the United States Sixth Fleet.

Had the Soviet Mediterranean Fleet been ordered to challenge the Sixth Fleet who would have won? From the limited information available to me, I do not think the answer is entirely clear. Would such a question have been seriously asked ten years ago? Perhaps this thought will give you an inkling of the change that has taken place in the balance of naval power over the past decade.

This change underscores the urgent need we, as an island nation, have to build a Navy strong enough to protect our national interest and our economic and political survival. To me, it is clear that the strike force ships we build for such a Navy must have nuclear power.

Four years ago I furnished your Committee a chronological summary of the history of nuclear surface warships over the past quarter century. This

chronology was subsequently published in Part 9 of your hearing record for Department of Defense Appropriations for 1973 on pages 199 to 467. References to the major studies of nuclear propulsion for surface warships are noted in the appropriate places in that chronology.

Lengthy though it is, the chronological summary merely scratches the surface of the tremendous amount of effort that has gone into documenting and analyzing the advantages, value, and cost of nuclear propulsion in surface warships. In the chronology I barely touched on the extensive analyses of cost and effectiveness and the voluminous documentation of actual examples reported by Fleet Commanders, where nuclear powered surface warships have been able to perform important missions in the Atlantic, Pacific, Mediterranean, and Indian Oceans which conventionally powered ships either couldn't do at all or would have had great difficulty doing under war conditions.

The studies that have been made of this issue have cost millions of dollars and countless man-years of effort, including that of many high level people. Every aspect of the advantages and cost of nuclear surface warships has been exhaustively studied in minute detail over a period of many years by hordes of analysts, civilian and military. These studies have brought out time and again that a nuclear surface warship has a higher initial investment cost than its conventional counterpart; but that when overall costs are taken into consideration, the nuclear ships are not much more expensive and provide greatly increased military capabilities. I do not believe that further studies can produce any more facts.

TITLE VIII - NUCLEAR NAVY

Two years ago Congress established a policy espoused in Title VIII of the Defense Department Appropriation Authorization Act of 1975, that the United States will provide nuclear propulsion for major combatants built for naval strike forces. In my opinion, passage of Title VIII was one of the most significant steps taken by Congress since World War II to help Congress carry out its responsibilities under Section 8 of Article I of the United States Constitution--"To provide and maintain a Navy."

I think Title VIII is misunderstood by many who have not taken the time to read it carefully and to read the legislative history. Many questions are asked about the impact of building an "all nuclear Navy" as required by Title VIII. Title VIII does not require an "all nuclear Navy." Section 801 makes it the policy of the United States to modernize the Navy by building major combatant vessels for the strike forces with nuclear power.

Section 802 defines "major combatant vessels for the strike forces..."as including combatant submarines; combatant vessels for aircraft carrier task groups which include aircraft carriers and the cruisers, frigates, and destroyers which accompany them; and combatant vessels of these types designed for independent missions where essentially unlimited high speed endurance will be of significant military value.

The legislative history clearly shows that Title VIII does not preclude the Navy from building oil fired sea control ships, patrol frigates, surface effect ships, or other such ships, because these ships

are not included in the definition of "major combatant vessels for the strike forces." Further, it is clear that auxiliary craft, support force ships such as oilers and replenishment ships, amphibious ships and convoy escorts do not fall under the definition of Section 802. Thus, Title VIII does not require an "all nuclear Navy;" it applies solely to major combatants to be built for the strike forces.

Since the Department of Defense is recommending nuclear powered submarines and aircraft carriers in their shipbuilding program, the only ships currently at issue under Title VIII between Congress and the Department of Defense are the ships to carry the AEGIS fleet air defense system--the nuclear strike cruisers, CSGNs; and the DDG-47 Class gas turbine powered AEGIS ships.

Section 803 requires the Secretary of Defense to submit to Congress a written report each year which presents the Department of Defense Five-Year Defense Program for construction of nuclear powered warships.

Section 804 defines the conditions under which it is legal for the Department of Defense to request authorization or appropriations from Congress for major combatant vessels for the strike forces which are not nuclear powered.

Section 804 states:

"All requests for authorizations or appropriations from Congress for major combatant vessels for the strike forces of the United States Navy shall be for construction of nuclear powered major combatant vessels for such forces unless and until the President has fully advised the Congress that construction of nuclear powered vessels

for such purpose is not in the national interest. Such report of the President to the Congress shall include for consideration by Congress an alternate program of nuclear powered ships with appropriate design, cost, and schedule information."

This section provides Congress the necessary information to decide for itself whether or not any specific combatant vessel for the strike forces of the Navy shall or shall not be nuclear powered.

Nuclear propulsion has revolutionized naval warfare by providing essentially unlimited high speed endurance for submarines and surface warships. From the very beginning of the nuclear power program, there has been strong opposition in the Navy. Were it not for Congress and the Atomic Energy Commission, we would not have nuclear submarines. In 1948, the Navy's systems analysts made a study that showed the nuclear submarine would have a military value 1.41 times as much as a conventional submarine, but would cost about twice as much. The Navy's analysts concluded that nuclear power was not worthwhile for submarines and argued that if the Navy built nuclear submarines, it would get only one nuclear submarine each year, instead of two diesel submarines every year. This demonstrated a complete failure of imagination.

Fortunately, Congress prevailed and the NAUTILUS was built; in fact, the Atomic Energy Commission had to pay for the propulsion plants in the first two nuclear submarines--the NAUTILUS and the SEAWOLF.

Although nuclear submarines have now been recognized as among the most vital warships the Navy has, opposition to them has continued for over a quarter of a

century. At one point, the Department of Defense decided to stop building nuclear submarines after 1970, but this was overruled by Congress. In another case, systems analysts in the Defense Department suggested sinking ten of our POLARIS submarines to save money. More recently, Congressional action has increased the number of high speed LOS ANGELES Class nuclear attack submarines in the shipbuilding program over that requested by the Department of Defense.

Thus, a reluctance to build submarines has continued even though the Soviets have surpassed us in numbers of nuclear submarines since 1970; outbuilt us last year by five to one; and even though the Soviets now have three times our submarine building capacity and are still increasing that capacity; and even though the Soviets have introduced over nine new design submarines or major modifications in design over the past eight years as compared to two for the United States.

The opposition of the Department of Defense to nuclear powered surface warships has been even more persistent. The seven nuclear surface ships in service today came into being only through the efforts of Congress.

The aircraft carrier JOHN F. KENNEDY was built with conventional power over the strong objection of Congress.

One of the two nuclear powered frigates which were authorized by Congress in FY 1968 was not permitted to be built by the Department of Defense, and the other was delayed for nearly two years.

In 1971, the Defense Department scrapped a previously planned program to provide each nuclear powered carrier with four nuclear powered escorts, then suspended indefinitely the nuclear escort construction program, even though this was the only type of new combatant ship having fleet air defense capability.

The arguments between Congress and the Department of Defense over the need for nuclear propulsion in major combatants culminated in the passage of Title VIII.

This year marks the first real test of the effectiveness of Title VIII. The issue before Congress is whether or not ships to be equipped with the AEGIS fleet air defense system will be nuclear powered. AEGIS is the latest and best system the Navy has devised to protect its major surface ships against enemy air attack. The decision of the Congress this year on the issue of whether AEGIS ships to be built for naval strike forces will be nuclear powered will have a profound effect on the future of the Navy, and will determine the rate of application of nuclear propulsion for surface ships.

AEGIS SHIPS

The AEGIS fleet air defense system has been under development for several years. The development has now reached the stage where the Navy is asking for authorization for AEGIS ships. The Congress will make the decision this year whether all AEGIS strike force ships are to be provided nuclear propulsion, or whether the mix of conventional and nuclear ships proposed by the Department of Defense will be built.

Up to April 1971, Navy programs were based on all AEGIS ships being nuclear powered. It was planned to modify future VIRGINIA Class nuclear cruisers to accommodate AEGIS. In April 1971, the Secretary of Defense cancelled the third NIMITZ Class carrier, the CVN 70, and the two nuclear cruisers, CGN 41 and 42; he also cancelled the Navy's future plans for building AEGIS equipped nuclear cruisers. During the next two years, the Defense Department restored the CVN 70 and the CGN 41 and 42. Last year, Congress cancelled the CGN 42.

In 1973, Admiral Zumwalt, who was then the Chief of Naval Operations, recommended starting a class of gas turbine powered AEGIS destroyers in FY 1977 and a class of nuclear cruisers with AEGIS in FY 1978. Secretary of the Navy Warner requested that the CNO investigate "the feasibility of building a single new class of aircraft carrier escort, nuclear powered, vice the two now planned..." In a meeting I attended on 12 October 1973, Admiral Zumwalt chose a program of 16 gas turbine powered AEGIS ships and 8 nuclear AEGIS ships to provide two AEGIS ships per carrier for a projected force level of 12 carriers of which four are already authorized to be nuclear. This decision became the basis for the presently planned mix of conventional and nuclear AEGIS ships.

At this meeting, he said that the talk of an energy crisis was just so much talk, that we are sitting on a 400-year supply of coal and that we will soon have the capability of putting this in a form we can use in our ships. He said that if he had his way, he would never build another nuclear powered surface ship. He said that his decision on the number of conventional AEGIS ships was based on the assumption that all new carriers will be non-nuclear. Therefore, he approved eight nuclear AEGIS ships to provide two each for the four nuclear carriers and 16 non-nuclear ships to provide two each for 8 conventional carriers he assumed would later be replaced by conventional carriers.

Admiral Holloway became Chief of Naval Operations in July 1974, a month before Title VIII became law. Based on his review of future shipbuilding plans, he recommended that future carriers be nuclear powered. He also recommended, and the Navy adopted his position, that the Navy build 18 nuclear powered strike cruisers, CSGNs, in lieu of the prior proposed mix of 16 non-nuclear and 8 nuclear ships with AEGIS.

In a letter of December 6, 1974, to the Chairman of the Seapower Subcommittee of the House Armed Services Committee, Admiral Holloway proposed a four-year program for building AEGIS ships. This program called for six nuclear powered strike cruisers, CSGNs, to be authorized in the four-year period from fiscal 1977 through fiscal 1980, and no conventional AEGIS ships.

The Navy subsequently recommended to the Secretary of Defense that, in addition to all new construction AEGIS ships being CSGNs, AEGIS should be introduced into

the fleet by converting the nuclear cruiser LONG BEACH to AEGIS as soon as possible. The Defense Department disapproved the Navy's recommendation to convert the LONG BEACH and disapproved the 18 CSGN program proposed by the Navy. The Navy continued to recommend that the first new AEGIS ship be a CSGN in FY 1977 with advance procurement funds in FY 1976. The Defense Department cut the Navy's FY 1977 budget and persuaded the Navy to recommend in the FY 1977 program a DD-963 type ship with AEGIS; this was named the DDG-47 Class.

In June 1975, the President disapproved this DOD/Navy recommendation and requested Congress to provide advance procurement funds in the FY 1976 budget for the first CSGN to be authorized in the FY 1977 program. The Congress did not authorize and appropriate the long lead funds. A few months ago the Navy program had been changed to four nuclear strike cruisers to be built over the next five years, along with seven conventional ships.

In the program now proposed, there are only two nuclear strike cruisers and eight conventional AEGIS ships to be built in this five-year period. The second CSGN would be delivered in 1986, about the same time as the sixth nuclear powered carrier, CVN 72. Thus, when all of the ships planned for the FY 1977-81 five-year program are delivered, we will have six nuclear carriers and only two nuclear AEGIS ships. There will also be six to eight aging conventional carriers and eight new non-nuclear AEGIS ships.

I am firmly convinced that unless Congress takes the initiative, by next year you will find that the analysts in the Office of Management and Budget and in the Office of the Secretary of Defense will attempt to eliminate completely the

nuclear strike cruiser program. It would not surprise me if they then again recommended building conventional aircraft carriers in lieu of nuclear carriers. That has been the pattern for over 25 years, starting with nuclear submarines. And I see no indication that the analysts have changed one iota in their position that, since nuclear surface ships cost more, we should build conventional ships.

But why should anyone expect to be able to get the great military advantages nuclear propulsion gives a warship without having to pay something for them?

AEGIS is planned as our most capable AAW weapons system. Because AEGIS ships will be expensive, regardless of their means of propulsion, there will never be a large number. In a naval war against an enemy employing sophisticated weapons systems, all strike force AEGIS ships will be needed in the areas of highest threat. It is under just such circumstances that the advantages of nuclear propulsion are most urgently needed to maximize mobility and minimize logistic support. It is into such high threat areas where the nuclear carrier task forces will be sent in time of war, and they will need nuclear powered AEGIS ships to accompany them. The AEGIS ships should be nuclear for the same reasons that carriers should be nuclear.

In areas where the threat is great enough to require nuclear carriers and AEGIS ships--our first line naval strike forces--it is highly unlikely that oilers can survive. When a non-nuclear AEGIS ship runs low on fuel, it will be necessary to remove the AEGIS ship to an area of lower threat to meet the oiler, losing the AEGIS protection just when it is most needed.

The CSGN also has unique capability for independent operation in areas where carriers are not available and the ship launched cruise missiles in the CSGN can provide sufficient offensive power.

Another consideration is that to have a credible nuclear powered guided-missile ship capability in both the Atlantic and Pacific Fleets, it is necessary to build a reasonable number of nuclear ships so that some ships are available for immediate deployment at all times. Even if all ten AEGIS ships presently planned to be authorized over the next five years are given nuclear propulsion, the Navy would still have a total of only 19 nuclear powered guided-missile ships in both oceans in the 1980's. It is my opinion that the Fleet Commanders of that period will consider this to be the minimum needed, considering the problems we can foresee today.

CONVERSION OF NUCLEAR CRUISER LONG BEACH TO AEGIS

The quickest and cheapest way to get the first AEGIS production unit into the Fleet is to convert the nuclear cruiser LONG BEACH.

If \$371 million of initial funds are provided in FY 1977, the ship can be at sea with AEGIS late in 1981 at a total cost of \$785 million. This would not only get AEGIS into the Fleet at the earliest possible date, but would also increase by 6 years that portion of the LONG BEACH life during which it would have the AEGIS system, and would provide another nuclear powered AEGIS ship much sooner. The LONG BEACH is not expected to require refueling before 1988. If the ship is converted to AEGIS with three years in the yard, refueling will not be required before 1990. If the ship is ever to be converted to AEGIS, I recommend it be done as soon as possible.

COMPARISON OF CSGN AND DDG-47

In addition to nuclear propulsion, the nuclear strike cruiser proposed by the Navy has significantly greater military features than the DDG-47 gas turbine powered AEGIS ship included in the President's FY 1977 budget request.

The anti-air warfare missile magazines in the CSGN carry 45 percent more missiles and there are twice as many HARPOON anti-surface missile canister launchers, sixteen in lieu of eight.

The CSGN is designed to carry eight TOMAHAWK ship-launched cruise missiles; whereas, the DDG-47 does not have space to carry this system. Each of these missiles has five times the range of the HARPOON missile and twice the explosive power. Thus, the CSGN will be able to bring within anti-surface missile range, targets in an area 25 times that covered by the DDG-47.

The CSGN will carry an 8" gun in lieu of two 5" guns in the DDG-47. The range of the projectiles that will be available for the 8" gun is expected to be greater than the range of the 5" gun projectiles; the CSGN will be able to bring within gun range an area about nine times larger than the area covered by the DDG-47.

Either ship can carry helicopters, but the aircraft handling facilities in the CSGN will be larger, so that it will be able to carry two VTOL aircraft; this will greatly increase its targeting capabilities at long ranges.

The CSGN will have several other features not included in the DDG-47. It will

have a task force coordination center, as well as accommodations and facilities for a Unit Commander and his staff. It will also have the SSES--electronic intelligence and analysis system; this is not included in the DDG-47.

The displacement of the CSGN has been increased over a thousand tons to provide fragmentation armor not in the DDG-47. It is also being designed to provide systems to isolate ship internals from chemical and biological attack. The CSGN also has greater space and greater electrical power capacity for future weapons systems modifications.

I thoroughly agree with the Chief of Naval Operations' decision to include the additional military features in the nuclear strike cruiser. These, combined with nuclear propulsion give the strike cruiser far greater capabilities than any other surface warship in the world, except the aircraft carrier.

Nevertheless, there is no question that the DDG-47, which is being called a destroyer, is a major combatant. It has greater displacement and has more armament than any of the eighteen non-nuclear cruisers built since World War II. It is even heavier and has more armament than the nuclear cruisers BAINBRIDGE and TRUXTUN. I do not know why it is called a destroyer, DDG, rather than a cruiser, CG.

COMPARISON OF COST OF CSGN AND DDG-47

The increase in estimated acquisition cost of buying the first AEGIS ship as a CSGN, in lieu of DDG-47, is about \$490 million in FY 1978 program dollars. Of this amount, about half is due to the difference in weapons systems. The remainder is due to the higher acquisition cost of nuclear propulsion, including the initial nuclear fuel which will provide for 15 years of ship operations. The cost of buying and delivering oil is not included in the acquisition cost of a conventional ship. At today's prices, it would cost about \$90M to buy and deliver an amount of oil for the conventional ship which would provide the amount of energy equivalent to the energy in the nuclear cores of the CSGN.

A comparison which would bring out the added procurement cost which is due to having all nuclear propulsion for AEGIS ships would be to compare the cost of the 7 nuclear strike cruisers included in the President's alternative all-nuclear program cited in his letter of February 13, 1976 to the Speaker of the House, to the cost of a mixed program of 2 nuclear strike cruisers and 6 conventional ships with the same military features other than propulsion, including the cost of buying and delivering an equivalent amount of fuel for each ship. This is two less conventional ships than in the currently approved mixed program of 8 conventional ships and 2 nuclear strike cruisers.

The cost of the 7 nuclear strike cruisers is estimated to be \$8.530 billion. The cost of 2 nuclear strike cruisers and 6 conventional DDG-47 Class ships is estimated to be about \$6.298 billion. To this should be added \$1.5 billion to give the 6 conventional ships the same military characteristics

as the nuclear strike cruisers, and \$.540 billion at today's prices for the cost of buying and delivering 3 million barrels of oil to each conventional ship.

This gives a total for the mixed program of \$8.338 billion. This is only \$0.192 billion less than the cost of the 7 nuclear strike cruisers.

Thus, when the all-nuclear program of 7 strike cruisers is compared to a mixed program of 2 nuclear strike cruisers and 6 conventional ships having the same characteristics, the extra cost of the all-nuclear program is seen to be about \$0.2 billion for one less ship.

Navy studies and actual experience at sea have shown that even with the same weapons in nuclear and conventional ships, it takes fewer nuclear ships to do the same job as a greater number of conventional ships. Further, Navy studies over many years have shown that when all costs of a carrier task group over its life are considered, substitution of nuclear powered escort ships for conventional ships with the same weapons increases the overall peacetime cost of a carrier task group only about one percent for each escort changed to nuclear propulsion. This would also be true for a nuclear strike cruiser compared to a conventional strike cruiser with the same military features other than propulsion.

Taking into consideration the declining number of overseas bases and the difficulties that will be encountered in future to deliver propulsion fuel oil in the areas of highest threat, and when all costs of nuclear and conventional ships are taken into consideration, I believe that

the added military benefits of nuclear propulsion for AEGIS ships are well worth the additional cost involved.

COST ISSUES CITED BY OPPONENTS OF NUCLEAR PROPULSION

For many years opponents of nuclear propulsion have advocated that the acquisition money be used instead to buy a larger number of cheaper conventional warships. The desire for small, light, cheap weapons systems has been endemic for a long time. Experience in wartime, however, indicates that the essential ingredients of a successful seaborne weapons system -- reliability and redundancy, speed and endurance, versatility, firepower -- are often lacking in such developments. These lessons have been lost on generation after generation of our leaders and must be periodically relearned at potentially enormous cost and loss of life when we are faced with actual wartime situations.

The number of AAW missile batteries, the number of sonars and ASW weapons systems, and the number of escorts needed to protect the great investment in a carrier task force cannot properly or logically be traded off for nuclear propulsion. No matter how many tradeoffs we study of other ways to spend the money we need to pay for nuclear propulsion, we will always be faced with comparing unlike things; none of the tradeoffs accord freedom from logistic support for propulsion fuel which is provided by nuclear propulsion. The other tradeoffs provide additional defensive protection for the task group, but none of them increase the offensive capability of the CVN, as does nuclear propulsion in the escorts. To compare a larger number of conventional escorts with a smaller number

of nuclear escorts at equal cost is not to compare alternate ways of achieving the same capability; it is merely to compare two different capabilities that can be achieved with the same amount of money.

Even life cycle cost comparisons made of nuclear and conventional warships are based on the assumption that carrier task forces could be safely replenished in the strike area. I believe that if a realistic wartime assumption concerning the ability of carrier task forces to conduct replenishment operations in areas subject to the projected Soviet naval threat of the 1980's were used, the relative cost of nuclear powered surface warships would be shown to decrease. In a real combat situation a sophisticated enemy would make a determined effort with nuclear submarines and other forces to interrupt our supply lines and sink our replenishment ships. Under such circumstances, the ability of nuclear warships to retire at high speed from the areas of highest threat in order to replenish combat consumables in areas of lower threat and then return to the strike area at high speed could mean the difference between victory and defeat in the strike area.

SHIPBUILDING CAPACITY

Some also argue that we should not increase the nuclear warship building program because we do not have enough shipbuilding capacity. But the question of building capacity is a chicken and egg proposition. The problem is that we do not have a firm nuclear shipbuilding program. If we can get a firm long-range program, we can get the additional capacity we may need to produce it. But we cannot expect shipbuilders and component suppliers to gear up to do considerable work when they are not reasonably sure of the extent of future work.

In the past, we have had as many as seven shipyards--two naval and five private--build nuclear warships. All seven built nuclear submarines; three built nuclear cruisers; and one, Newport News, has and continues to build nuclear carriers. At the peak of the nuclear warship building program in the early 1960's, 14 nuclear ships were authorized per year.

However, the decline in the number of nuclear ships authorized each year--an average of about six per year for the last five years--and the desire to build each one for as little cost as possible, has caused us to concentrate our present nuclear warship construction in two yards, the Electric Boat Division of General Dynamics in Groton, Connecticut and the Newport News Shipbuilding and Dry Dock Company in Newport News, Virginia; this yard was bought by Tenneco Incorporated, of Houston, Texas, in 1968. However, two yards that used to build nuclear ships, the Quincy yard of General Dynamics, and the Ingalls yard of Litton Industries have expressed interest in bidding on the nuclear strike cruiser program.

Today the annual investment by electric utilities in nuclear power equipment for central station power plants is far greater than the Navy's annual investment in naval nuclear propulsion plants. Further, twelve years ago, annual naval shipbuilding contracts exceeded U. S. commercial shipbuilding contracts by a factor of three. Today the dollar value of annual commercial shipbuilding approximates the dollar value of naval shipbuilding contracts. Both of these factors add to the urgency of establishing a firm long-range nuclear warship building program, so that we are in a good position to compete for the necessary industrial capacity.

NEED FOR HIGH CAPABILITY SHIPS

The Soviets recognize the importance of becoming the world's strongest sea power. We have now chosen not to challenge them with numbers of ships. It is, therefore, essential that the ships we do build are the most powerful and effective weapons we know how to build. This means nuclear propulsion, and the best anti-air, anti-submarine, and surface-to-surface weapons we have for major warships. The penalty for any other approach is the steady erosion of our conventional military forces; a consequent reduction in our influence and in our "options" in world affairs; and the reliance of our security on nuclear weapons which, if used, would be the most supreme disaster.

Historically, the United States has relied on the quality of its weapons and the ability to manufacture them in large quantities to win its battles, rather than on large numbers of men. The American people do not appear to be willing to support large numbers of men under arms. Further, the complexity of modern weapons and the rapidity with which major wars can now be started preclude relying on wartime production capacity to furnish our weapons; we must plan on fighting a major war with the weapons we have at its outbreak. I believe we would be following a shortsighted path if we do not provide our first line striking forces with the best weapons our technology can provide.

If the problem is that the Nation's financial managers are not willing to provide enough money to insure our present defense, and at the same time invest sufficient funds to insure our future defense, then our people must be informed of the stark reality they face. We must not do what we have done so often in the past; namely, fail to provide adequate defenses using

the sugarcoated philosophy that they are not needed, only to soon find ourselves in a war which costs many times the funds "saved." In World War II, we got away with it because our Allies took the brunt of fighting while we re-armed. In Korea, we got away with it because we were able to reactivate quickly large numbers of World War II ships, as well as equipment which had just been put in reserve. In the Vietnam war, we managed to sustain ourselves by using up a great deal of material, drawing down our reserve stocks, wearing out much equipment, and because our real opponents did not fight with their first team.

Most people do not realize how badly our naval forces were allowed to deteriorate by the hiatus in naval shipbuilding in the 1960's and the reduction in fleet readiness accepted to make funds, material, resources, and personnel available for the Vietnam war.

All wars and all military development should have taught us that a war, small or large, does not follow a prescribed "scenario" laid out in advance. If we could predict the sequence of events accurately, we could probably have avoided the war in the first place. As a war progresses, we can count on constantly facing new conditions and surprises as the enemy seeks new means to probe our weaknesses; that is what we repeatedly experienced in Vietnam.

When a war starts, we must fight with what we have. You will recall that all the aircraft the U. S. used in World War II had been designed prior to that war. Further, it takes five years to build a large warship. This often means using our weapons for an entirely

different mission than that for which they were designed. For example, consider the use of B-52's in Vietnam.

Therefore, every major weapon should be designed with the maximum possible inherent flexibility. It is the need for the flexibility in warships built to operate for 30 years or longer that makes it so obvious and so important that we use nuclear propulsion in every major surface warship we build; especially since the ships we are building today are expected to last through part of the 21st century.

Despite the fact that Congress has repeatedly taken the position that we need to build more nuclear-powered surface warships, after 25 years of studying the issue we have only seven nuclear surface ships in operation and six more under construction. This is a very slow rate of transition to nuclear power for the greatest maritime power in the world--an island nation dependent on the strength of its Navy for its security.

Decisions made today concerning nuclear propulsion will not have their effect in the Fleet until a decade from now. We delude ourselves if we do not recognize that in the intervening years the Soviets will introduce major improvements in their naval weapons systems. As they continue to try out new technological advances in their fleet, we can expect them to incorporate the lessons learned into their new design ships. They have demonstrated time and again that they are willing to invest large amounts in new concepts.

No one can tell what problems our future leaders will face. However, the defense capabilities available to them will have been decided by the decisions

we make today. The issue before the Congress should be decided on the capabilities our ships must have to meet the challenge. No cost analyses; no political expedencies; no other factors should be permitted to obscure this fundamental fact. You cannot measure military capability by cost alone. To do so can be fatal to this country, especially since our likely adversary is engaged in the greatest expansion of military forces in history and continues to out-spend us. I know that with today's fiscal problems facing the Congress, it is extremely difficult to make investments for the future. However, if such investments had not been made in the past, we might not have survived as long as we have. If the investment for our future needs is not made now, there may be no future.

Our defense budget is being decreased each year in real dollars. It, therefore, becomes increasingly imperative that we have the best weapons our technology can provide. As for myself, I would rather fight a war with fewer, but better soldiers; with fewer but better guns, or tanks, or planes; with fewer but better ships. That is the road for a nation that excels in technology, and is reluctant to expend lives in war; yet, nevertheless, desires to win.

The systems analysts always tell us that we don't need the best ships, but they don't tell us how to counter the threat with inferior ships. For example, in the issue of nuclear powered surface warships, nowhere do they address how we should ensure that tankers can survive in areas of high threat. And without tankers, the conventional ships cannot survive.

What must be done? We need a firm long-range program to build nuclear powered ships--a program that will not be drastically changed every year or two

as has happened in the past. Admiral Moorer, when he was Chairman of the Joint Chiefs of Staff, and for many years an eloquent proponent of nuclear power for our striking forces, agreed with me that we must build these first-line ships during peace.

The excuse for not building better ships is always that they are "more expensive". But all weapons of war are expensive. Cheap weapons will not win a war. And if we cannot win a war, there is no sense in spending money on weapons at all.

Rarely in naval history have the leaders looked far enough ahead. They generally build ships they consider to be adequate for the present. That is why, frequently, naval leadership has been replaced once war broke out.

We should be planning now for war that may erupt 15 or more years from now. Therefore, I agree with the policy recommended by the House Armed Services Committee that now is the time to establish a firm program for making all new major combatant ships for our striking forces nuclear powered. I consider this should be a matter of national priority.

For the reasons I have presented, I consider it urgent that we proceed now with the next nuclear carrier, the nuclear strike cruiser program, and conversion of the cruiser LONG BEACH to AEGIS.

RETENTION OF NUCLEAR TRAINED OFFICERS

Another important matter I want to bring to the Committee's attention concerns the retention of trained operators in the nuclear propulsion program. The previous legislation covering nuclear officer bonus pay was allowed to lapse on 30 June 1975 since a new pay proposal was before Congress. This legislation is critical to the effectiveness of our nuclear fleet, and one that merits the careful consideration of the Congress. Officer retention is declining and the situation is assuming crisis proportions.

The need exists now for 3250 nuclear trained officers in the Navy to fill the billets required to keep the ships manned and properly supported. The present inventory of nuclear trained officers is but 2300, or 71% of the requirement. Of even more immediate concern is the fact that we continue to lose officers at an unsatisfactory rate. We lost 222 in fiscal year 1974, 232 in fiscal year 1975 and so far we have lost 121 in fiscal year 1976. This, of course, results in a downward spiral. The more that leave, the longer those who remain must stay at sea; this in turn causes more of those remaining to leave. In the seniority groups that man the sea going billets from department head through commanding officer we have reached a situation where nearly all officers face ten years of continuous sea duty.

It is now expected that each nuclear trained officer will average but one 2-year tour ashore in the 16 years of service will complete after his formal nuclear training program.

With the expiration of the former bonus legislation many officers who are eligible to resign have been closely following the efforts of the Navy and Congress to provide a viable system of incentives. Failure to act in a positive manner will result in many officers resigning. We can not afford to lose any of these officers. We are already over 100 short of our requirements for officers to serve as department heads. We are 40 short in executive officers, and these same shortages will be felt in commanding officer assignments in the early 1980's. You can see how this forces the Navy to keep officers in sea billets for longer and longer periods. With these officers facing continuous sea duty as a result of inadequate officer inventories they suffer an unstable family life which makes job satisfaction very difficult.

Congress is presently considering legislation to help in this area. The legislation - H.R. 10451 - will not do anything to reduce the periods of sea duty in the near future. However, it would recognize the hard job and strenuous requirements those officers face. In the long run it should attract and retain more officers. This will ultimately increase our nuclear trained officer strength and reduce the time spent at sea.

I have reviewed H.R. 10451 and believe that it is what is needed. It provides the incentives to attract and retain the officers we need in the face of mounting pressure for their services from the civilian nuclear power industry and others. Additionally, it provides the necessary legislative controls to allow Congress to properly monitor the effect. I hope members of this committee will support enactment of this important bill.

NAVAL SHIPS AND OSHA

Another issue which deserves careful congressional scrutiny is the problems being encountered by the Navy in efforts by the Department of Labor to apply the Occupational Safety and Health Act to naval ship activities. While the Department of Defense has not yet established a formal policy or issued instructions on the applicability of Department of Labor occupational safety and health standards and inspections to naval ships, on several occasions in recent months the Department has acceded to Department of Labor requests to inspect such ships.

I foresee a number of problems if it is determined that OSHA is to apply to Navy warships. For example, the Navy has responsibility for the design of its ships. Such designs have unique military features which would not be compatible in each instance with standards issued by the Department of Labor for civilian industrial facilities. Further, the OSHA legislation provides for the Department of Labor to authorize individual States to establish and enforce State standards in lieu of Federal standards. I do not believe it was the intent of Congress to turn over the Navy's responsibility for design features of warships to the Department of Labor or to State governments. But such situations could develop if OSHA or state authorities are empowered to board and enforce their safety standards on a Navy ship.

I can also envision critical ship work or even ship movements being delayed or stopped for OSHA investigations. This could be set off simply by a disgruntled contractor employee

working aboard a ship who notifies the Department of Labor that he believed an imminent danger to exist.

The situation does not appear to be as confused regarding nuclear powered warships, since Congress recognized that government agencies other than the Department of Labor already had statutory authority for occupational safety and health in some areas. Therefore, Congress included a general exclusion clause for such areas in the OSHA legislation which reads:

"Nothing in this Act shall apply to working conditions of employees with respect to which other Federal agencies, and State agencies acting under section 247 of the Atomic Energy Act of 1954 as amended (42 U.S.C. 2021), exercise statutory authority to prescribe or enforce standards or regulations affecting occupational safety or health."

I understand this to exclude nuclear ships and related nuclear support facilities from OSHA standards and inspections. However, two of the Department of Labor inspections recently agreed to by the Department of Defense were on nuclear submarines--in one case in the propulsion plant.

A solution to this dilemma does exist. There are provisions in the OSHA legislation for exemptions to the Act "if necessary to avoid serious impairment to the national defense." I believe the Department of Defense needs to reach an agreement with the Department of Labor to invoke these provisions for Navy warships and for other military weapons systems. If this cannot be resolved between Defense and Labor, Congressional action may be needed. The Navy must have the responsibility

for setting and enforcing the standards in this area. Where the Navy is found lacking, the Congress should insist upon correction. But it should not be necessary to bring in another party - the Department of Labor or a state government - to pass judgment on shipboard working conditions.

In the past this committee has expressed interest in various defense procurement problems and asked for my views on these issues. I would like to comment briefly on these areas and would be glad to discuss them in greater depth if you desire.

SHIPBUILDING CLAIMS BACKLOG

The value of outstanding shipbuilding claims, including appeals to the Armed Services Board of Contract Appeals, has reached an all time high--\$1.7 billion. The Navy now has large claims from all of its major shipbuilders. One shipbuilder alone has submitted about \$900 million in claims in the past year, covering every active shipbuilding contract at the shipyard, plus some completed contracts.

In many cases these claims are exaggerated--apparently they are based on how much the contractor wants rather than on what he is legally entitled to under the terms of his contracts. Some shipbuilders have submitted large omnibus claims and then complained to senior Defense officials and Members of Congress that the Navy should, after the fact, ensure that their work is profitable or they will leave the business. In the course of one contract dispute a shipbuilder actually stopped work on a Navy ship. The Navy had to get a court order requiring him to resume work. Recently the same shipbuilder stated that he is considering stopping work on another ship and not entering new contracts for Navy shipbuilding.

Navy personnel face a dilemma in processing and settling these claims. On the one hand, they are urged to enforce contracts, protect the Government's interests, and settle claims on the basis of legal entitlement. On the other hand, some prominent shipbuilders are trying to pressure the Navy to either settle claims quickly at figures acceptable to the shipbuilder, or risk further delays to the Navy's shipbuilding program. There is considerable concern within the Department of Defense about the deteriorating relations with certain shipbuilders. My own view is that those relations will continue to be poor until the shipbuilders in question are either paid what they want or are convinced that the Navy will pay only what it legally owes them. I believe that these shipbuilders should be made to understand that their claims will be settled strictly on their legal merits, and not on company profit and loss statements. In the long run this is the best way to resolve the claims backlog problem and establish proper relations with the shipbuilding industry.

CERTIFICATION OF CLAIMS

Many large shipbuilding claims are exaggerated. This greatly increases the effort required by Government personnel to evaluate them. Repeated revision of claims further frustrates the Navy evaluation and settlement process. To preclude wasted effort; to expedite the claims settlement process; and to ensure a proper basis for settlement; the Navy has adopted a

requirement that senior company officials certify that their claims are current, complete, and accurate. Not all shipbuilders comply with this requirement.

Certification is essential to ensure that the Government does not waste many years of effort evaluating exaggerated or constantly changing claims.

OUTSIDE LEGAL COUNSEL

In claims work, the Navy legal staff is no match for the experienced, highly paid law firms retained by shipbuilders. As a result, too much of the claims defense burden falls on Navy technical personnel, to the detriment of their primary duties.

I have repeatedly recommended that the Navy hire outside counsel to help with shipbuilding claims. The Navy finally agreed to try the idea but was stopped by a Justice Department ruling. Without outside legal assistance, the Navy cannot deal properly with claims and at the same time carry out its mission.

ARMED SERVICES BOARD OF CONTRACT APPEALS

The Armed Services Board of Contract Appeals, to which defense contractors can appeal contract disputes, gets involved in many large shipbuilding claims. There are several deficiencies in the Board's operation. For example, contractors are allowed to present different theories and evidence in their appeals to the Board than they submitted to the Contracting Officer. The Government does not have the same rights as contractors to appeal adverse decisions of the Armed Services Board of

Contract Appeals to Federal Courts. Finally, contractors are able to evade the limitations established under ASBCA discovery proceedings by using the Freedom of Information Act to obtain material not otherwise obtainable by discovery. These deficiencies should be corrected.

LAWYERS SWITCHING SIDES

The rules governing interchange of lawyers between Government and private practice need strengthening. Nearly two years ago, a Washington claims firm hired a former Naval Sea Systems Command Deputy Counsel in charge of shipbuilding claims. According to the American Bar Association's Code of Professional Responsibility, the firm should have disqualified itself on claims for which this individual had been responsible and withdrawn from these cases. However, the firm refused to do so. The Navy referred the matter to the ABA which eventually issued an opinion which concluded that, while the firm is subject to disqualification, the Government has the right to waive disqualification.

The Navy General Counsel has now used the ABA opinion to justify granting a waiver.

The ABA alone cannot be relied upon to establish appropriate standards for the conduct of Government legal business. The Department of Justice should establish its own rules. If these are inadequate, legislation might be needed.

COST ACCOUNTING STANDARDS AND TRUTH-IN-NEGOTIATIONS ACT

Some contractors are still trying to avoid the requirements of the Truth-in-Negotiations Act and Cost Accounting

Standards either by arguing that they fall within one of the allowed exemptions, or by threatening not to accept military orders if Cost Accounting Standards or Truth-in-Negotiations Act requirements are involved.

To date the Cost Accounting Standards Board has shown more resolve than the Department of Defense in enforcing these procurement laws. For example, the Defense Department supported the U.S. Steel Corporation's request for waiver of cost accounting standards. The Board, with Congressional assistance, obtained U.S. Steel's agreement to comply with cost accounting standards and the Truth-in-Negotiations Act.

The Department of Defense needs to take a more active role in requiring its contractors to comply with these procurement statutes--particularly where there has been a long history of non-compliance such as among material suppliers, forging companies, and computer firms.

Moreover, the Defense Department need not be at the mercy of sole source contractors who refuse to comply with applicable procurement laws and regulations. The Defense Production Act provides authority to require contractors to accept contracts and perform defense work in accordance with applicable provisions of law and regulations, including cost accounting standards and Truth-in-Negotiations. However, to date the Defense Department has been willing to waive requirements rather than use its influence or, if necessary, the Defense Production Act to obtain compliance.

RENEGOTIATION

The Renegotiation Board is sometimes cited as a safeguard that overcomes any mistakes or deficiencies in the procurement process. That is not the case. Although it was intended to recover excess profits on Government contracts, the Board, as currently structured, is ineffective. There are too many loopholes and deficiencies in the Renegotiation Act itself for the renegotiation process to work as it was intended.

The House of Representatives has passed legislation that would substantially strengthen the Renegotiation process and close major loopholes which only benefit large defense contractors.

The House Bill makes the Renegotiation Act permanent; requires renegotiation by division and by major product line within a division; requires auditing of contractor financial statements filed with the Renegotiation Board; and requires renegotiation of actual rather than estimated profits.

This legislation, if enacted, would substantially strengthen the renegotiation process.

INDEPENDENT RESEARCH AND DEVELOPMENT (IR&D)

In my opinion, the present IR&D program is a waste of the taxpayers' money--the benefits to the Government are not commensurate with the costs. Currently, the Department of Defense is paying three-quarters of a billion dollars a year in IR&D and Bid and Proposal (B&P) expenses under this program. IR&D plus B&P represents about 3.7% of contractor sales to the Defense Department.

Here are some of the major problems I see in the current program:

1. The Government retains no rights to patents or technical data developed under IR&D programs even though the Defense Department may pay all of the costs.
2. The military relevancy requirement for allowability of IR&D costs is too broad. The GAO found the requirement had no effect on Defense Department reimbursement of costs.
3. Current IR&D policies contribute to a lack of competition in defense procurement by further concentrating economic power in the hands of a few large defense contractors.
4. There is little surveillance by the Defense Department of the large IR&D expenditures. The Government has no say in how these public funds are spent.

Last fall I testified before a Senate Committee considering this issue. In my testimony, I made the following recommendations, which I still endorse:

1. The present system of payments for independent research and development and bid and proposal expenses should be eliminated.
2. Costs of independent research and development projects should be allowed only when such costs are specifically provided for in the contract and then only to the extent such work benefits the contract work itself.

3. The Government should receive patent and data rights commensurate with costs financed by the Government on independent research and development projects.

4. In cases where company proposed research and development projects have sufficient benefit to warrant the cost, the Government should finance the work by direct contract, rather than through IR&D. Responsible Government officials would supervise the work, as they are required to do for all work the Government undertakes.

5. If federal subsidies of private independent research and development are necessary in areas other than defense, such subsidies should be administered by the appropriate Government agency which has expertise in that area. Subsidization would then be aboveboard and measurable by Congress. Appropriate controls could be established to preclude concentration of technology among a few favored companies or industries; to provide adequate direction over the work; and to ensure the Government retains rights to work financed with public funds.

Mr. Chairman, I would be glad to answer any questions you may have on these or other matters.

SUPPLEMENT TO STATEMENT OF ADMIRAL H. G. RICKOVER, USN,
DIRECTOR, NAVAL NUCLEAR PROPULSION PROGRAM

ADVANCED DESIGN SUBMARINE NUCLEAR PROPULSION PLANT

In my unclassified statement, I noted that the proposed Defense Department fiscal year 1977 budget includes \$12.581 million to continue development of the _____ shaft horsepower advanced design submarine nuclear propulsion plant. The _____ shaft horsepower plant is the only plant under development which will provide the option of constructing submarines with higher speed and greater performance capabilities.

This plant is not being developed exclusively for use in a specific submarine or ship program. Development of this plant will enable the Navy to design various improved submarine configurations incorporating new weapon systems, advanced sonars, and other features while _____ compared to our existing designs.

In the past, new capabilities were added to our existing attack submarines without also increasing their propulsion rating. Submarines using our _____ shaft horsepower propulsion plant have decreased in speed _____ as military characteristics and weight were added to them. _____. Soviet submarines with propulsion plant ratings greater than _____ shaft horsepower have been at sea since 1968. The lead ship of our *Los Angeles* class with _____ shaft horsepower goes to sea this year.

The Soviet *Papa* class submarine, which was first observed at sea in 1971, is estimated to have a propulsion plant rating in the range of _____ shaft horsepower or greater _____.

The increasing capability to detect and to track surface ships _____ leads to increasing vulnerability to surface ships. For this reason, I believe that in years to come, more and more military capabilities will have to be assigned to submarines. This will lead to larger submarines needing larger powerplants, _____ for the increased military capabilities. I urge you to approve the funds proposed to continue development of the _____ shaft horsepower advanced design submarine nuclear propulsion plant.

COMPARISON OF UNITED STATES AND SOVIET SUBMARINES, MARCH 1976

Submarine type	Soviets	United States
Attack:		
Nuclear.....	40	65
Nonnuclear.....	150	10
Ballistic missile:		
Nuclear.....	155	41
Nonnuclear.....	20	0
Cruise missile:		
Nuclear.....	40	0
Nonnuclear.....	25	0
Total:		
Nuclear.....	135	106
Nonnuclear.....	195	10
Grand total.....	330	116

¹ Include 34 Yankee class and 11 Delta class modern ballistic missile submarine.

COMPARISON OF UNITED STATES AND SOVIET ACTIVE SURFACE SHIPS (FEBRUARY 1976)

	Soviets	United States
Major combatants:		
Aircraft carriers.....	1	14
ASW helicopter carriers.....	2	0
Cruisers.....	32	26
Destroyers.....	87	68
Frigates.....	107	64
Subtotal.....	229	172
Minor combatants:		
Missile patrol craft.....	135	0
Other patrol craft.....	540	8
Amphibious ships.....	80	61
Mine warfare ships.....	260	3
Auxiliaries.....	755	117
Subtotal.....	1,770	189
Total.....	1,999	361

¹ Includes USS Oriskany, planned for decommissioning in June, 1976.

PERSONAL VIEWS OF WITNESS

Admiral RICKOVER. In my prepared statement, sir, the first thing I say is that my views are not necessarily those of my superiors, and I assume, since I have always been frank with this committee, that you want me to say what I believe, and not what the policy of the Defense Department is, because you can always get that by asking the Secretary of Defense.

Mr. MAHON. Yes. One of the major reasons why we are pleased to have you is that we want your views. That is the reason we have asked you to come here, irrespective of the views of other people, so will you please proceed and give us your feelings with respect to these matters. We realize your statement is before us, but in your own terms at this time.

Mr. SIKES. And, Mr. Chairman, may I add that it is quite difficult to get independent views from those who are part of the Defense organization, and understandably so, because most of them are very reluctant to say things that do not coincide with budget recommendations. I think it is a very wholesome thing, very good for this committee, to have someone who does not hesitate to speak out, to say what he thinks this committee should know about the strength of this country and what is needed in our defense effort.

Mr. MAHON. All right, will you proceed?

Admiral RICKOVER. Thank you, Mr. Sikes.

I cannot do my duty to my country if all I tell you is what other people think. In that case there is no point having me as your witness.

In reviewing the Defense budget, Congress each year is exposed to arguments from well-meaning people that less, not more, should be spent for defense.

One view holds that the United States should determine levels of military spending primarily on economic grounds. In other words, the defense budget should complement domestic economic policy regardless of the world military situation. This view assumes that other countries react to what we do, and not vice versa. The problem is that we do not by ourselves make up the rules. We cannot impose our defense policies on the entire world and expect that it will conform to

us. The military strength of others is a fact which we must recognize; it is not something that fluctuates according to our domestic economy.

PEACE THROUGH TREATIES AND LAW

Another argument offered is that the United States would better insure peace through treaties, international agreements and diplomacy than by threatening the Soviets with large defense forces and saber-rattling. This is a naive view of past history. George Kennan once said, "It is an insult to the serious men who direct the Communist movement of the world to suppose that they can be deflected from their cause by diplomatic niceties." It is an error to presume that without credible military strength, concessions or silence about the reality of Soviet policy can induce Soviet leaders to behave according to the rules of international law and diplomacy.

The hope of peace through law is not new. In the late 4th Century A.D., the cosmopolitan elites of the Roman Empire tried to abolish war by fiat. They thought they had already perfected a legal system that could give mankind a truly global community of enforceable peace, if only people in high places would set the example by renouncing war as an instrument of policy. If mighty Rome renounced war, they believed, all other public evils would slowly disappear, for they had no being except as consequences of man's willingness to wage war.

As a result of this campaign, the Roman imperial government suddenly gave up on freedom, pursuing peace at all costs. By 410 A. D. this attitude had become so pervasive that even the tribes of barbarian auxiliaries in the peacekeeping service grew contemptuous. One of them, led by the Roman-trained Goth chief Alaric, pillaged its way up and down the Italian peninsula and finally sacked Rome itself, which had not seen an invader in 800 years.

Dean Acheson once said:

The idea of a worldwide consensus toward peace, the rule of law and abolition of even the means of force, persists like plants without roots which draw their nourishment from the air. It persists not only as a haven for escape from the terrifying harshness of our time, but because it suits the purposes of leaders of both worlds to offer it as an achievable goal. This is a cruel hoax. There is no such consensus. We only deceive ourselves when we talk of world peace through world law.

UNITED STATES MUST BE PREPARED

Treaties, international agreements, and other acts of diplomacy are important in providing some measure of stability to international affairs. But they cannot work in isolation. The situation that has confronted the United States for 30 years has been Soviet strength and expansion. If Soviet intentions to dominate a major part of the world have not altered, then we will have to continue facing this fact. To do so requires maintaining both our economic and our military strength.

Finally, some have argued that we can cut back our military strength since our allies in NATO will join us in any contest against the Soviets. That theory may have some validity if one considers only a direct attack on Western Europe from the East. But suppose the United States confronts the Soviets in other parts of the world. Should it ever come to that point, our allies would be under great pressure to

stay neutral. The NATO block countries did not join in a united front against the oil-producing countries in 1974 and 1975. Similar disunity cannot be discounted in other situations. The lesson is that we should depend on our own resources in determining what size and form our military should take.

In assessing Soviet military strength, it is clear that the greatest increase in capabilities has occurred in its Navy. Confronted by both the U.S. containment policy and the emergence of China, the Soviet Union turned to the seas as a route for expansion, claiming "defense of our homeland" as the motive for its move in force into the oceans of the world. This move is very significant to the United States.

The United States is a seapower. We depend upon the sealanes for the import of many of our vital resources, especially oil. We have also undertaken commitments to, and have alliances with, many nations, especially in Europe, which are far from our shores. To protect our State interests on the seas we need control of the sea.

SOVIET INTERESTS

The Soviet Union, on the other hand, is largely self-sufficient in resources. Her allies are close to her own borders. Her State interests on the seas in time of peace include the display of her military power throughout the world as a form of exercising political influence. In time of war, this would be subordinate to severing our supply lines and denying the United States control of the sea in those ocean areas contiguous to the fighting zones. This would particularly include the Mediterranean, Indian Ocean, Persian Gulf, and North Atlantic.

If one looks at the overall trend, the Soviets appear to be well on the way to accomplishing their goal of denying control of the sea to the United States. Their foremost naval capability is in submarines, the perfect weapons for their goal. Here is what Admiral of the Soviet Fleet Gorshkov said about submarine warfare in World War II and its implications for a war in which nuclear submarines are used:

For each German U-boat, there were 25 British and U.S. warships and 100 aircraft, and for every German submariner at sea there were 100 British and American antisubmariners. Yet, nevertheless, this significant numerical superiority of defenders was insufficient to force the attackers to fully curtail their active operation. Therefore the question of the ratio of submarines to antisubmarine forces is of great interest even under present-day conditions, since, if ASW forces, which were so numerous and technically up to date for that time, possessing a vast superiority, turned out to be capable of only partially limiting the operations of diesel submarines, then what must this superiority be today to counter nuclear submarines, whose combat capabilities cannot be compared with the capabilities of World War II-era submarines.

We are familiar with the destruction wrought by the outnumbered German U-boats in World War II. The Soviets now possess over five times as many submarines as the Germans had in September 1939. We now import over 40 percent of our oil, and some if not all of our requirements for 59 out of 62 raw materials. During World War II, we were self-sufficient in oil and most natural resources. These are compelling reasons to support strengthening and rebuilding the Navy.

CONGRESS HAS RESPONSIBILITY

Congress has a great responsibility to allocate the Government's economic resources among competing claimants. But as Adam Smith said: "Defense is of much more importance than opulence." I urge that point be kept in mind when assessing the Defense budget this year.

I believe one of the major points at issue this year is the program for building major combatants to be equipped with the new Aegis fleet air defense system. Is that correct, sir?

Mr. MAHON. Right.

CHANGING PLANS FOR AEGIS SHIPS

Admiral RICKOVER. If you agree, I would like to discuss that subject because it is a very expensive program, and I would like to give you my thoughts. Here is a pretty good example touching on what both you and Mr. Sikes said. First let me summarize some of the history of the program. It is spelled out starting on page 34 of my statement.

Up to April 1971, the Navy's plan for Aegis ships was based on all nuclear ships. I want to show you how the Navy's mind was changed by the Defense Department.

In 1973, that is 2 years later, Admiral Zumwalt recommended starting a class of conventional ships for Aegis. His concept was we would build no more nuclear carriers after the *Carl Vinson*, CVN-70. There would be a total of four nuclear carriers. He wanted two Aegis ships to accompany each carrier. On this basis Admiral Zumwalt decided the Navy would ultimately have a total of eight nuclear Aegis ships. But then he figured on the Navy having eight conventional carriers, so he rationalized the Navy would need 16 conventional Aegis ships. This was the origin of the mixed program. Admiral Zumwalt said that talk about an energy shortage was just all talk. He said so in a meeting where I was present. His view was that we have a 400-year supply of coal and we would soon have the technology to use that in our ships. He said that if he had his way the Navy would build no more nuclear surface ships.

Then in 1974 Admiral Holloway became Chief of Naval Operations. Admiral Holloway recommended that all future carriers be nuclear and that all the Aegis ships be nuclear powered. He recommended a program of 18 nuclear strike cruisers in lieu of the 16 conventional and 8 nuclear Aegis ships. That was the Navy's program until the Defense Department analysts got into the act. The analysts decided that since nuclear ships cost more than conventional ships, the new Aegis ships should not be nuclear. Every time the Navy sent up a proposed building program with nuclear ships, the Navy program was cut. Finally the mixed program sent to Congress by the President became the official position of the Navy. This program calls for eight conventional ships and two nuclear ships to be authorized over the next 5 years.

BASIS OF OPPOSITION TO NUCLEAR AEGIS SHIPS

I believe that your committee has a right to find out why the Navy program changed, and this is what I am trying to address. The systems analysts have always been against nuclear power, and their reason is simple. Nuclear propelled ships are more expensive to buy and operate in peacetime. You will find, if you go through all of the analysts rationale, it is always based on peacetime cost. The great service the analysts do for the Secretary of Defense, when he is faced with budget stringency, is to point out that conventional ships are cheaper in peacetime. I know that conventional ships are cheaper in peacetime; you know it; and so does anybody else who has studied this issue.

If that were the only proper basis for deciding, the analysts would be right that we should not build more expensive ships. But this committee and everyone else in a position of responsibility has to think in broader terms. These responsible officials should be thinking and deciding issues on the basis of what is necessary to win battles. They should consider what threats we will face, and what we need to meet them. The money issue in my opinion, should be left up to the Congress. Congress must decide if we can afford to build the ships we need.

WHAT THE NAVY NEEDS

I remember Admiral Anderson, when he was Chief of Naval Operations, and Admiral Burke, too, were worried about the condition of the Treasury. I remember telling them "That is not your job. Your job is to tell Congress what you think the Navy needs to carry out its assigned missions. Let the Congress make the decision. That is their job."

When Navy officials start worrying about the national priorities and how much money can be allocated to the Navy, they will not be able to tell Congress what Congress must know. How can Congress carry out its responsibility under Section 8 of Article I of the Constitution to "provide and maintain a Navy" if responsible Navy and Department of Defense officials do not tell you what is needed to win battles?

The fact that nuclear power costs more is the real reason the Defense Department is concerned. There are political reasons, too, but as far as the Defense Department analysts are concerned, they are against nuclear propulsion because it is more expensive.

HOUSE ARMED SERVICES COMMITTEE ACTION

The House Armed Services Committee held extensive hearings recently on what is necessary to have a strong Navy in future. They have come out with their report and their mark-up of the Authorization Bill. Before the start of the House Armed Services Committee hearings, the President of the United States made a determination under Title VIII that we should build 8 non-nuclear Aegis ships, called DDG-47's, and only 2 nuclear powered Aegis cruisers, called CSGN's.

The Armed Services Committee found there was a mistake of about \$600 million in the alternative program comparison that was cited in the President's determination to not build all nuclear ships. They also found that the letter the President was given and which he sent to Con-

gress informing Congress of his determination was misleading in that it did not show the significant differences in military characteristics, other than nuclear propulsion, between the two ships. The differences in the ships are spelled out on the sheet which I believe you all have in front of you. It is an extract from page 32 of the House Armed Services Committee Report No. 94-967 of March 26, 1976 on the FY 1977 DOD Authorization Bill. It is a table which compares the military characteristics of the proposed nuclear strike cruiser, called CSGN, to the proposed conventional Aegis ship, called the DDG-47. The table shows the markedly superior military characteristics of the strike cruiser in addition to nuclear propulsion.

[The document referred to follows:]

EXTRACT FROM HOUSE ARMED SERVICES COMMITTEE
 REPORT NO. 94-967
 DATED MARCH 26, 1976

ON
 FY 1977 DEPARTMENT OF DEFENSE
 APPROPRIATION AUTHORIZATION BILL
 Page 32

COMPARISON OF CSGN AND DDG-47
 MILITARY CHARACTERISTICS

Feature	CSGN	DDG-47	Difference/Comments
Missile launchers	2-MK26 Mod 2	2-MK26 Mod 1	45 percent more missiles in CSGN
Anti-ship missiles	16 HARPOON	8 HARPOON	Twice as many in CSGN
Cruise missile	8 TOMAHAWK	None	CSGN has 5 times HARPOON range and can cover about 25 times the area.
Guns	1-8 inch	2-5 inch	CSGN can cover about 9 times the area with gunfire as DDG-47.
Aircraft	VTOL or Helo	Helo only	VTOL increases long-range targeting sensor projection.
Task Force Coordination Center and Unit Commander Facilities.	Yes	No	
Toxicological protection	Yes	No	Provides isolation from chemical and biological attack
SSES	Yes	No	Electronic intelligence and analysis system.
Air-blast resistance	Twice DDG-47		Increased protection against air-blast.
Propulsion	Nuclear	Gas Turbine	Nuclear Cores expected to last 15 years, equivalent to 3,000,000 barrels of oil.
Fragmentation Armor	Yes	No	Over 1,000 tons added to CSGN displacement
Length	660 ft.	529 ft	
Beam	77 feet	55 feet	
Displacement	17,210 tons	9,055 tons	
Manning	563	312	CSGN includes 73 embarked for air. SSES, unit commander. DDG-47 includes 21 embarked for air, 1 flag officer.
Sonar	SQS 53	SQS 53	
Radars:			
2 dimensional	SPS 49	SPS 49	
3 dimensional	SPY 1	SPY 1	

The Committee is not convinced that the DDG-47 is a suitable AEGIS platform. Nor does it believe that the costly AEGIS system and associated weapons should be placed on a ship which is as vulnerable as the DDG-47. Considering the vast differences in military characteristics between the DDG-47 and the CSGN, we believe that, over the lifetime of the ship, the CSGN is the most cost-effective AEGIS platform.

The House Armed Services Committee concluded as follows:

The Committee is not convinced that the DDG-47—that is the nonnuclear ship—is a suitable Aegis platform. Nor does it believe that the costly Aegis system and associated weapons should be placed on a ship which is as vulnerable as the DDG-47. Considering the vast differences in military characteristics between the DDG-47 and the CSGN, we believe that, over the lifetime of the ship, the CSGN is the most cost-effective Aegis platform.

The House Armed Services Committee and the General Accounting Office notified the Director of the Office of Management and Budget that they considered the President's letter of February 13, 1976, to the Congress proposing to build the mixed Aegis program to be deficient, in that it did not address the vulnerability of oil supply lines in high threat areas, nor did it address the relative advantages of a nuclear versus a conventional ship in company with the nuclear carriers we are building and plan to build. They found that no reference was made to the rationale for the mix of 8 conventional Aegis ships and two nuclear Aegis ships to be built to accompany the 6 nuclear carriers and 6 to 8 conventional carriers expected in the fleet of 1986 by which time the first 10 Aegis ships are expected to be delivered.

The Armed Services Committee went into the strike cruiser versus the DDG-47 matter in great detail. It is my understanding that Mr. Bennett's Sea Power Subcommittee voted unanimously for proceeding with the nuclear strike cruisers and not the oil-fired DDG-47's. The full committee voted 34 to 1 on the bill, with Mr. Aspin being opposed. Mr. Price, the chairman, said this is the first time in all his time on the House Armed Services Committee they had gotten such unanimity on any particular program.

REASONS FOR NUCLEAR POWER IN AEGIS SHIPS

Mr. Chairman, it is my considered opinion that it would be a great mistake to build the few major combatants that will be built with the Aegis weapons system without nuclear propulsion. The Aegis ships are needed to operate with carrier task forces in areas of high threat, the same areas where it is hardest to supply oil and where the benefits of nuclear propulsion are most needed. The Navy may not be able to resupply its forces in high threat areas. A conventional task force would then have to cut short its operations; proceed at a reduced speed, thereby increasing danger of attack; or cut back on its tempo of flight operations to conserve fuel for propulsion. The non-nuclear Aegis ships would draw on fuel otherwise useable by aircraft. Furthermore, oil-burning Aegis ships may have to retire for refueling at the very time they are most needed to protect the strike force. It seems to me that the logical decision would be to start immediately building the nuclear powered Aegis ships we will need for our strike forces.

COST OF NUCLEAR POWER

Nuclear propulsion is more expensive, yes. Well, that is a fact of life. That is something that this committee has to consider, whether the extra fighting capability of the nuclear ships is worth the extra cost. I believe, based on my experience, that it is. The latest Navy studies show that the 30-year peacetime life cycle cost of a nuclear cruiser is about one-third more than that of a similarly armed conven-

tional cruiser. When peacetime costs of oilers to support it are allocated to the nonnuclear cruisers, based on planned oiler assets in the Navy, the life cycle cost of the nuclear cruiser is about one-fourth more. That is as simple and as brief as I can make the issue.

I would be glad to answer any questions on this specific issue. I will discuss other nuclear ships later, but I think it important for this committee to fully understand this issue.

Mr. EDWARDS. Mr. Chairman?

Mr. MAHON. Mr. Edwards.

INITIAL COST

Mr. EDWARDS. How much more expensive, Admiral, in initial cost?

Admiral RICKOVER. I am glad you raised that question, Mr. Edwards. The initial procurement cost of a nuclear strike cruiser is about one third more than a similarly armed conventional cruiser. The initial cost of a nuclear strike cruiser is slightly less than twice that of the lesser equipped DDG-47. Again, the House Armed Services Committee went through this matter in detail. They compared the President's program of eight DDG-47's and two CSGN's with the alternative all-nuclear program of seven CSGN's cited by the President. They found that if the eight conventional Aegis ships had the same military characteristics as the nuclear ships, other than nuclear propulsion, it would add roughly \$2 billion to their \$4.9 billion cost. They also noted that the procurement price of each nuclear ship includes the equivalent of 3 million barrels of oil which, at today's prices, would cost the Navy about \$90 million to buy and deliver.

They concluded that they would rather have nuclear propulsion and the additional military features of the all-nuclear CSGN program of seven ships, despite the additional initial 5-year procurement cost of about \$1.1 billion compared to the mixed program of two CSGN's and eight DDG-47 conventional ships with less armament than the CSGN's. In making this decision they also recognized that the total cost of buying and delivering 3 million barrels of oil to each of the eight conventional ships would be about \$0.7 billion.

The House Armed Services Committee wanted to make a comparison that showed the cost of having nuclear propulsion exclusive of other variables in ship characteristics. They calculated that an all-nuclear program of seven CSGN's compared to a mixed program of two CSGN's and six conventional ships with similar characteristics to the CSGN, when the cost of oil is included in the mixed program, would cost only about \$0.2 billion more.

Mr. EDWARDS. Is that life cycle cost you are talking about?

Admiral RICKOVER. No, sir.

Mr. EDWARDS. Or initial cost?

Admiral RICKOVER. That is actual shipbuilding procurement cost, sir, except for the approximately \$540 million added to the mixed program of two nuclear and six conventional ships for oil equivalent to the nuclear fuel included in the price of the nuclear ships.

LIFE CYCLE COST

When the life cycle cost of a carrier task force is considered, it has been shown time and again that substituting nuclear escorts, such

as an Aegis ship, for a comparable conventional escort, adds about 1 percent to the life cycle cost of the carrier task force for each nuclear escort added. This is the appropriate cost comparison, because the entire task force gains from substituting nuclear escorts for conventional ones.

Since the nuclear escorts can remain on station continuously, fewer nuclear escorts are needed than conventional escorts. The latest Navy study conducted in February of this year closely matches the weapons systems of the escorts in comparing an all nuclear and all conventional carrier task force. This study shows a smaller cost differential for nuclear power. This Navy study compares the total life cycle peacetime cost of two carrier task groups as follows: The nuclear force consists of one *Nimitz* class carrier, one CSGN, and three CGN-38 class cruisers. The all-conventional force consists of one *Kennedy* class carrier; one CSG, that is a gas turbine powered ship with the same military features as the CSGN other than propulsion; three CG-26 class cruisers, but with two missile launchers each; and two DD-963 ASW destroyers.

The nuclear carrier carries 50 percent more ammunition and almost twice as much aviation fuel as the conventional carrier. The weapons systems in both forces were assumed to be the same, except that the conventional force has two DD-963's extra.

The undiscounted life cycle cost of the nuclear force was calculated to be 1.3 percent more at today's fuel oil prices, and 1.9 percent less if the price of oil doubled, all other things being constant. Thus, the two task forces are, for all intents and purposes, equal cost forces in total life cycle cost.

VALUE OF NUCLEAR PROPULSION

The question of the value of the markedly increased capabilities of the all-nuclear task group compared to the conventional task group then depends on the judgment as to whether the increased offensive capability and mobility of the nuclear force is worth the sacrifice of the capabilities of two *DD-963 ASW* ships. In making this judgment, it should be recognized that the entire conventional force would be totally dependent at all times on a secure source of propulsion fuel. Further, about 15 percent of the time one of the six conventional escorts will be off station for refueling by the carriers, or by an oiler which would then have to accompany the force. The vulnerability of the whole force would be increased during this period due to restrictions on course and speed during refueling. If the carrier has to fuel the escort, the carrier operations are restricted while the escort is alongside, and aircraft fuel has to be diverted to escorts. If an oiler accompanies the force, then the whole force is restricted to the speed capabilities of the oiler, and the carrier escorts must also protect the oiler.

If it were necessary to retire from the high threat area for replenishment, the nuclear force would not have to replenish until its large capacity of aviation fuel and ordnance had been expended; whereas, the conventional force would have to retire for replenishment of ship propulsion fuel even if it had not expended its even smaller amount of aircraft fuel and ordnance.

Finally, you must consider the conventional ships may not even be able to operate where they are needed because of their dependence on vulnerable oilers.

For example, 5 years ago the nuclear cruiser *Truxtun* went on a special mission at high speed, about 28 knots average speed of advance, 8,600 miles across the Indian Ocean twice in going from Subic Bay in the Philippines to Perth, Australia. She was continuously ready to undertake protracted combat. A conventional ship could not have performed that mission since it would have had to be refueled three times in the Indian Ocean, and there were no oilers there. We have example after example where nuclear ships can do more than a conventional ship can.

TITLE VIII

Mr. Chairman, I might as well mention another matter. In my opinion, passage of title VIII—you know what that is, sir—was one of the most significant steps taken by Congress since World War II to help Congress carry out its responsibilities under section 8 of article I of the U.S. Constitution—"To provide and maintain a Navy." I know that in giving you my opinion on title VIII, I am preaching to believers, and I know of no reason why Congress should want to modify or cancel title VIII.

I think title VIII is misunderstood by many who have not taken the time to read it carefully and to read the legislative history. Many questions are asked about the impact of building an all nuclear Navy as required by title VIII, of Public Law 93-365. Well, as you all know, title VIII does not require an all nuclear Navy. Section 801 makes it the policy of the United States to modernize the strike forces of the U.S. Navy by building major combatant vessels for the strike forces with nuclear power, except as provided subsequently in title VIII.

Section 802 defines "major combatant vessels for the strike forces . . ." as including combatant submarines, combatant vessels for aircraft carrier task groups such as aircraft carriers and the cruisers, frigates, and destroyers which accompany them, and combatant vessels of these types designed for independent missions where essentially unlimited high speed endurance will be of significant military value.

The legislative history clearly shows that title VIII does not preclude the Navy from building oil-fired sea control ships, patrol frigates, surface effect ships, or other such ships, because these ships are not included in the definition of "major combatant vessels for the strike forces." Further, I think it is clear auxiliary craft, support force ships such as oilers and replenishment ships, amphibious ships and convoy escorts do not fall under the definition of section 802. Thus, title VIII simply does not require an all nuclear Navy. It is only for a relatively small number of ships. These are the ships that will decide the outcome of future war at sea.

As a matter of fact, since the Department of Defense is recommending nuclear powered submarines and aircraft carriers in their ship-building program, the only ships at issue under title VIII between Congress and the Department of Defense are the ships to carry the *Aegis* anti-air warfare weapons system, the nuclear strike cruisers, *CSGN*'s, and the *DDG-47* class gas turbine powered *Aegis* ships.

Mr. Chairman, if I may, I would like to tell you my concept of how a future naval war is going to be fought.

May I do that at this time?

Mr. MAHON. I think that would be very interesting.

TIME TO CONSTRUCT NUCLEAR SHIPS

Mr. ADDABBO. Just one question.

What is the time element involved in building a nuclear vis-a-vis conventional ship?

Admiral RICKOVER. The nuclear ship takes about a year longer to build and test, since the nuclear ship is larger and more complex. Also the nuclear components are funded ahead of ship authorization, since the major nuclear components must be completed and delivered to the shipbuilder early in the shipbuilding period. That is why the Navy is requesting funds for *CSGN* long-lead hardware this year but not requesting the ship authorization until next year.

Mr. ADDABBO. What is our present capacity for building nuclear ships?

Admiral RICKOVER. That is another subject, I was going to discuss later on, if I may sir.

COST COMPARISON

Mr. LEIGHTON. Admiral, before you go ahead with this other statement, may I make a comment to Mr. Edwards.

Admiral RICKOVER. Certainly.

Mr. LEIGHTON. In answer to Mr. Edwards' question, Mr. Chairman, on pages 41 to 44 of Admiral Rickover's statement there is an explicit cost comparison of the *CSGN* and the *DDG-47* classes of ships. It compares cost on the basis of initial costs of individual ships, on the basis of initial costs of a group of ships, and also on the basis of life cycle cost of a task force.

Admiral RICKOVER. You will see it is not much more expensive in overall life cycle cost for the nuclear ships when reduced logistic support is taken into consideration and the nuclear and conventional ships are compared on the basis of the same weapon systems.

Mr. LEIGHTON. About half of the cost difference between the acquisition cost of the *CSGN* and the *DDG-47* is due to the weapons differences between the ships.

SURFACE EFFECTS SHIPS

Mr. P. MURPHY. Of course the patrol hydrofoil missile ship program was initiated with the idea that it would accompany task forces in such areas as the Mediterranean, and the surface effects ship would be used for antisubmarine warfare. Naturally, these ships will not be nuclear powered but they could be at one time or another in company with strike forces, so how would we handle that problem?

Admiral RICKOVER. I would be sure before you count on having them accompany carrier task forces that you in fact have these surface effect ships. They are a wonderful dream for the future. You know the Navy has been working on these surface effect ships for years and years. Nearly every Chief of the Bureau of Ships who takes office

unveils a picture of the surface effect ship. I have seen it now for 20 years. "This is the thing I am going to get through my administration" they say, and the next Chief comes and uses the same pictures.

But you can't fight wars with pictures.

Mr. P. MURPHY. Are any plans being made to develop nuclear surface effect ships? If the SES is to accompany carriers, should it be nuclear?

Admiral RICKOVER. There are no plans to develop nuclear surface effect ships. To be viable, a surface effect ship must have a very low propulsion plant weight to shaft horsepower ratio which is out of the range of foreseeable technology for nuclear power. Therefore, there is no question as to whether surface effect ships should be nuclear; it is not technically feasible.

Any decision on whether surface effect ships would accompany carriers would depend on whether they would add to the overall capability of the force. It is conceivable that they might for some missions. But they might be a net burden under other conditions. In any event, the current usefulness of surface effect ships is so conjectural and dependent on so many variables including the actual capability of practical military surface effects ships that no valid answer is possible at this time.

NOT ALL SHIPS SHOULD BE NUCLEAR

Mr. P. MURPHY. I think, Admiral, a few years ago you testified that you had a breaking point, so to speak, in nuclear propulsion for ships. I think you said that if the ship is less than about 8,000 tons, it wouldn't be cost effective to provide it with nuclear propulsion.

Admiral RICKOVER. That is correct, about 8,000 tons or so for surface warships. But I certainly wouldn't do it for oilers, for tankers, or for any of the auxiliary ships. I am only repeating what Congress said in title VIII. Aircraft carriers and their escorts, strike forces, and for ships for independent missions should be nuclear powered.

Mr. P. MURPHY. What would be wrong with providing nuclear propulsion for oilers and ammunition ships?

Admiral RICKOVER. It is not needed for that type of service, sir. The function of these ships is to bring supplies from ports to the fleet and then return to port. They can relatively easily be provided enough fuel tankage to carry out their mission without having to replenish their fuel at sea. Further, such ships are very vulnerable. In a modern war with the several hundred submarines that the Russians have, they are going to sink any unprotected ship. No unprotected ship is going to have a chance, sir.

CONCEPT OF FIGHTING FUTURE WARS

I would like to talk briefly, as the chairman agreed, about how I view a future naval war. You are familiar with the Cuban missile crisis of 1962. That crisis was handled directly from the White House.

In the *Mayaguez* crisis the same thing happened.

Mr. MAHON. In the what?

Admiral RICKOVER. The capture of the *Mayaguez* by the Cambodians, sir.

That operation was directed from a central place in Washington, either the White House or the Pentagon. I have read in the press that the Russians also direct their operations from a central location. This is made possible by the increased ability to communicate rapidly. Communication has become so rapid that all the volumes of the New York City telephone directory can be transmitted in a few minutes. This means, in all probability, that future wars will be directed from the capitol and not by the fleet commander.

In such situations the first encounter may be the decisive event of the entire naval war, possibly of the entire war. Both sides may deploy their best forces to try to overwhelm the enemy in the very first engagement.

SHIPS MUST BE READY TO FIGHT

That means that if you want to win, you must have ships that are ready to fight. Let's consider the first battle. Our Navy has to have the best ships and they have to be ready to fight. That means the ships have to be in good condition. The Navy needs a great deal of improvement in the condition of its ships and the training of its men. Since the Navy must assume that the other side is going to start a war and should assume that they would not start one unless prepared, the Navy must always be prepared or else run the risk of losing that first critical battle. If the Navy loses that first battle, it will probably lose the war. Therefore it is extremely important that whatever ships we have in our naval striking forces, those that will have to fight the battle, be absolutely the best ships the Navy can build. They must be well armed, mobile, in good condition, and have well trained crews. That is my concept of fighting a future naval war.

Mr. ADDABBO. Where are we today in that picture?

Admiral RICKOVER. Today we have seven nuclear surface ships in operation, and we are building six more that have been authorized. But the Navy does not have a sufficient sustained program. No nuclear surface ships have been authorized for construction since fiscal year 1975. The next one is the CSGN to be requested in the fiscal year 1978 program.

TRAINING COURSE FOR SENIOR OFFICERS

I would also like to see our officers and our men better trained, particularly in engineering. In that connection, Admiral Holloway has asked me to set up a course for senior line officers to teach them how to inspect ships and machinery and to improve the condition of the fleet. The first class is starting in May, and will consist of 10 admirals and 15 senior captains. All of these officers will go to important commands at sea. The object is to take the large number of senior officers in the Navy, who have had very little engineering training, and try to teach them how you operate the equipment in a ship and how to inspect to see that it is in good condition. That capability is sadly lacking in the Navy today, sir.

TURNOVER OF SENIOR OFFICIALS

Mr. P. MURPHY. Admiral, your statement points out that in the 25 years you have been associated with the naval nuclear propulsion

program, in any given year, about four of the top ten officials to whom you report changed. On the average, each of the 115 key officials under whom you have served in the last 25 years held his position a little over 2 years.

Admiral, do you believe this situation has impacted unfavorably on this Nation's ability to better manage the Navy's shipbuilding program?

Admiral RICKOVER. Yes, sir, I definitely think it has. Each official is in his position such a short time that he barely has time to understand the job before he leaves it. Continuity among officials is almost nonexistent. Decisions are made one year and reversed the next. Most of these officials introduce their own favorite management improvement programs with a lot of fanfare, but in a few years the programs are quietly dropped to be replaced by others. It is very difficult to run the shipbuilding program on this basis.

I do not see any way to stop turnover among the civilian officials. But the turnover system among military officials is one of the worst practices we have in the Navy. It is a built-in system for failure.

This is one area where I believe Congress has the power to force the Navy to change. There is no reason why turnover of military officials has to run as it does. The Soviet Navy does not change senior officers the way we do. The senior officer of the Soviet navy is Admiral Gorshkov. He has held his position as Admiral of the Soviet Fleet, which is both a political and a military position, since 1956. In the same period, the U.S. Navy has had five Chiefs of Naval Operations and nine Secretaries of the Navy. A most significant aspect of the Soviet philosophy toward high-level positions is that long-term assignments and intense specialization do not necessarily destroy flexibility or effectiveness in leadership.

Frequent rotation of officers leads to a short-range outlook. A person who has only a year or two to make his mark is tempted to implement visible but short-term solutions to deep-seated complex problems. However, the Soviet challenge calls for the opposite action: a long term view of the fleet's requirements.

"The future is purchased by the present" wrote Samuel Johnson, and that statement accurately reflects the Navy's current situation. The pace of naval and military change has accelerated because of modern communications, weapons, and technology. The Navy today is more technological, more complex, more demanding of performance and less forgiving of mistakes and unpreparedness. The problem posed by these naval technological advances is that they call for anticipatory action by the Navy. But the Navy rarely anticipates. By and large, its main interest, like that of any governmental bureaucracy is short-term; it does not want to make hard decisions.

Without strong leadership providing a guiding philosophy, people concentrate too much on short term concerns. Reaction becomes the major objective, and the comfortable ideas of the past are allowed to solidify into dogma. This was the situation facing the British Navy around 1900. The Boards of the Admiralty had saddled the Royal Navy with monstrous and inefficient ships. Then, John Arbuthnot Fisher became First Sea Lord during the first decade of the 20th century. He fully lived up to one of his favorite mottoes, "Ruthless,

Remorseless, Relentless," and he took the ramshackle 19th century navy and shook it severely. Fisher had his flaws, and his methods left much to be desired. Moreover, his actions did not sit well with many naval officers, for whom he was breaking the Nelsonian tradition of a band of brothers. Nevertheless, the navy that was ready for battle in 1914 bore Fisher's stamp, and it was that navy which played the major role in frustrating Germany's ambition to dominate Europe.

U.S. NAVY APPEARS COMPLACENT

It often appears that our Navy is similarly complacent with things as they are. Much is being made of the fact that the U.S. Navy is 200 years old. Perhaps the 200 years have made us complacent, so that we cannot comprehend that a much newer rival navy, with little tradition, can become expert, or superior to our own. Consequently, we fail to incorporate its good ideas into our own circumstance.

I mentioned senior officer rotation. The Soviets show flexibility in billet assignments. In the Soviet navy, an officer's billet is not necessarily based on his rank. There have been cases where junior officers commanded ships and had more senior officers working for them. There have also been some cases where the commanding officer of a ship has been permitted to pick the executive officer and officers for other billets from among the officers assigned to his ship.

A movement to reform must begin by evaluating the Navy in terms of whether or not its actions increase the strength of the Nation. To make this evaluation requires more than one view. The Navy must recognize that a pluralism of concepts is legitimate. Different emphases in the understanding of the same goal do not prejudice the validity of that goal.

This implies, of course, that leaders will be questioned and criticized. Whether or not the criticism is acknowledged determines its impact. Generally, it is easier for leaders to dismiss those who question policy than it is to try to learn from them. This attitude is fostered by an unwillingness to look at problems directly. Subordinates come to understand that questions of policy are not only unwelcome, but are considered disloyal. Inevitably, loyalty to the team or to the organization takes precedence over individual judgment, conviction and conscience; to act otherwise is to jeopardize one's favor and effectiveness, and ultimately one's career.

BUILT-IN SYSTEM FOR FAILURE

Here, perhaps, is where the problem of complacency originates. It is relatively easy to make one's way in the Navy leaving it where it is; the harder thing is to take the difficult actions needed to make the Navy a little better. I have become convinced that a great number of naval officers are incapable of the individual action needed to turn the Navy around. They tend to follow the herd, acting for the most part only when consequences and circumstances force them to do so. That usually means the action, when it comes, is too late.

Officers who always display team loyalty and who never consider challenging policies become unable to draw any hard ethical lines when they themselves must set policy. They have the capacity to ac-

omplish much, but end up accomplishing little because they lack inner direction. By remaining silent, in order not to offend the powerful, they do damage not only to themselves but to the Navy.

If the Navy is to be reformed, it will be through the efforts of uncommon individuals. These will be officers who work hard, and with little expectation of reward for themselves. They will place such principles as integrity, intrepidity and dignity foremost in their actions. The task of moving our Navy toward a new purpose will ultimately fall on them. But they need help from outside, which only Congress can provide.

The Navy needs to reform its traditional methods of operation such as senior officer rotation. I have said this to the Congress year after year and you sit here and agree with me. Then nothing is done about it.

I must say this in all candor. If this committee as well as other committees of Congress are to live up to the article in the Constitution which says that the responsibility for the Armed Forces rests on Congress, I don't think you have done your duty. I am not talking about any particular individual or committee. I am talking about Congress as a whole.

MR. MAHON. Of course you well recognize that we are on the Appropriations Committee. The policy committee is armed services and that is where the major thrust would have to come from but that doesn't absolve any from responsibility.

Admiral RICKOVER. I think you could act even in this committee through your control of the purse. You could, for example, specify that you will not pay the travel expenses incurred by those who change jobs every 2 years.

That is the type of thing you can do. It is my opinion that it is far more important than any testimony I am giving you this morning on specific ships, to eliminate the built-in system that we have for failure.

SOVIET SURFACE SHIP CONSTRUCTION

MR. MAHON. Let's move on to another subject. That is a very pertinent and important point.

MR. P. MURPHY. Admiral, your statement indicates that since 1968, Soviet major surface combatants have increased by 29 ships while the number of U.S. major surface combatants fell from 350 to 172. Our losses, of course, are attributable primarily to the retirement of older ships that were uneconomical to maintain and repair. Pure statistical counts many times can be misleading. The fact is that the United States has actually delivered over twice the number of major surface combatant ships of 3,000 tons or larger than the Soviets—129 to 60—in the past 15 years.

From a numerical standpoint, the Soviets have been building minor combatants of 1,000 tons or less. In the last 15 years, as a matter of fact, the Soviets have built over 1,000 of these small patrol and mine warfare craft. These vessels appear to be best suited to protecting the Soviet coastline as well as some deployments in the Mediterranean.

Are the Soviets making a mistake in building such numbers of small combatant patrol ships instead of the larger nuclear powered surface combatants you recommend for our Navy?

SOVIETS BUILD MAJOR AND MINOR COMBATANTS

Admiral RICKOVER. Mr. Murphy, it is certainly true that the Soviets have built large numbers of minor combatant ships, many more than we have. But they have built a large number of large major combatants that are heavily armed.

Your comparison covers a 15-year period. If you compare the number of surface ships of greater than 3,000 tons full load displacement built in the 8 years from 1968 through 1975, the United States delivered about 55 compared to about 35 for the Soviets. Looking at just the last 4 years each built about 20. But the use of 3,000 tons as a cutoff is an arbitrary one and you must look beyond just displacement as a measure of effectiveness. Of the 55 U.S. major combatants built in the last 8 years, 46 were DE 1052, *Knox* class ships which are marginal combatants even though they displace about 4,000 tons full load. These ships are single screw and carry one 5-inch gun, one *Asroc* launcher and 4 fixed torpedo tubes for weapons. Some also carry the Sea Sparrow basic point defense missile system. Compare this to the Soviet *Krivak* class guided missile destroyer which also displaces about 4,000 tons full load, of which about 9 have been built in the last 8 years. This ship is twin screw and carries a quadruple surface-to-surface missile launcher, a twin surface-to-air missile launcher, 2 ASW rocket launchers, 8 torpedo tubes, 4 three inch and 4 thirty millimeter guns. The *Krivak* also is capable of speeds at least four knots greater than the *Knox* class. You can see there is hardly any comparison from a military standpoint.

Of the nine remaining major combatants over 3,000 tons built by the United States in that 8-year period three were DE's smaller than the DE 1052 class and one was a 3,500 ton DEG.

In the years 1968 through 1975 the United States built only 5 surface warships larger than the DE 1052 class. Those 5 U.S. ships were the *Nimitz* and the *John F. Kennedy* aircraft carriers, the nuclear powered guided missile cruisers *California* and *South Carolina* and the *Spruance*, DD 963, ASW destroyer. The 35 major surface combatants built by the Soviets in this period include the *Kiev* carrier, a *Moskva* class helicopter ASW carrier, about a dozen guided missile cruisers and some 20 guided missile destroyers. From this comparison I think you can see they have made a major investment in large highly capable combatant warships.

Further, I believe your figure of over 1,000 small patrol and mine warfare craft may include vessels that the Soviets built for export. We also cannot ignore the combatants in the 1,000 to 3,000 ton range, sir. The intelligence community classifies these vessels as frigates, and thus major surface combatants. No matter what labels we use, these ships can and do operate as ocean-going ships capable of anti-submarine warfare and other surface warfare roles. The Soviets built 68 ships for their Navy in the 1,000 to 3,000 ton range to our 3 in the 1960 to 1975 period.

MISSIONS OF U.S. AND SOVIET NAVIES

One must also look at the mission their Navy serves. From a continental land mass where essentially all their needs are satisfied within

their own boundaries or by contiguous countries, their primary objective is to interdict our ocean life lines. We, on the other hand, need to project our sea power across the ocean, in order to obtain raw materials and to supply our allies with men, munitions and food, if necessary. The military situation we face is far more difficult than that confronting the Soviets. To carry out our mission requires that we build ships that can go long distances and win the battle without the benefit of land based support. You cannot do this with small ships.

I do not believe that we should match them in all their minor combatants, sir.

Mr. P. MURPHY. In your answer, you seem to discount the fact that in the last 15 years the United States has built two nuclear-powered and four large conventional aircraft carriers. The Soviets have no surface ships to match the firepower of each carrier which has between 70 and 100 highly sophisticated, long-range fighter, attack, ASW, early warning and electronic warfare aircraft capable of carrying significant amount of electronic gear and ordnance to the enemy. It would appear that each of our aircraft carriers are many times more effective than large numbers of the Soviet surface ships that you cite. The point of all of this is that we are told that the Soviet navy in the last few years has been moving toward a "blue water" navy.

Admiral RICKOVER. Yes, sir, they are doing that.

Mr. P. MURPHY. I am wondering how they can do that by building large numbers of small ships.

Admiral RICKOVER. As I previously indicated they are building many large, greatly armed combatants.

The intelligence analysts divide surface ships into two categories. One is called major surface combatants, the other is called minor surface combatants. The Russians have about 800 minor surface combatants while we have only about 70. I think that we are on the right track in the way we are going, but we are faced with the fact that they have increased their major combatants to the point where they clearly have a blue water navy in addition to their large number of small ships. Recall some of the large Okean naval exercises where they demonstrated this capability.

The fact that they have built an aircraft carrier of about 40,000 tons, the *Kiev*, and they are building at least two more, is to me as clear a sign as you can have that the Soviets are no longer looking to just coastal defense.

SOVIET CARRIER

Mr. P. MURPHY. Of course if we had that so-called carrier in our Navy we wouldn't even call it a carrier. It is more like a V/STOL support ship or sea control ship which have been proposed for our Navy.

Admiral RICKOVER. The mission of the ship has something to do with what you call it. The *Kiev* can launch V/STOL aircraft that can serve in an attack role. While certainly not the equal of our large carriers in service today, it gives them fleet tactical air power beyond the range of land based air.

Mr. P. MURPHY. I thought it was interesting to note that the so-called Soviet aircraft carrier, which I don't think is deployed in the Soviet fleet yet, is about 40,000 tons, but has a flight deck of only 600

feet, whereas our LHA, which we don't even call or refer to as a carrier—it is an amphibious ship—has a flight deck 800 feet long and 40,000 tons. The V/STOL aircraft to be deployed on the *Kiev* have very short ranges and carry very little ordnance.

Admiral RICKOVER. Yes, sir. But the *Kiev* is also heavily armed with guns, missiles and other antisubmarine weapons that are not on an LHA. It is a ship unlike any in the U.S. Navy so no matter how you compare them, to some degree it is like trying to equate apples and oranges. From the standpoint of size it is equivalent to an Essex-class ship which we designated as a carrier. Our large carriers today are built to be able to carry more aircraft that are larger, faster and have more offensive power than those carried on the *Kiev*, sir.

SOVIET SUBMARINE PROGRAM

Mr. P. MURPHY. This brings up an interesting point then, Admiral. If the Soviets are wrong in building diesel submarines, as well as nuclear powered submarines, and if they are wrong in placing their emphasis on very large numbers of small patrol and mine warfare craft, why are we fearful of the Soviet navy today?

Admiral RICKOVER. I am not suggesting that they are wrong to build some diesel submarines and to build large numbers of small ships. They are doing that in addition to outbuilding us in nuclear submarines and large major surface combatants. It is the nuclear submarines and large, heavily armed surface combatants they are building that are of concern to our Navy. They are building four times as many nuclear-powered submarines as we are.

Mr. P. MURPHY. I didn't say they are building only diesel submarines. I said they are still building them. They delivered two in fiscal year 1974. And they have not outbuilt us in major surface combatants in the last 15 years—we enjoy a two-to-one advantage.

Admiral RICKOVER. In 1975 they built about 9 submarines of which one or two were diesel powered. The rest were nuclear powered. We only built two nuclear submarines during that same period and no diesel submarines.

Mr. P. MURPHY. But there are about 200 diesel submarines in the Soviet navy.

Admiral RICKOVER. They have that many because they built a very large number of diesel submarines after the war and did not really emphasize nuclear submarine construction until their nuclear submarines were proven to be reliable. We only have 10 diesel submarines left and are not building any more. They have been giving great emphasis to nuclear submarine construction for over a decade. They passed us in this area in 1970 and today have 135 nuclear submarines in operation compared to 106 for the United States. They are outbuilding us four to one.

Mr. P. MURPHY. Is that in ships or submarines

Admiral RICKOVER. I am now talking only about submarines, sir. They have no nuclear powered surface warships.

POLICY ON TYPES OF SHIPS

Mr. P. MURPHY. Getting back to the question then—this threat from the Soviet navy. A majority of the ships in the Soviet navy are rela-

tively small compared to U.S. ships. Our patrol frigates, which are now referred to as the FFG-7 class, are about 3,600 tons in size. Of some 230 major Soviet ships, about 69 percent are about the size or smaller than our patrol frigate. Yet we see a threat to terminate the patrol frigate programs as evidenced by the recent markup of the House Armed Services Committee. It looks like we are moving more toward larger ships that will provide us with less numbers, in lieu of building larger numbers of smaller ships as the Soviets are doing. All we are trying to find out is who is right? Are we wrong? On the other hand, if the Soviets are wrong, then we have nothing to fear from their navy.

Admiral RICKOVER. The largest numbers of their ships are small ships. Nevertheless, they also outnumber us in every other category of ships other than aircraft carriers, and their large surface combatants are heavily armed. For example they have 32 cruisers compared to our 26, and 87 destroyers compared to our 69. Of our 69 destroyers, all but two are 15 to 31 years old.

Let me make it clear that I do not lay down the policy of how many ships or what kind of ships the U.S. Navy should have. Considering the military situation we face in trying to control long reaches of ocean, we will need larger, more capable ships to do this effectively. From what I know of military affairs, assuming we will always have a limited defense budget, I would rather have fewer but better weapons. As far as I can read the history of all military warfare, the side that has chosen to go to excellence always makes out best, and that is particularly true in the Navy. As a general philosophical approach I would rather have fewer but better ships.

Mr. P. MURPHY. Admiral, as you know we have a few more AAW missile cruisers and a few more AAW missile destroyers than the Soviets. They outnumber us in gun cruisers and in gun destroyers. And the Soviets have nothing in their surface fleet to even begin to compare with our 14 large, sophisticated aircraft carrier threat. They do have over 30 cruisers and destroyers with long range, high yield surface to surface missiles; whereas, we will not have long range, high yield surface to surface missiles until the Harpoon missile is available.

WORLD WAR II EXPERIENCE

Mr. ADDABBO. Admiral, World War II belies that statement you just made. The allies were losing the war to Germany until we started to mass produce Liberty ships, bombers, fighters and tanks. They weren't of the sophistication and quality of the Germans. Germany had already gone to jet aircraft. But we won because Germany could not produce as much as we could and we won solely by numbers.

Admiral RICKOVER. We won because we ultimately defeated their submarine force. And while numbers were important we won because of technological developments that enabled us to detect and sink their submarines. Germany started off World War II with only 57 submarines in service. They only had 57 because they were not allowed to build submarines until 1935. Had they had more time they would have had many more. During the war they produced something like 1,000 submarines and they came close to winning. But the quality of their crews declined. Toward the end of the war they were forced to take new, untrained people and put them in submarines. They also

were unable to overcome our technological advancements in being able to detect and sink their submarines, sir.

SUBMARINE OPERATIONS IN WORLD WAR I

If I may, I would like to go back to World War I. In 1917 and 1918, the worst years of the submarine war in World War I, the average number of German U-boats at sea was 47. These 47 sank about 1 million tons of shipping per month in the early months of 1917. In April 1918, 10 to 15 U-boats sank 155 ships, totaling more than 500,000 tons that were attempting to supply the British Isles. In World War I, the German submarines sank 5,700 Allied ships totaling more than 11 million tons. These German submarines could operate only to a maximum depth of 250 feet, and they could only make 8 knots submerged. They also could only remain at sea for 30 days. Further, that 30 days included the time to reach the patrol area and return from it so they actually had only about 15 days on station. When we finally got control of the German submarines we eventually won that war.

And it took 20 percent of the entire Allied war effort in World War II to defeat the German submarine threat.

I might add parenthetically, that the value of the submarine has never been fully realized in our Navy. The reason is because the submarine community consists of but 7 percent of the people in the Navy. Generally the influence that you wield in a military organization depends upon the number of people in that particular branch. The small percentage of submarine people do not carry adequate weight when decisions are made as to what the Navy should do. The Russians understand the importance of submarines. While we spend about 20 percent of the Navy budget on submarines, the Russians spend about 40 percent.

QUALITY VERSUS QUANTITY

Mr. ADDABBO. This is what I am saying, and I think you are agreeing with me. Quantity plays a great part. Quality, yes, but quantity seems to be the key factor.

Admiral RICKOVER. Quantity and quality are both key considerations. Any qualitative-quantitative comparison of relative effectiveness can be valid only so long as the quantitative advantage of the opposing force remains within reasonable bounds. There is a point at which larger quantities will overcome lesser quantities regardless of the quality of those who have the lesser numbers. Likewise if the quality of a weapon is actually superior, one such weapon may be worth two or three or more of the other. I pointed out that despite the great numbers of German submarines toward the end of the war, quality was lacking in the kind of people they had and in their ability to neutralize our anti-submarine warfare capabilities. The quality consists of the ship, the weapons, and the people who man them. It is a combination, it isn't any one thing, sir.

Mr. ADDABBO. You can have the best equipment, and as we saw in the October war, we gave the Israelis the best equipment, but they didn't have enough of it.

Admiral RICKOVER. That is true. You cannot always succeed with a small number. By and large, however, when you have reasonably comparable quantities, I would rather have a smaller number of high quality ships than a larger number of inferior ships.

FUTURE WAR AT SEA

Mr. PRESTON. Admiral, if I could follow up on Mr. Addabbo's point, I think the battle of the Atlantic in World War II was won for a number of reasons, as are all military contests, but it was in large part a war of attrition.

As I see future war at sea, probably a war at sea is the most likely kind of conflict in which tactical nuclear weapons might be used, because you wouldn't be destroying cities and people, and there would be less of a chance of escalating the war there than there would be with a land war.

If you look at it with that in mind, any ship we have, the largest to the smallest, is vulnerable to any nuclear weapon which would just destroy it. With that in mind, do you still feel that numbers are less important than having fewer, larger ships? Perhaps if you start destroying ships in large numbers, the controlling factor might be the guy with the most wins in the end.

Admiral RICKOVER. Possibly so, Mr. Preston. It is more likely you could get away with using tactical nuclear weapons at sea without starting an all-out nuclear war, and such use of tactical nuclear weapons could decimate an enemy's forces quickly. But in my opinion, once any nuclear device is used in war, it will lead to a nuclear war. Of course that is a supposition. But it is my opinion that once you start using nuclear weapons of any kind, you will see the strategic weapons also used.

Everything that I have been saying is predicated on a nonnuclear war. If one assumes there will only be a nuclear war, we don't need any conventional forces, because the war will be fought with strategic nuclear weapons.

Mr. SIKES. The general trend of thought seems to be that everyone is going to make a very studied effort to avoid a nuclear war, have the capability, but avoid it, because of the destruction that would result. Undoubtedly the war will be a conventional war, if one comes, and the Middle East has been a proving ground in two fairly recent instances.

Do you agree with that thesis?

Admiral RICKOVER. Yes, sir, I do.

Mr. SIKES. That it will be a conventional war?

Admiral RICKOVER. If there is to be a war, I hope it will be conventional. I don't think there is much use arguing about any kind of conventional weapons, if you are certain there will be a nuclear war. If the only future military conflict will be a nuclear war, we might as well just concentrate on nuclear weapons. That is all we need to do. If this country were convinced this is the way to go about war, we would not need any conventional weapons, sir.

Of course you are getting into something that is pretty esoteric. I am giving you my opinion. There are those who have other opinions. I have seen books where analysts go into great detail on the philosophy and strategy of using nuclear weapons.

Frankly I must confess that I find these books hard to understand. The arguments are so intellectual, so theoretical, so esoteric, and based on so many assumptions that I doubt their validity. I believe non-nuclear war is likely, and that we must be prepared for it, sir. In fact,

the less prepared we are for a conventional war, the more likely it is that we will be drawn into one.

NEED FOR NUCLEAR POWERED STRIKE FORCE SHIPS

When our level of preparedness is evaluated, quantity as well as quality obviously must be considered. However, when that issue is addressed insofar as the type of ships we build for our naval strike forces is concerned, it should be borne in mind that there is no practical way the United States is going to match the Soviets in numbers of ships. In this regard, it is particularly important to take into account how much easier it is for their Navy to deny us free use of the seas than it is for our Navy to insure free use of the seas. As I said in my prepared statement, it is much more difficult to forge a chain than it is to cut a link. Therefore, in my view it is essential that the ships we build for our strike forces have the quality necessary to penetrate and counter the projected Soviet naval threat. I believe that the flexibility and mobility only nuclear propulsion can provide is needed in strike force ships.

POSITION OF ADMIRAL MOORER

Adm. Thomas H. Moorer shortly before he retired as Chairman of the Joint Chiefs of Staff wrote a memorandum to the Secretary of Defense in which he urged that the Department of Defense adopt the policy of providing nuclear propulsion for major combatants built for naval strike forces as enunciated by title VIII. He said:

As you may know, I have long advocated that we provide nuclear propulsion for any new aircraft carriers and escorts we build for those carriers. My experiences and responsibilities over the past decade as Commander in Chief, Pacific Fleet; Commander in Chief, Atlantic Fleet and Supreme Allied Commander, Atlantic; Chief of Naval Operations and Chairman of the Joint Chiefs of Staff have reenforced my conviction that we should provide nuclear propulsion for naval strike force ships * * * .

The Congressional Record indicates title VIII was incorporated in the bill by unanimous vote of the House Armed Services Committee and the bill was passed in the House without objection to title VIII.

I am quite familiar with, and have personally participated in many of the studies and discussions over the years concerning this important issue. As I leave this Office, I want you to know that it my judgment that this policy, recommended by the House of Representatives is a sound policy. I urge that the Department of Defense adopt it and get on with the task of building nuclear powered naval strike forces which I sincerely believe will be essential in the years ahead. The experience of our Navy during the 1973 October War is providential warning—which appears already to have been forgotten—that the Navy strike forces must not continue to be dependent on oil for propulsion in an actual war situation.

NEED FOR CARRIER TASK FORCES

Mr. P. MURPHY. I would think that even a conventional war, including a nonnuclear war at sea, would be a war of attrition. It would be our effort to attrite the Soviet submarine force of some 300 submarines, and their efforts would be to attrite our ships carrying men and materiel across the ocean, and it would end up with the one side with the most ships remaining wins.

Admiral RICKOVER. But in a war of attrition the submarines have a distinct advantage over all naval forces, except the strongest carrier

task forces with aircraft and surface and submarine escorts. If you want to carry the fight to the enemy, it is necessary to use air power. The United States is losing its overseas land air bases, or most of them, as you know. Without provisioned and protected land air bases the only way we can project air power overseas is by aircraft carriers. There is no other way, sir.

For example, the question has been asked, "Why can't commercial airfields be converted to military air bases?"

They can. Kits have been developed to be used for converting available runways into military airfields. However, for 1 tactical aircraft wing, approximately 90 aircraft—the equivalent of 1 carrier wing—a kit includes over 6,000 people, 7,000 tons of cargo, and 1,500 vehicles in its initial lift. It must be maintained by a daily logistic resupply flow of 3,200 tons of consumables. This daily resupply, if provided by airlift, would require more than 100 C-5A transport aircraft. Since this is obviously impractical, overseas land bases are dependent on keeping the sealanes open for logistic support—96 percent of supplies, material, and equipment for Vietnam were sent by sea. In many areas adequate air defense of our sealanes, and airlanes over the sea, can only be provided by carrier aircraft.

On the other hand, if the United States decides that it will not fight to save Western Europe, then that is another issue. Then the United States doesn't need a lot of things it has now. But then our national policy should be changed. This again is not an issue that I can decide, but I do say this: If we are to carry out our present foreign policy, as long as it exists, the only way we can depend on projecting our airpower is through large aircraft carriers. Without the protection afforded by our carriers, all our other surface ships would become much more vulnerable.

SIZE OF AIRCRAFT CARRIERS

Why are they large? Because the planes they support require it.

The basic requirements that determine the size of any carrier, including the Nimitz class, derive from the types and numbers of aircraft and weapons for her air wing. The composition of the air wing is determined by the missions assigned to the carrier and to the severity of the threat the aircraft are expected to be able to counter.

For example, the size of the flight deck is a major characteristic affecting overall ship size. The flight deck is sized to provide the launching, landing, and aircraft parking and handling space required for the various types and numbers of aircraft in the air wing.

In order to be able to launch modern, all-weather attack aircraft and high performance fighters in the minimum takeoff distance, catapults are required. All our modern carriers have four catapults to provide maximum launching rate of aircraft and to provide redundancy in the event of malfunction or damage to a catapult. The Nimitz class carriers have four catapults.

The Nimitz class are the first carriers to have four of the latest design catapults which are 310 feet long and provide maximum flexibility for operating attack aircraft under a wide variety of operating conditions. Catapult capability is extremely important since it determines the maximum fuel loads and ordnance loads that can be carried

in the aircraft at launch, and determines the rate at which the aircraft can be put into the air. A high launch rate not only gets the planes in the air ready to fight sooner, but it decreases the time the carrier is committed to a relatively fixed course and speed into the wind while launching aircraft.

The landing area required is dictated by the specific types of aircraft which must be handled. Approaching aircraft are limited in the vertical angle of descent at which they can approach the carrier by the limits of their own built-in strength. If they come in too steeply they may suffer structural damage when they land. If they come in at too shallow an angle they risk hitting the carrier's "ramp"—the aft end of the flight deck. To minimize the risk of striking the ramp, aircraft are brought in at a safe distance above it. This safe height, combined with the angle of descent, fixes the design touchdown point. Adding to this the distance required by the ship's arresting gear to stop the airplane, plus sufficient space forward on the angled deck to enable the aircraft to make a turn and clear the landing area, brings us to a landing area with a length of about 750 feet.

The parking space provided must be sufficient to park all the aircraft; handle the aircraft so as to provide the maximum launch rate in the specific sequences of types required for various missions to be performed; and handle the aircraft so as to provide maximum recovery and rearming rates.

The flight decks of all our modern attack carriers also have space for four elevators to provide maximum flexibility and speed in moving aircraft between various locations on the flight deck and the hangar deck. The multiplicity of elevators also minimize the effects of battle damage and equipment malfunctions.

The requirements for simultaneous aircraft launch and recovery capability coupled with the above factors determine the overall flight deck that satisfies the aircraft requirements. Slightly less than 1,100 feet in length and about 250 feet across at the widest point in the case of the *Nimitz* class, this flight deck size has varied only about 10 percent during U.S. aircraft carrier design of the past 25 years in spite of the more stringent requirements placed on carrier design by modern high performance jet warplanes.

The larger flight decks of our attack carriers built since World War II are also much safer than the smaller flight decks of our earlier carriers. For aircraft types operated on both large and small carriers the landing accident rate on the larger decks is one-third that on the smaller decks.

With the key parameters of flight deck length and breadth set, ship volume is then determined primarily by the support requirements for the number and types of aircraft. These factors include space requirements for aviation fuel and ordnance, maintenance shops, repair parts, and personnel support. The ship volume must also accommodate the necessary sensors, active defense systems, communications equipment, command and control features, and propulsion plant.

The volume of the ship propulsion plant is determined by the shaft horsepower needed to propel the ship at the required maximum speed. The maximum speed must be sufficient to generate enough wind over the deck to launch and land aircraft under conditions where there is

no natural wind, and meet considerations of deployment time and ASW protection.

Because of the hydrodynamic characteristics of surface warships the same speed can be achieved for about the same horsepower over a range of ship sizes. Therefore, once the maximum ship speed is selected, the volume of the propulsion plant will be nearly the same for a range of carrier sizes.

The size of the carrier will be about the same whether nuclear or oil-fired steam propulsion is used. However, with nuclear power much of the propulsion fuel tankage needed for an oil-fired ship can be used for aircraft fuel. This feature contributes to the fact that the *Nimitz* class nuclear carrier can carry about twice as much aircraft fuel as our largest conventional carrier.

Because of the essentially unlimited high speed endurance of a nuclear carrier and the greater capacity for aircraft fuel, the *Nimitz* class carriers are designed with adequate magazine capacity to carry about 50 percent more aircraft ordnance than our largest conventional carrier. This increases the overall combat endurance of the nuclear carrier, thus extending the time before replenishment of combat consumables is required.

Throughout the evolution of aircraft carrier design, holding ship weight and space to a minimum has been a major goal, consistent with attainment of required mission performance. It has required use of the most advanced technology and design techniques to build a mobile, fortified, jet air base with its high performance air wing and a vast electronic complex in a 1,040-foot ship.

ALTERNATE CARRIER CONCEPTS

The Navy has made studies of carrier design alternatives, including such configurations as catamarans and varying size monohulls. The result of these studies has clearly confirmed the superiority of the *Nimitz* size carrier over smaller carriers. Smaller nuclear carriers are technically feasible, but only with a considerable decrease in capability due to the sacrifice of air-wing size, sacrifice of the amount of ordnance and jet fuel which can be carried, reduced number of catapults with less backup redundancy, and reduced number of aircraft elevators with less backup and less flexibility in handling aircraft.

For the foreseeable future the catapulting and arresting gear complex will be needed to handle projected carrier aircraft, including the F-14. V/STOL aircraft may be included in a future carrier, but for launching with strike payloads they require a long takeoff space or else must be redesigned for catapulting.

Projected future aircraft designs do not reduce the amount of aircraft ammunition and fuel needed. The need to reduce the requirement for logistic support for the striking forces emphasizes the importance of carrying as large a supply of combat consumables as possible.

The key consideration that would be involved in deciding whether or not future carriers should be made smaller would be the reduction in air wing capability that would result. If the total number of carriers in the fleet continues to decline, and as the air, surface, and submarine threats our potential enemies can impose upon us increase, it becomes ever more important that the capabilities of the air wings on the remaining carriers be as broad as possible.

Mr. P. MURPHY. Admiral, you just reinforced the point that I had made earlier about the Kiev, the so-called Soviet attack aircraft carrier. It does not meet our definition of an attack aircraft carrier. If we had such a ship, with no catapults and arresting gear, we would classify it as a V/STOL support ship, which our Navy plans to build in a couple of years from now. As you know, the Soviets call these ships ASW cruisers and not aircraft carriers.

BALANCE BETWEEN STRATEGIC AND TACTICAL WEAPONS

Mr. SIKES. Admiral, let me ask you a couple of questions. I realize this is a broad area, but I respect your opinion, and I want your opinion.

Assuming that the present budget for Defense will likely be voted, at least in large measure—it doesn't appear there are going to be major cuts in this year's program—if that should be the case, in your opinion, is it properly balanced between strategic and tactical weapons and systems in your opinion?

Admiral RICKOVER. Would you please repeat that last question, sir?

Mr. SIKES. In your opinion, is the present Defense budget as it is now structured properly balanced between nuclear and tactical weapons systems?

Admiral RICKOVER. Mr. Sikes, I cannot answer that question, not because I wouldn't, if I really did know. I simply am not familiar enough with weapons systems to answer that question. I am not trying to avoid your question. I just don't know, sir.

Mr. SIKES. I understand. Let me really lead you into deep water.

We now seemingly have an inclination to talk tough. We are warning Cuba. We seem to feel that we must do more to the Soviets than sending Mr. Kissinger over each time they crook a finger and say, "Come, let's talk," none of which seems to accomplish very much.

If we are going to pose a threat to Russian aggression and Russian world conquest, how do we do it?

Admiral RICKOVER. What should we do?

Mr. SIKES. What should we do?

Admiral RICKOVER. Here again you are asking me about a situation where I am not familiar with the facts, sir. I don't know what the President is thinking or what the Secretary of State is thinking, or what their problems are, sir.

Mr. Sikes. If you were President, with Mr. Kissinger, what would you do?

Admiral RICKOVER. I am not the President, sir. I prefer to try to do the job I have.

Mr. SIKES. We are exchanging views and I respect your view.

Admiral RICKOVER. In this vein, you should ask me what I would do if I were God. That would be a more all-inclusive question, sir.

Mr. SIKES. That comes under a different heading.

Admiral RICKOVER. I could answer that question.

Mr. SIKES. We are talking about war.

NATURE OF MAN

Admiral RICKOVER. To the latter, I would answer that I would seek to make human beings better. Then we wouldn't have war.

Man has basically a split nature that is organically reflected in the two hemispheres of the human brain. The right hemisphere is responsible for emotions and for assimilating the varieties of life. The left hemisphere is involved in abstract thinking, analytical logic, verbal expression.

This split creates dangers because man, despite his great symbolic and scientific achievements, also remains the prisoner of other evolutionary forces, of the selfishness and aggressiveness acquired during the struggle out of the jungle.

Man's biological fitness is not yet a perfect match for the global problems confronting him. He still needs to learn to think, not as a hungry hunter and food gatherer, but as a citizen of a single, small, fragile, finite crowded planet.

ATTEMPTS TO AVOID WAR

To do away with war would be the greatest achievement of mankind. This has been attempted throughout history. In ancient times the Pax Romana worked because of the supremacy of Rome over the entire Mediterranean world. But war nevertheless continued to break out on the borders of the Empire, and finally Rome was conquered. The same happened when Islam took control of the Mediterranean area.

Many believed that when Christianity conquered Europe, wars would end. But even the common belief in Jesus Christ was not able to bring this about.

You remember how, in the 9th century, Christian priests, under Charlemagne, lined up several thousand heathen Saxons and gave them the option of becoming Christians or being beheaded; they chose to die.

Some of the most horrible crimes were done in the name of religion: the burning of people by Torquemada, the Spanish Inquisition; the massacre of the Huguenots in France, et cetera.

Some of the bloodiest wars in history were fought under Christianity—each side claiming to fight for the very same God.

The Thirty Years War, which began in 1618, was between Catholics and Protestants. It started in Bohemia, which was Protestant at the time. When it ended, Bohemia was forced to become Catholic. This war was the bloodiest war in European history. It devastated Central Europe; about one-third of the people died from war or starvation. However, it did end major religious wars in Europe.

At the Treaty of Westphalia in 1648, the formula *cuius regio, illius religio* was adopted. Hence forth, men would be bound by the religion of their rulers.

In the 19th and early 20th centuries, the Socialist parties of Europe joined to prevent war. But when war was declared by the Germans in 1914, the German Socialist deputies in the Reichstag joined the Nationalist deputies in backing the war.

Other attempts to end war were the various Hague Conventions in the early 19th century; the League of Nations at the end of World War I; the Kellogg Pacts in 1928; and the United Nations after World War II. Despite all these attempts, the world today has greater armaments than ever before, and the danger of war is just as great.

Men have also believed that a similar cultural background would prevent war. Yet England, France, and Germany have frequently been at war with each other. And our own Revolution was fought despite a common culture.

It had also been believed that freeing men from the shackles of ignorance would stop war. Yet the French Enlightenment of the 18th century, which spread throughout Europe, failed to prevent the European revolutionary wars that followed.

And a common political and economic ideal does not stop the threat of war. Witness the strained relations between Communist Russia and Communist China.

From what I have said, it seems unlikely that a common religion, a common culture, a common political, or economic ideology can be relied on to prevent war.

FUNDAMENTAL CHANGE NEEDED TO STOP WAR

What is needed is a fundamental change in attitude. But this can come about only when men change their way of thinking; when men comprehend that each of us is heir to all that has ever been accomplished by every human being who has ever lived. And that this places an obligation on each of us to treat our fellow men as brothers. If we did so, no longer would there be war.

Mr. SIKES. We are confronted with a very difficult situation. The Russians know they have an advantage over us. They know that in their talks with us they can stalemate us, if not more, and they are feeling the urge to push, to take advantage of the situation. They still are bent on world conquest. I am seeking advice and information.

Tell us what this country can do. We are making a small start for a better arms balance in this year's budget, if we are able to enact it substantially in the form as recommended, but we are going to have to do more than that. We are going to have to have policy to back it up—policy the Russians will begin to respect more than they respect present American policy.

Admiral RICKOVER. All I can do, sir, is to try to design and build the best nuclear-powered ships I can. I think if I do that, I will be contributing my part to building a strong Navy and I will be doing the best I can to prevent war.

I am not faced with the decisions you have been discussing and it would not be proper for me to comment on issues for which I have no responsibility. If I were in a position to deal with those issues and had the information my superiors have, I would give the issues very careful consideration and I would act forcefully, sir.

ACT TO AVOID SLIDING INTO THE FUTURE

Mr. SIKES. Act forcefully in what way?

Admiral RICKOVER. I would not let matters slide into the future. I don't do that in my present work and I have never done so.

My superiors have many problems of their own for which they are responsible and I am not. I do not presume to have answers for these problems, just as there are people who are not in a position to give me

answers for the problems I face. One of the things I have always found obnoxious is the individual who has none of the responsibilities of another person yet does not hesitate to offer advice on how the job should be run. I often get letters from people telling me how to run my job.

I am sure that Members of Congress also get letters telling them how they ought to do their job. I have always tried to confine my remarks to areas I know something about. I have always tried to be as forthright with you as I know how. I do not give you answers on matters I do not know. I appreciate your interest in my opinion, but I respectfully defer on how I would handle the affairs of state if I were President.

Mr. SIKES. Mr. Chairman, I have of course a considerable interest in shipbuilding claims. We all do. This is a big part of our fiscal problem. I have some questions here for the Admiral.

Admiral RICKOVER. Yes, sir.

STATISTICS ON SHIPBUILDING CLAIMS

Mr. SIKES. What is the status of the Navy's backlog of shipbuilding claims? Have there been any recent changes?

Admiral RICKOVER. Sir, the only changes are that the backlog is growing and has reached record proportions. On December 31, 1975, the total amount of shipbuilding claims and appeals before the Armed Services Board of Contract Appeals was about \$1.4 billion. Two claims were submitted in the early part of 1976 to raise the total to \$1.7 billion. Then, just recently, two more claims came in raising the total to \$1.9 billion.

The Navy has tried to downplay the problem by calling some claims "Requests for Equitable Adjustment." But in fact, the work required to review them is just as time consuming as that required for claims. Unfortunately, the Navy does not have an adequate staff of experts, including outside counsel, to handle claims adequately or expeditiously, sir.

CONSIDERATIONS IN SETTLING CLAIMS

Mr. SIKES. Admiral, it has been suggested that if shipbuilders are not given additional financial assistance they will not build the warships we need and that this should be considered in the Navy's claim negotiations. Would you care to comment on this point?

Admiral RICKOVER. Sir, that is a view promoted by some of the large shipbuilders, apparently with a degree of success within the Defense Department. There have been suggestions that the Navy should settle claims on a so-called management basis rather than being based on strict legal entitlement, so as to eliminate the backlog of claims. Similarly, there have been proposals to submit claims to binding arbitration.

These proposals threaten to make the entire contracting process meaningless. The Navy is legally required to settle claims in strict accordance with the contract terms, and not based on the contractor's profit and loss or cash flow position. But when contractors submit claims based on what they need to make their desired profit rather

than on legal entitlement, the only way the claims can be settled quickly is to give the contractor what he wants.

If Congress considers that shipbuilders or other defense contractors deserve Federal assistance, it can pass legislation to accomplish this. Alternatively, Defense Department officials have the authority to grant extra-contractual relief under Public Law 85-804. The established procedures for exercising the authority contain safeguards to protect against abuses.

In the absence of legislation or a Public Law 85-804 determination, however, claims should be settled strictly on the basis of legal entitlement.

SHIPBUILDER DEALINGS WITH SENIOR OFFICIALS

Mr. SIKES. You have testified that the involvement of senior defense officials in contract matters is undermining the ability of those responsible for Navy contracts to settle claims. Are shipbuilders still trying to bypass the responsible Navy contracting officials by going directly to higher authority?

Admiral RICKOVER. Yes, sir, they are, although the problem is not confined to shipbuilding. Many large and politically influential defense contractors have ready access to Defense Department and Navy officials throughout the chain of command and they use it to their advantage. In fact, most prefer to deal with senior officials rather than the contracting officer. Since these officials are not intimately familiar with contractual details, they are not equipped to evaluate contractors complaints. Nevertheless, top officials are reluctant to deny contractors a hearing on contract matters whenever they are asked for one. Instead of referring contractors to those primarily responsible, or at least inviting the responsible Government personnel to attend meetings with contractors, these officials themselves start to get enmeshed with the contractor in contractual details. In an effort to be responsive to contractor complaints, they issue forceful instructions to their subordinates to solve the outstanding problems.

In the case of shipbuilding claims, the instructions are usually aimed at expediting claim settlements. Such instructions create pressures on subordinates to meet the shipbuilder's terms.

The subordinates recognize that the only way claims can be settled quickly is to pay the contractor whatever he wants, regardless of legal entitlement. Thus, they find themselves in the awkward position of either yielding to contractor demands or being viewed as unresponsive by their superiors.

In my view there are too many meetings between senior Government and contractor officials in matters involving claims or contract disputes. These meetings undermine the efforts of those responsible for handling contract matters—particularly when they are not in attendance. Some contractors no longer deal seriously with the designated Government officials because their complaints, no matter how ill-founded, get a more sympathetic hearing from higher level officials.

These contractors will not negotiate in good faith to settle claims until Navy and DOD officials make it absolutely clear that claims will be settled only on their legal and contractual merits. Otherwise, they

will continue to obfuscate their claims and complain to senior Navy and DOD officials, rather than work to prove Government liability under their contracts.

DEMORALIZED GOVERNMENT PERSONNEL

Besides undermining the enforceability of Government contracts, the involvement of senior Defense officials in contract matters tends to demoralize those Government personnel who are supposed to be responsible for administering contracts. As senior officials get more involved in the details of procurements, subordinates become hesitant to act without first checking with their superiors, even in areas traditionally their own responsibility. Subordinates become attuned to what is politically sensitive. To protect themselves against second guessing by superiors, they begin clearing their actions and correspondence with higher levels. Through informal discussions and comments on drafts of letters, officials at high levels are able subtly to influence the actions of subordinates without taking direct responsibility for those actions. Not that senior officials actually direct those below them to make liberal settlements or to ignore contract terms. But the message gets through, nonetheless, that those who do not do everything possible to improve relations with defense contractors are not part of the team. Since promotions and future assignments depend on the recommendations and good will of one's superiors, the pressure is on the subordinate to accommodate contractors, particularly those who complain loudly at high levels.

I think this is wrong. Those of us who favor settling shipbuilding claims based on strict legal entitlement sometimes find ourselves in conflict with the centers of power. Defending our position requires much of our time and derogates, rather than raises, our status in the Navy and Defense Department. We get no medals for such behavior, only opprobrium from Government and industry, and the stigma of not being "team players."

Some of us are willing to pay this price for the privilege of speaking out. But other Government workers forced to choose between conflicting ideas and ideals, are seldom able to resist the pressure from their superiors. I believe it is not only unfair, but it is wrong to place these people in such a position. They should be allowed to conduct contract negotiations without interference from above.

CLAIMS CERTIFICATION

Mr. SIKES. In previous appearances before this committee, you testified that shipbuilders should be required to certify at the time of submission that their claims are current, complete, and accurate. What is the status of your recommendation?

Admiral RICKOVER. Over a year ago, the Navy adopted a regulation requiring that such a certificate be submitted by contractors with their claims. Not surprisingly, contractors did not like this requirement; pressure to relax it began building as soon as it was implemented. A few months ago, there was an internal Navy proposal to change the Navy Procurement Directives to eliminate, in most

instances, the requirement for certification of claims. I wrote a number of memoranda to the Chief of Naval Material opposing this proposal, and he accepted my recommendations. But pressure to waive the requirement still exists.

Contractor compliance with the requirement has been spotty. Electric Boat provided an affidavit for the major claim it submitted since this requirement became effective. Newport News also provided an affidavit for one of its claims. However, despite repeated Navy requests, Newport News has refused to provide an affidavit for another claim. Further, Newport News has submitted additional claims in 1976 without the required affidavit. It appears that this issue is now at a stalemate.

I consider it very important to obtain an affidavit for each major claim. In the shipbuilding industry, exaggerated and inflated claims are not uncommon. For years, the Navy tolerated them as part of doing business with shipbuilders. Navy and contractor officials alike adopted the attitude that allegations and figures in a claim were not to be taken seriously—that claims are thrown on the table at figures much higher than the contractor really believes he is entitled to or is willing to accept. While certification of claims may not solve this problem completely, it should result in more accurate claims. In addition, the certificate is an essential element in ensuring that the Government does not waste effort evaluating incomplete or inaccurate claims.

BUSINESS' PURSUIT OF PROFIT

The Navy's claims problem, and especially certification against inflated or misleading claims, needs to be viewed in a broader context. Shipbuilders, like other businesses, are oriented toward profit. I do not say that is wrong; the freedom to pursue profits is one cornerstone of our free enterprise system, which I believe is basically the best economic system ever devised. But like all freedoms, the pursuit of profit must be exercised within a framework of restraints. Without those restraints, it can assume such importance that it transcends the rule of law and affects the ultimate welfare of the society. One is permitted to swing his arms as much as he wishes—until he hits another person's nose, sir.

That is what is happening today. It is clear from the many reports of business transgressions in recent years that large number of major corporations regularly flout the law. It appears that some will literally do anything they can get away with in their desire to capture the largest profits possible. A deputy assistant attorney general was recently quoted as saying: "We continue to find that price fixing is a common business practice."

Bribery of foreign officials and payment of illegal domestic political contributions, both of which have been widely reported, are examples of the extent to which the law and ethical behavior are being ignored for the sake of profit. The most disturbing facet of these practices is the attitude that accompanies them. In one poll, nearly half of the business leaders surveyed said that bribes and kickbacks should be paid overseas if such practices were a routine method of doing busi-

ness in the host country. Employees of an aerospace firm defended secret payments to foreign government officials on the basis that everyone does it, and the company must make payments to compete.

In advertising, the only standard generally recognized is marketing effectiveness. Pursuit of that goal sometimes results in misleading advertising. An oil company has finished filming a commercial which depicts its oil rigs coexisting nicely with the environment. To emphasize the point, a deer, two cougars, and a golden eagle are shown moving through the oil field. But it turns out that the advertising agency used tame animals in the commercial, something the agency later defended as standard practice. This practice is similar to one used a few years ago by another oil company in a magazine advertisement. In that instance, foxes and rabbits were shown playing together near a refinery; however, a close look at the picture revealed the animals to be stuffed.

USE OF DOUBLE STANDARD

A public opinion poll in 1975 reported that a majority of those questioned felt that big business is the source of most of what is wrong with the country. Business' use of double standards produces much of this public discontent. Businessmen and their lobby groups, such as the U.S. Chamber of Commerce, the Business Roundtable, and the National Association of Manufacturers, promote an ideology of rugged individualism, free markets, and price competition. Yet, to all appearances, these virtues often exist more clearly in their propaganda than they do in the practices of their companies. Many businessmen, in the name of free enterprise and capitalism, complain of Government regulation, and yet favor Government subsidies and bail-outs. Many a stalwart capitalist has converted to socialism when he saw that as his only chance for survival and the recovery of his investment.

The single-minded pursuit of profit through overseas trade has led some businessmen to actions that may ultimately threaten national security. Multinational corporations are clamoring to sell high technology to the Soviets. They complain bitterly when the Government will not extend credit to the Soviets on the same favorable terms given to friendly nations. Yet this is precisely what Lenin predicted when he said:

The capitalists of the entire world, and their governments, in the rush of conquering Soviet markets, will close their eyes to the realities, and will thus become blind deaf mutes. They will open credits which will provide us with essential materials and technology, thus restoring our military industries, essential to our future victorious attacks on our suppliers. Speaking otherwise, they will be working to prepare their own suicides.

Bribery, misleading advertising, selling high technology to the Soviets, and dealing by a cynical double standard are not endemic. Many corporations behave legally and ethically both at home or abroad. Some of the most successful companies have found that honesty works as a benefit, not a cost, to their business. However, the reputation of all business suffers from the excesses of those executives who behave in flagrant disregard of the laws and of the principles that they pretend to respect. And in the long run, these excesses threaten business itself by weakening the foundations of free government.

HIRING OUTSIDE COUNSEL

Mr. SIKES. Admiral, for many years you have testified that the Navy should hire outside counsel to help review and analyze claims. Has the Navy yet hired these outside lawyers?

Admiral RICKOVER. No, sir, the Navy has not been allowed to hire outside counsel. The Department of Justice, in a letter written by Assistant Attorney General Scalia, issued an opinion that the Navy is prohibited by statute from hiring outside counsel to assist in defending against shipbuilding claims. Mr. Scalia did acknowledge that the Navy is responsible for investigating the claims. But, in my opinion, the responsibility of processing claims short of actual court litigation requires the Navy to obtain whatever assistance is needed, including outside counsel.

The history of this issue is one of apparent stalling within the Government. Frankly, I am puzzled by it. Hiring outside counsel would expedite settlement of claims by putting people where the backlog is. It would be good for the Government and contractors. And yet, those who were in a position to approve the idea avoided making a decision for 4 years until Mr. Scalia's opinion.

NAVY GENERAL COUNSEL REJECTS OUTSIDE COUNSEL

I first suggested hiring outside counsel in May 1971, in a formal memorandum to the General Counsel of the Navy. He rejected the idea. As the claims load grew larger, I continued to write my superiors with specific recommendations for improving claims processing procedures. The most important of these was the suggestion that the Navy hire outside legal and technical assistance to help in handling claims. My recommendations were largely ignored.

On March 26, 1973, when the claims backlog had grown to over \$1 billion, the Chief of Naval Material chaired a meeting among cognizant Navy officials to discuss what should be done. I again urged the hiring of outside counsel supplemented by outside technical and procurement experts to assist in evaluating contractor claims and preparing the Navy's defense. The Navy General Counsel objected strongly, contending that he could handle the job if he had a few more Government lawyers. He later submitted a legal memorandum declaring it would be illegal to hire outside counsel to help with claims work. This is one advantage lawyers enjoy in disputes with laymen. They can take a position and then write a legal opinion declaring that any other approach is illegal. Nonetheless, I wrote to the Chief of Naval Material pointing out what I thought were the flaws in the Navy Counsel's position. I recommended that the Navy ask the Department of Justice and the General Accounting Office for their opinions, and if they agreed that hiring outside counsel was illegal, then the Navy should seek corrective legislation.

The Navy General Counsel blocked my recommendation and established instead a separate organization within his office to handle contractor claims before the Armed Services Board of Contract Appeals. Although this action was heralded as a significant improvement, most of the staffing for the group came from people who were formerly per-

forming the same function within the Systems Commands. It was largely a reallocation of people rather than the gain in legal resources it appeared to be on the surface.

Some months later, a new Navy General Counsel took office. He determined that the Navy had the authority to hire outside counsel. The Department of Defense agreed. The Deputy Assistant Attorney General in the Justice Department's Office of Legal Counsel informally agreed. Finally, in August 1974, the Naval Sea Systems Command was prepared to award a contract for legal services in connection with shipbuilding claims.

PROPOSAL DELAYED

Unfortunately, the Navy lawyers then began to raise procedural questions regarding the procurement. Naval Sea Systems Command lawyers decided to clear the procurement with the Navy General Counsel who then vacillated in his support of this effort. Every few weeks, the Navy General Counsel would reassure me that everything was on track and the contract would be awarded shortly. Yet, commitment after commitment was missed until it became evident that he no longer wanted to hire outside counsel.

After months of delay, the Navy General Counsel decided to refer the matter to the General Counsel, Department of Defense, who 3 months later requested formal approval by the Justice Department. After 9 more weeks delay, Mr. Scalia issued his opinion reversing his deputy's previous informal position. Thus, the plan to hire outside counsel, which had been agreed to in August 1974 was delayed inordinately and 7 months later was killed. Although the Navy General Counsel and the Department of Defense General Counsel had previously agreed the Navy could hire outside counsel, neither appealed the Department of Justice opinion. The sudden shift in the Government position makes me wonder whether some behind-the-scenes lobbying was not involved.

There is a curious pattern in the various positions taken by the different agencies in this matter. Whether or not existing statutes prohibit the hiring of outside counsel seems to depend primarily on whether the person doing the legal research does or does not want to hire outside counsel. Originally the Department of Justice told the Navy informally it could hire outside counsel. Later, they reversed their position and said it would be illegal. The current Navy General Counsel agreed to try hiring outside counsel on a trial basis and concluded it was legal to do so. His predecessor did not want to hire outside counsel and caused a legal opinion to be written which said hiring outside counsel would be illegal.

Ironically, the attorney who wrote the legal opinion on why it would be illegal to hire outside counsel, left the Government shortly thereafter for private practice. In private practice, he reversed his position, and wrote to a Member of Congress arguing that the Navy should hire outside counsel to help with claims.

NAVY NEEDS HELP WITH CLAIMS

With the increasing backlog of claims and the large sums involved, the Navy needs help. Outside counsel is especially needed. The Navy

has not been able to provide sufficient manpower, talent, and experience in the legal area to supervise the Government's efforts in analyzing, negotiating, and when necessary, litigating contractor claims. The Navy has tried to accommodate the expanded shipbuilding claim workload largely with the same legal staffing levels that were needed previously to handle routine contract administration jobs. The problem is aggravated by low experience levels, high turnover rates, and frequent reassignments.

Generally, the attorneys the Navy is able to hire are inexperienced in claims and litigation work. Although conscientious, they are often no match for the experienced and highly paid law firms retained by shipbuilders. Moreover they are often shifted from assignment to assignment so that much of the burden of analysis, developing overall strategy, letter drafting and the like, which counsel should be able to do, falls instead on the Navy's technical organizations to the detriment of technical work.

Navy lawyers are reassigned from crisis to crisis as priorities change. As a result, the Government's cases often end up being prepared on a last minute crash basis, in sharp contrast to the careful preparations and single mindedness of the opposition.

Under these circumstances a premium is placed on being able to settle disputes without having to take on the burdens of extended litigation. I am not against reasonable settlements based on legal entitlement under the contract. However, the Navy should not be forced by limited resources to back away from a court test on important issues of principle or in cases where contractors insist on more than they are due under the contract.

In summary, sir, the Navy lawyers will never admit they are unable to handle the job. Possibly the Navy General Counsel will find it attractive to solve the problem of claims through the use of Public Law 85-804. This would relieve him of the burden of defending the Government's interests through the tough litigative process. However, it must be borne in mind that it is his duty to protect the legitimate interests of the Government and the taxpayer by using all legal means available.

If you face this objectively, we have \$1.9 billion in claims either in-house or before the Armed Services Board of Contract Appeals. We cannot fight that backlog alone. We need help. My limited experience with outside law firms in subcontract disputes under my technical cognizance has convinced me that we are not getting comparable service from the Navy. The contractors do not rely solely on their in-house counsel in these matters. Neither should the Navy.

The House Armed Services Committee placed authority in this year's defense authorization bill for the Navy to hire outside counsel. I hope you will give that provision your support.

ARMED SERVICES BOARD OF CONTRACT APPEALS

Mr. SIKES. I understand that when the Navy and its contractors cannot agree on a claims settlement the case is referred to the Armed Services Board of Contract Appeals. What is your assessment of that Board?

Admiral RICKOVER. Sir, I believe there are some basic flaws in the Board's operations and in the appeals process in general.

For example, the Government does not have the right to appeal adverse Armed Services Board of Contract Appeals decisions to the Federal courts. But under current rules, contractors have that right. Thus, there is a built-in incentive for Board members to decide difficult cases against the Government since they cannot be second-guessed in other legal forums. This inequity was less significant when the amounts of money at issue were small and when the Board confined its decisions to settling factual disputes. However, the Board in recent years has expanded its purview, and under the guise of factual determinations is actually setting new legal precedents and interpreting statutes. In a recent case, the Board ordered a \$62 million payment to a company based on a legal technicality, not on the merits of the claim. The Navy had no place to appeal this decision.

In another case, the Board undercut the Truth-in-Negotiations Act by ruling that a contractor who did not disclose a subcontractor's quote could keep the windfall profits he realized simply by contending that at the time of order placement he did not intend to buy from that subcontractor. Under present rules, the Government cannot appeal that decision.

If these decisions were made in a Federal or State court, they could be appealed by either party. When they are made by administrative judges within the Department of Defense, they become sacred precedents—unless, of course, the ruling is in favor of the Government, in which case the contractor may appeal to the courts.

In hearings before the Armed Services Board of Contract Appeals, the Government does not have access to contractor files to the same extent as contractors have access to Government files. For example, in one case the Board of Contract Appeals ruled that the period for discovery of records had ended. The contractor, however, subsequently used the Freedom of Information Act to obtain additional Navy records. The Government was foreclosed by the Board's rules from getting additional contractor records. Again, the rules are stacked against the Government even in getting the facts.

Finally, in appealing claims to the Board, contractors are allowed to present different theories and different evidence than they submitted to the contracting officer. Such trials *de novo* waste everyone's time in dealing with the claim before the company's final theories and evidence are presented. Claims would be settled more quickly if the Board were limited to reviewing the record submitted to the contracting officer.

RECOMMENDATIONS ON APPEALS PROCESS

Here is what I recommend to correct these major flaws in the appeals process involving the Armed Services Board of Contract Appeals:

One, Congress should support the provision in the defense authorization bill reported out by the House Armed Services Committee that would give the Government the same right of appeal to the Court of Claims that the contractor has.

Two, until the right of appeal to the courts is granted, the Department of Defense should provide for internal review of Armed Services Board of Contract Appeals decisions. Particular attention should be paid to whether the Board is exceeding its authority.

Three, make any material obtained by contractors under the Freedom of Information Act which is not obtainable by discovery proceedings, inadmissible against the Government before any Contract Board of Appeals or in any litigation. Along with the right of appeal, this would help to reduce the advantage contractors now have over the Government in cases before the Board.

Four, discontinue trials de novo before the Armed Services Board of Contract Appeals. Only evidence submitted to the contracting officer should be allowed before the Armed Services Board of Contract Appeals.

Five, promulgate a Board rule that law firms who violate the American Bar Association's Code of Professional Responsibility are not allowed to appear before the Board.

RECOMMENDATIONS ON SHIPBUILDING CLAIMS

Mr. SIKES. Please give us any other recommendations you have for improvements in the area of shipbuilding claims.

Admiral RICKOVER. Sir, as I see it, we will continue to receive large numbers of shipbuilding claims until the Navy proves that it can successfully defend against them. Large claim settlements only encourage contractors to submit inflated, poorly documented claims any time they feel their profits are too low.

However, I don't see claims as an insoluble problem. The Navy can take certain actions to strengthen its ability to defend against claims. At the same time, improving claims procedures would speed the process of claim review and settlement—something which would be beneficial to both Government and contractor.

Here are my recommendations:

One, require the Navy to hire outside counsel and such other assistance as is necessary to help with claims and claims-related matters. These lawyers should be authorized to perform any services needed to dispose of claims, including appearing before the Armed Services Board of Contract Appeals or in court.

Two, develop a permanent group of outside claims specialists including technical personnel, procurement experts, and attorneys to review and analyze major claims, do legal research, prepare legal documents, interview witnesses, and help prepare the Government's defense under the direction of Government personnel.

Three, require as a matter of law that prior to evaluation of any claim, the Government must obtain and the contractor must submit a signed certificate from senior contractor officials that the claim and its supporting data is current, complete, and accurate.

Four, prohibit contractors from changing their claim after it has been finally submitted to the contracting officer. Following review by the Government, the contractors should be given one opportunity to furnish additional information needed to support the claim where the Government indicates weakness. However, new theories of entitlement and new claims submissions should be barred.

Five, change operation of the Armed Services Board of Contract Appeals as I outlined previously.

Six, strictly enforce the False Claims Act and penal statutes including fraud.

Seven, require that no one in the Defense Department shall do business with law firms which are in violation of the American Bar Association's Code of Professional Responsibility.

INDEPENDENT RESEARCH AND DEVELOPMENT

Mr. SIKES. I know you have been an outspoken critic of DOD's Independent Research and Development or I.R. & D. program. What specific recommendations do you have in this area?

Admiral RICKOVER. Mr. Sikes, I believe that the I.R. & D. program is a waste of the taxpayer's money. The Government is devoting scarce funds to a program that generally benefits only the contractor, not the Government. The money is handed out with practically no Defense Department control or accountability, even where the Government finances nearly all of the work. While some good ideas may obtain from the hundreds of millions of dollars the Defense Department annually gives the defense industry, I do not believe these developments are worth the large sums spent each year.

The problems with I.R. & D. are numerous. The cost of I.R. & D. in the Defense Department is going up—it now equals about 3.7 percent of all DOD sales. Because of a lack of true competition in defense procurement, contractors often have little incentive to control I.R. & D. costs. The Government has no rights to patents or technical data developed under I.R. & D. even if the Defense Department pays all of the costs. Defense Department surveillance of individual contractors' I.R. & D. programs has little impact on how much money the contractors will receive. The military relevancy requirement for allowability of I.R. & D. costs is extremely broad; the GAO found the requirement had no effect on Defense Department reimbursement of contractor costs. Finally, the current I.R. & D. policies are anti-competitive in that they support further concentration of economic power in the hands of a few large defense contractors.

RECOMMENDATIONS FOR I.R. & D.

In my testimony last year before two Senate Subcommittees considering I.R. & D., I made the following recommendations.

First, the present system of DOD payments for independent research and development and bid and proposal expenses should be eliminated.

Second, the Department of Defense should allow costs of independent research and development projects only when such costs are specifically provided in the contract and then only to the extent such work benefits the contract work itself.

Third, the Department should receive, in the name of the Government, patent and data rights commensurate with costs financed by the Government on independent research and development projects.

Fourth, in cases where company proposed research and development projects have sufficient benefit to warrant the cost, the Department should finance the work by direct contract, rather than through I.R. & D. Responsible Government officials would supervise the work, as they are supposed to for all work the Government undertakes.

Fifth, if Federal subsidies of private independent research and development are necessary in other areas, such subsidies should be administered by the appropriate Government agency which has expertise in that area. Subsidization would then be aboveboard and measurable by Congress. Appropriate controls could be established to preclude concentration of technology among a few favored industries; to provide adequate direction over the work; and to insure the Government retains rights to work financed with public funds.

I think that these recommendations, if they were adopted, would go a long way toward giving the Government benefits commensurate with the sums currently being expended on I.R. & D. As it is now, I.R. & D. is a subsidy for contractors which the taxpayer should no longer have to bear.

RENEGOTIATION ACT

Mr. SIKES. Admiral, the House recently passed H.R. 10680, a bill to amend the Renegotiation Act of 1951. Since you have testified so many times on this subject, what is your opinion of this bill?

Admiral RICKOVER. It is a good bill, sir. It contains several sections which would improve the Renegotiation Act and strengthen the renegotiation process. For example, it makes the Renegotiation Act permanent and grants long term appointments to Board members. It prohibits the use of percentage-of-completion accounting for renegotiation purposes. It requires that renegotiation be conducted by division and by major product line within each division of the contractor. It requires that all contractor financial statements filed with the Renegotiation Board be audited. It eliminates or tightens certain special interest exemptions. And it provides penalties for late filing of required renegotiation reports.

This bill is needed. The Renegotiation Board is ineffective, as currently structured, mainly because of the many loopholes and deficiencies in the Renegotiation Act itself. I believe enactment of this bill would greatly enhance the ability of the Board to fulfill its intended purpose and would revitalize the renegotiation process.

Let me add that enactment of this legislation alone will not solve all the problems of renegotiation. The Renegotiation Board will require constant congressional surveillance if it is to be really effective, and if it is not to become a protagonist for the defense contractors it is supposed to watch, as it has been in the past. The tools for adequate congressional review already exist; they simply wait to be used. Vigorous oversight by the appropriate Committees of Congress, careful Senate confirmation of Board nominees, and legislation requiring periodic Renegotiation Board reports to Congress would provide an adequate basis for this congressional review. In this regard, the annual GAO study required by H.R. 10680 will be of significant assistance to the Congress in its review of the renegotiation process.

COMPLIANCE WITH COST ACCOUNTING STANDARDS

Mr. SIKES. Several months ago I read in the press that United States Steel had refused to take contracts requiring compliance with

cost accounting standards. What was the problem and has it been resolved?

Admiral RICKOVER. This particular problem of contractor resistance to procurement laws and regulations was triggered when United States Steel indicated it would not comply with cost accounting standards on numerous procurements involving a specialty type steel used almost exclusively on Navy ship construction. In this case, only United States Steel could provide the material on a timely basis. Company officials stated United States Steel already had an elaborate accounting system which would require significant changes if the company adopted the standards, and that the law was unreasonable when applied to its business situation. Based on these allegations, the Defense Department, which has responsibility for enforcing cost accounting standards, simply forwarded the United States Steel waiver request to the Cost Accounting Standards Board.

This request for waiver was important in terms of the precedent it could establish for insisting on contractor compliance with procurement laws and regulations. U.S. Steel is not alone among defense contractors who have resisted cost accounting standards. Other contractors had also indicated they might try to exploit their sole source position by disrupting ship construction unless requirements of the law were waived. Defiance of the Truth-in-Negotiations Act has been even more widespread. This act, passed more than a decade ago, requires contractors to provide cost or pricing data in circumstances where there is little or no competition and the Government needs such information to negotiate a fair and reasonable contract price. As I have previously testified before Congress, numerous companies have gone to virtually any length to circumvent requirements of this law.

WAIVER NOT JUSTIFIED

After review of the U.S. Steel case, the Cost Accounting Standards Board concluded granting a waiver was not justified. Subsequently, U.S. Steel officials agreed that cost accounting standards could be accommodated within their accounting system and that the company would comply with this law "where applicable." In 2 weeks, the Cost Accounting Standards Board succeeded where the Defense Department had failed in the preceding several months, and got U.S. Steel to reverse its original position on compliance with the standards.

Shortly thereafter, the Joint Committee on Defense Production held hearings on this issue. During the hearings, despite the company's apparent agreement with the Cost Accounting Standards Board, the Committee was unsuccessful in obtaining from U.S. Steel officials an unqualified assurance that the company would comply with both the standards and the Truth-in-Negotiations Act. Ultimately, as a result of follow-up action taken by the joint committee, U.S. Steel officials unequivocally agreed to comply with both the standards and the Truth-in-Negotiations Act in procurements not exempt by statute.

While it appears the U.S. Steel case is being satisfactorily resolved, problems of contractor defiance of procurement laws and regulations will continue. Based on my experience I expect some contractors will continue to misinterpret applicable laws and regulations to argue that, in their case, these laws do not apply.

I consider the Government has recourse in the Defense Production Act. This act authorizes the Government to require acceptance of contracts and performance of work essential to the national defense. When a contractor is in a unique position to produce a defense item and tries to make acceptance of work conditional upon waiver of laws or regulations, the Government should invoke the Defense Production Act and require acceptance of the contract. Obviously such contracts must include all provisions otherwise required by law or regulation. I hope the Department of Commerce, which administers the Defense Production Act, and the Defense Department will use the act to insure that recalcitrant contractors comply with applicable laws and regulations.

SSN-688 CLASS SUBMARINE PROGRAM

Mr. P. Murphy. Admiral, your statement proposes that we build nuclear-powered attack submarines at a minimum rate of five per year, rather than five every 2 years and only two per year starting in fiscal year 1978. As you know, Congress has funded 28 new SSN-688 nuclear-powered attack submarines since fiscal year 1970 and none have been delivered to the fleet. As of this date construction of these submarines has slipped almost every year. Since the April 1975 Navy testimony last year, an additional slippage of 4 to 13 more months in delivery of these submarines has occurred. According to the delivery dates in their contracts, 10 of these submarines should be delivered to the fleet by the end of September 30, 1976, but will not be.

Admiral, in view of this very poor construction history, how can you justify increasing the funding of more submarines than these two shipyards can absorb?

Admiral RICKOVER. Mr. Murphy, first you must realize that the SSN-688 class is an entirely new class of submarines, and the first ships have experienced delays associated with being the first of a new class at each shipyard. The lead ship, *Los Angeles*, will be at sea in 2 months. We have already launched four more of these ships.

In recent years delays have been normal within a broad sector of our Nation's construction and manufacturing industries. The construction of the local subway is a good example. The shipbuilders have also been faced with delays and longer lead times for materials they procure to construct the SSN-688 class. In addition, Electric Boat has experienced a 5-month labor strike which ended in November 1975.

Construction of the lead ship is almost complete. The production problems of building the lead ship have been solved and should not recur for follow ships. The shipbuilders are more in stride now, and I think you will find the ships coming out of the yards at a faster pace.

FEAST OR FAMINE NATURE OF NAVY BUILDING PROGRAM

One major underlying cause of delay of these ships is the feast or famine nature of the Defense plan for building them. Within the past 2 years, the Navy has been obliged to reduce SSN procurement from five per year to five every 2 years. This rate was further reduced by the Defense Department in January 1976 to two SSN's per year after fiscal year 1977. These and other planned Navy reductions, along with declining demand for commercial ships, contribute to a projected de-

cline in future shipbuilding work through 1981. Unfortunately, history has shown us that when yards project declining workloads, ships are delayed by the yards in their attempts to lessen the effect of the decline. They are reluctant to hire and train an expanded workforce to meet current commitments when they do not foresee continuing work for the expanded employment level. Rather they tend to defer work to even out the workload.

At one time the United States ordered 14 nuclear ships in 1 year. As a matter of fact, we turned out 17 in 1 year. We could certainly improve our current building rate if we set a 5-year program of nuclear ship construction and stuck with it. The facilities and manpower would be made available if we could commit to the construction rate. If the firm long range commitment were for five SSN's per year, Newport News and Electric Boat would be capable of constructing these ships. If necessary, the use of other shipyards, public or private, could be arranged to augment the capacity of the current two SSN building yards.

TRIDENT

Mr. SIKES. Let me ask a question at this point. We are well along now on the Trident program. It is going to be a massive submarine, the largest in the world. It is going to be, we anticipate, a formidable and effective weapon, but the number will be very limited.

Since we started the Trident program, we have found that the Russians are building a 4,200-mile missile for installation in small submarines.

My question is would we have been in a better defense posture had we built more smaller submarines with longer range missiles rather than a small number of Tridents with the capability that we know the Trident has?

Admiral RICKOVER. Mr. Sikes, from a strict military standpoint, we would be much better off to have more submarines, each having fewer missile tubes—assuming the missile tubes in all the submarines were the same size.

The number of missile tubes and their size was a major issue in the design of the Trident submarine. I recommended approval of 20 missile tubes, although I would have preferred reducing the number to 16. This recommendation received agreement within the Navy. The decision to use 24 missile tubes was made by the Department of Defense based on the cost effectiveness studies and recommendations of their system analysts.

Since that time, at the request of the House Armed Services Committee, several studies have been made of the optimum size of the ship. Those studies conclude, and it is obvious, that the cost per missile is greater for a ship with 16 missiles than one with 24 missiles.

The Trident submarines will enable the United States to maintain a secure and viable deterrent in the face of the increasing Soviet threat.

TRIDENT ADVANTAGES

The longer range Trident missiles will permit basing our ballistic missile submarines in the United States; no foreign basing will be required. This is extremely important because we are always in danger

of losing our foreign bases. For example, the treaty recently negotiated with Spain calls for removal in 3 years of our ballistic missile submarines from the base in Rota, Spain.

The Trident submarine will have increased survivability because they are being built with all the latest technology. They will be more difficult to detect than our existing ballistic missile submarines because the Trident submarines will be quieter and the longer-range missiles will give the submarines 10 to 20 times more ocean area to hide in.

Although I may not have answered your question perfectly, I do hope I have given you some insight into the other factors that influence military decisions.

Mr. ADDABBO. There was a study referred to in last year's testimony relating to the possibility of a smaller Trident-type submarine. Following through on that question this year, I was informed that the study had been abandoned. Was this due to the fact the Navy was afraid they would lose the entire Trident program, or was it on the basis of cost effectiveness?

Admiral RICKOVER. The study concluded that the smaller submarine was not cost effective. The smaller submarine in the study had fewer and smaller missile tubes than the Trident. Therefore, to deploy the same total weight of missiles it would cost more with the smaller submarines.

As Mr. Sikes noted, the Soviets are building ballistic missile submarines smaller than Trident though they are larger than any of our present Polaris or Poseidon submarines. The early ships of their Delta class have 12 missiles. Later Delta's have been lengthened to carry up to 16 missiles having a range of 4,200 miles. These ships are today the largest operational submarines in the world. In a sense, the Soviets are already operating their equivalent to our Trident submarines. With their Delta submarines, the Soviets can target the entire United States and some parts of Mexico from the Barents Sea.

SHIPBUILDING EXPERIENCE ON SSN688 CLASS

Mr. P. MURPHY. Getting back to the SSN688 class submarine program, the last six submarines of this class at Electric Boat have slipped since last year, 10 months, 11 months, 10 months, 13 months, 12 months and 11 months, and testimony this year indicated there will be additional slippage of perhaps 8 to 11 months in view of the recent strike they experienced at Electric Boat.

In view of the slippages in these latter ships, how could we obtain additional submarines faster by providing long lead time funding for additional submarines this year?

Admiral RICKOVER. The long leadtime funding in the current budget is for ships in the fiscal year 1979 program. This lead time is necessary since equipment suppliers are quoting up to 5 years manufacturing spans for reactor plant and propulsion components. Providing additional long lead funds this year would permit increasing the submarine building rate after 1977 to more than the two per year contained in the current 5-year defense plan. Procurement of long lead components paces ultimate delivery of ships. Earlier procurement usually means earlier ship delivery. Deferral of advanced procurement makes it impossible to obtain earlier ship delivery.

Mr. P. MURPHY. Electric Boat has 18 SSN688's and four Trident submarines. They wouldn't be laying off people now, would they, Admiral?

Admiral RICKOVER. Electric Boat is not laying people off now, but they laid them off previously. They are still hiring additional people they need to build the ships they have been awarded over the past few years. These contract awards followed a big dip in new construction contracts.

I saw the figures the other day. For every six people they interview they can only hire one because they need skilled people. Even those who have the capacity to learn take a long time to be trained.

NEW FACILITY AT ELECTRIC BOAT

Electric Boat has done one thing which is certainly going to help considerably in the future. They set up a manufacturing facility in Quonset Point, R.I., where they are making components and they are building up the work force there so they don't have to do all the work at the yard in Groton. Incidentally, it is good from an employment standpoint because Rhode Island has a large percentage of unemployed people. Quonset Point is beginning now to hit its stride and to ship components to Groton. I think you will find the shipyard is going to reach the point where the issue you are raising, which is certainly a valid one, will be stabilized.

Mr. LEIGHTON. For the SSN's requested in the fiscal year 1977 budget, it will be almost 2 years from now before all the preliminary work can be done. The shipyard must get the material on order and get it in the yard before any of the work itself in the yard will be started, that is, if you approve the SSN's. If you delay them, it will add another year to the delivery of the material to the shipyard.

When you talk about fiscal year 1977 submarines, it is almost 2 years from now before you have any effect in the yard working on them. In that 2-year period we are going to have quite a number of these submarines coming out of the yard. If you don't approve submarines behind the ones that are in the yards now, you are going to get some out and then you may have a big dip behind them. If they are not authorized early enough, the yards will then have to lay people off on the back side of the curve.

Mr. P. MURPHY. The point I am making is, these latter submarines won't be delivered until 1982 and you are not going to have a dip if they are slipping—and they are slipping again this year. How can you have a dip if they have experienced a schedule slip since last year of 10 to 13 months, and then there is going to be an additional slip—of 8 to 11 months because of the strike?

LONG LEADTIME FOR EQUIPMENT

Mr. LEIGHTON. If you don't go ahead with authorizing them then the yards can't buy the material and components which are fabricated in factories all over the country. You would shut down production lines in these factories. When you later authorize the submarines, and buy the material, it would take longer to get the material and

you might not get it in the yard in time to use the experienced people coming off the prior submarines.

Mr. P. MURPHY. You do, Mr. Leighton, if the programs are slipping and the submarines which Congress funded last year will also slip. I don't see your point. I understand ordering of material and I understand leadtime, but I don't understand your point when these submarines at Electric Boat have experienced slippages and will experience additional slippages since the FY 1977 budget was put together.

Mr. LEIGHTON. We have two yards building submarines. The Navy did not award any submarines to Electric Boat in the last contract which covered the fiscal year 1975 and 1976 submarines.

The last five SSN688 class submarines were awarded to Newport News, so there is a 2-year gap at Electric Boat already since the last SSN688 class submarine was ordered. This 2-year gap has been somewhat filled by these slippages you talk about. But if the Navy does not contract for anymore of these ships at Electric Boat in fiscal year 1977 that will cause a minimum gap of 3 years in order placement. This is a larger gap than any of the slippages at Electric Boat identified to date. Of course, additional slippages may occur. But if no contract were placed in fiscal year 1977, this would either force additional slippages that otherwise might be avoided or create a gap at the end of the line of submarines already under contract. Also, consider the possibility that no fiscal year 1977 attack submarines were authorized and that Newport News became the successful bidder on the fiscal year 1978 buy. In that case, you would end up with a minimum 4-year gap in ordering attack submarines at Electric Boat. That would certainly have a very deleterious effect on the attack submarine building capacity currently being built up at Electric Boat. This is a very complex problem. In my view the overall cost of the submarine building program will be less if the fiscal year 1977 submarines are authorized, even if the presently planned delivery schedules are not achieved.

Mr. P. MURPHY. On the other side of the coin, however, originally there was going to be competition in the Trident program and now there is no competition. The Navy testified this year that in all probability E.B. would get all 10 or 11 Trident submarines, so that fills up the E.B. workload for a couple of future years.

Mr. LEIGHTON. Electric Boat has built the facilities and is currently building the work force up to be able to handle all of the Tridents and three SSN's per year. Once the Trident program was cut to three submarines every 2 years, it was obviously cheaper to build them all in one yard.

Admiral RICKOVER. Electric Boat is completing a \$140 million increase in facilities which were started about 3 years ago when the first Trident submarine was approved. The new facilities will soon start having a considerable effect, not only for the Trident program, but for the SSN688 class also.

Mr. P. MURPHY. Newport News is another story.

Admiral RICKOVER. Newport News has been given exactly the same opportunity as Electric Boat to bid on Trident submarines. In fact, the Navy told Newport News that the Navy would give them the same

financial arrangement if they wanted to build facilities. It is not the Navy that stopped Newport News from bidding. The Navy encouraged them to bid.

“DESIGN TO COST”

Mr. P. MURPHY. Admiral, you mentioned, on page 13 of your statement, that “it does not make sense to me to set an arbitrary ‘design-to-cost’ ceiling for the acquisition cost of an aircraft carrier, nuclear or conventional.” Does that mean we should build aircraft carriers regardless of their cost?

Admiral RICKOVER. What that means is that I believe this country can afford to buy good weapons, the best our technology can provide for our fighting men. There is no economy in cutting corners on weapon system procurements. Fighting capability is often degraded much faster than money is saved by cutting corners. This is particularly true of warships, including aircraft carriers. Eliminating nuclear propulsion from a ship may save money when the ship is built, but it makes the ship dependent on a vulnerable logistics chain for propulsion fuel that could leave the ship without fuel in war. What value is a warship without fuel? On page 22 of my statement, I read a quote on what fuel shortage did to the Japanese in World War II. There are many other examples given in the memorandum to the Secretary of the Navy dated April 14, 1966, which is published on pages 110 through 138 of part 6 of the Defense Subcommittee hearings, Department of Defense Appropriations for 1967.

Further, the CVNX characteristics study group convened by the Chief of Naval Operations last August, which published its report in January of this year, once again documented this point. They found that by cutting every reasonable corner they could come up with a nuclear carrier smaller than the Nimitz-size carriers but that the air wing capability was more than cut in half. On a follow-ship basis, this ship was estimated to cost about 85 percent as much as a Nimitz-size carrier, or only a 15 percent saving. But when design and development costs are counted, it would cost about the same amount of money to build three more Nimitz class carriers as it would cost to design, develop, and build three of the smaller carriers. However, the three Nimitz class carriers would provide the Navy over twice the fighting capability for the same money. I believe the American people can afford to build more Nimitz class carriers for the future Navy.

I think it would be a great mistake to substitute some new class of ship to be designed to some arbitrary cost or displacement ceiling just because the Nimitz class ships cost a great deal. I believe our warships should be designed with the capability they need to carry out their missions, not designed to meet a cost or displacement limit.

DELAYS IN CARRIER CONSTRUCTION

Mr. P. MURPHY. You indicate that the Navy originally proposed that a fourth Nimitz class carrier, the CVN 71, be built for delivery 4 years after the contract delivery date of the CVN 70. To achieve this delivery, a minimum of \$350 million in fiscal year 1977 for procurement of long leadtime items would be required. We note that CVN 69, which was funded in fiscal year 1970, is approximately 16 months

behind its delivery schedule. Is it realistic to assume therefore that CVN 70 will also slip 12 to 16 months at the same yard?

Admiral RICKOVER. Newport News is currently forecasting delivery of the *Dwight D. Eisenhower*, CVN 69, in June 1977. This is 39 months in advance of the contract delivery date of September 1980 for the *Carl Vinson*, CVN 70. If long lead funds are provided for the CVN 71 in fiscal year 1977, the earliest ship delivery that can be supported by the long lead procurements of nuclear propulsion plant components is October 1984, 49 months after the contract delivery date of the CVN 70. If you wait too long to order long leadtime items, that delays the ship in itself. It will cost at least \$178 million extra dollars if long lead procurement for the CVN 71 is delayed 1 year, from fiscal year 1977 to fiscal year 1978.

Mr. MURPHY. Is it realistic to assume that if CVN 69 is slipping, that CVN 70 will not slip?

Mr. LEIGHTON. The CVN 69 is currently forecasted by the shipbuilder to be delivered 26 months after the *Nimitz*. The present contract delivery on the CVN 70 is another 39 months beyond that, so slippage of the CVN 69 should not affect the CVN 70, sir.

If the CVN 70 slips, it will be because Newport News does not apply the manpower to its construction. Of course, the Navy does not have direct control over how Newport News applies their manpower. Any slippage in the CVN 69 should have no effect on the CVN 70 because the CVN 70 was not authorized until 4 years after the CVN 69. There was a very large gap put between the ships because of the long time it took to get the long lead funding and the ship authorized.

CVN-71

Mr. P. MURPHY. What rationale was used by OSD in deferring CVN 71 advance procurement funding to 1978 fiscal year?

Admiral RICKOVER. I think they deferred the funding because they don't want to build it.

Mr. LEIGHTON. There was an argument over what kind of ship to build.

Admiral RICKOVER. The analysts and some naval officers would like to have future carriers conventionally powered. Some who do not take the time to study the issue think that they could get as much capability for the same money if they build more, smaller ships. The ploy they use is to keep on delaying and delaying funding to start the next carrier. This, of course, forces up the cost and disrupts the orderly manufacture of components as well as the ship.

IMPACT OF TITLE VIII

Mr. P. MURPHY. Admiral, you, of course, support title VIII of the DOD Authorization Act of 1975 which requires that major combatants built for naval strike forces be nuclear-powered. This would include aircraft carriers, cruisers, frigates, destroyers, and attack submarines. Some critics have stated this legislation will seriously impair the Navy in obtaining the number of ships it requires. How do you answer such criticism of this legislation?

Admiral RICKOVER. I don't see how title VIII prevents the Navy from doing anything. The statement that is often made is that I want all ships in the Navy to be nuclear-powered. That is not true. I touched on the question of which ships should be nuclear earlier this morning. I believe combatant submarines, carriers, and their escorts, and major combatants for independent missions should be nuclear.

Mr. P. MURPHY. Of course, unfortunately those critics will say that the House Armed Services Committee originated title VIII and this year the House Armed Services Committee terminated four out of the eight patrol frigates—which are nonnuclear—that had been budgeted by the Defense Department, and even threatened to terminate the whole program. So you see, this kind of criticism will—

Mr. LEIGHTON. There were four nonnuclear DD-963's added in their place. I don't think that particular House Armed Services Committee action has anything to do with nuclear power, and I think their report makes that clear. They substituted four DD-963's for the four deleted FFG's, all of which are conventional ships. The House Armed Services Committee made it clear in their report that they question the viability of a FFG program and do not raise it in the context of title VIII or nuclear power. That is an entirely separate argument.

Mr. P. MURPHY. A lot of people will infer that, however.

Admiral RICKOVER. You see, Mr. Murphy, I have nothing to do with that issue nor have I expressed any opinion whether we should have either of those classes of ships. It is not within my province; a lot of people, as you know, think that I dictate every ship that the Navy has. I don't.

NAVY RECOMMENDATIONS

Mr. P. MURPHY. Admiral, if, as you have indicated in your statement, the Navy itself recommended nuclear-powered strike cruisers, why have they now advocated a mix of nuclear and conventional powered ships for the strike forces?

Admiral RICKOVER. Mr. Murphy, I think you already know the answer to that question. I will repeat it.

Mr. P. MURPHY. You had alluded to it in your statement, but some of the members may not have had an opportunity to have read the statement and it may be well to repeat it at this time.

Admiral RICKOVER. The reason is, as best I can determine, the Navy is told by DOD, "If you don't support this program, we won't support your program, and we won't support you in other things." The officer who is in the position of the Chief of Naval Operations feels he has to keep the Navy alive. If you were in a jail, and the jailer said, "If you don't do what I want, I won't feed you," then you would do what the jailer wanted in order to get fed and stay alive. I think the answer is simple. It happens every year. This is why I suggested numerous times that witnesses before this committee, or any committee of Congress, be put under oath and asked what they recommended, and what is their personal opinion.

Also, I have said frequently, why deal with the servants when the master tells the servant what to do? Why don't you get the master up here to answer? Why don't you just get the Secretary of Defense or the Director of the Office of Management and Budget up here to testify and not call any other witnesses. You could find out what they want

that way, without taking the time of all the committee and staff members listening to a lot of other people saying what the Secretary of Defense wants, sir.

Is that not a good, frank answer?

NUMBER OF STRIKE CRUISERS NEEDED

Mr. P. MURPHY. Yes, sir.

Do you advocate building \$1.2 billion to \$1.4 billion strike cruisers as escorts for carriers? How many for each carrier?

Admiral RICKOVER. The first CSGN is estimated to cost about \$1.4 billion in fiscal year 1978 program dollars. Follow ships are expected to cost much less.

The Navy has studied this matter and concluded that there is a strong justification for having an average of two Aegis ships per carrier. They have concluded that you get the biggest payoff by having two. Thus, sir, we should plan on building at least two CSGN's for each nuclear carrier. The balance of escorts would be made up of the nuclear cruisers built or that we are building, and nuclear attack submarines.

It should also be borne in mind that the strike cruiser will be the most capable and least vulnerable surface warship we have, other than the aircraft carrier. It will have many uses for assignments to missions where carriers are not available or are not needed.

Mr. P. MURPHY. Why it is that the CSGN strike cruiser is being designed to provide accommodations and facilities for a unit commander and his staff?

Admiral RICKOVER. Because the Navy plans to have a unit commander to direct task force operations.

Mr. P. MURPHY. How much does that add to the cost? What size staff would the commander have approximately? He would require berthing and office facilities, I suppose?

Admiral RICKOVER. Berthing and facilities for about 20 people comprising the unit commander and his staff have been assumed in the preliminary design of the ship.

Mr. LEIGHTON. The table referred to earlier from the House Armed Services Committee report notes that the CSGN has 73 people for air capability, the SSES, which is an electronic intelligence and analysis system, and the unit commander. That is a sum of three features on the CSGN's. The table notes that the DDG-47 has 20 accommodations for the air capability, and 1 for a flag officer. They don't provide for staff for the flag officer on the DDG-47. There are an extra 52 people on the CSGN to cover the difference in air capability, unit commander and the electronic intelligence analysis.

Mr. P. MURPHY. If this strike cruiser is in the company of a carrier, the carrier would have a unit commander on board, and if the strike cruiser were on its own, the unit commander and staff would not be required.

Admiral RICKOVER. It might not if the ship were alone, unless it had a diplomatic reason. However, even without the carrier, if the CSGN were with other ships, then there probably would be a unit commander and his staff on the CSGN.

OMB AND OSD ANALYSTS' POSITION

MR. P. MURPHY. Do you still feel, as you have indicated in your statement, that OMB and OSD will attempt to eliminate completely the nuclear strike cruisers?

Admiral RICKOVER. Yes, I think they may. The analysts always have been against nuclear ships. The OMB analysts and the DOD analysts have invariably been opposed to nuclear power, even for submarines, as you will recollect. In 1968, the Defense analysts suggested sinking 10 of our Polaris submarines to save money, and they also recommended not building any more attack submarines. Of course, that is how they make their living. All they ever do is show that nuclear ships cost more money. They never give credit for the greater military effectiveness nuclear propulsion provides, perhaps the difference between winning and losing in battle.

Systems analysts are trying to crush naval nuclear power by the combined weight of abstract theories and supposedly scientific analysis. Their views are buttressed by a mass of computer statistics that are impressive by their sheer bulk, even if they do not always prove what the analysts claim they do. Yet, despite the internal contradictions in the systems analysts' arguments, their views are heeded within the Defense Department.

APPLICATION OF SYSTEMS ANALYSIS

Systems analysis by itself is not wrong. It is a tool which can often be usefully applied by large organizations. What is wrong is when that tool is used improperly or unethically. It is this misuse of systems analysis that is prevalent in the Defense Department. These system analysts are not neutral, as their mathematical analyses would have you believe. They are not content to determine the facts and follow them wherever they lead. Instead, they make policy recommendations on the basis of theoretical exercises which rest on assumptions that are faulty and incomplete.

A lack of objectivity essentially negates the basis of any objective analysis. Unless the ethical standards are there, the usefulness of the analysis is completely nullified. Obviously this is a problem not of the tool but of its practitioners. In this case, systems analysts build so-called scientific models which in fact rest on undeclared value premises. Their recommendations, consequently, are based not on fact, but on the seductive and hypnotic realm of appearance.

Systems analysis in the Defense Department has changed from a nascent theory in the early 1960's to a dogma in the 1970's. The change is important to understand.

A theory is nothing more than a logically correlated system of questions addressed to a subject. The author of a theory should not fear, but rather should expect as a normal consequence of fresh evidence, that further insights into the subject may invalidate his theory, perhaps in fundamental respects.

A dogma, however, is a theory with official status. Theories are discarded when they stop working, but dogmas lead charmed lives. They endure because they obsess those who control organizations, or because they justify whatever the organization wants to do. Organizations that run on dogma tend to lose track of reality.

The systems analysts are persuasive. On complex problems they offer quick answers for which, because they lack operational responsibilities, they are not held to account. Moreover, their analyses are difficult to probe, filled as they are with inexact terminology and statements devoid of meaning. The jargon of defense analysis is like a narcotic. It dulls one's sense of experience and practicality. It fosters a smug complacency about the soundness of the analysis. And it blinds people to the fact that the methods used rest on assumptions that often vary with both facts and logic.

The systems analysts do not come to terms with the actual ramifications of problems. They disassociate themselves from actualities, by using mathematics to oversimplify their approach. The Defense Department cannot survive a situation where theories are embraced in order to avoid unpleasant facts.

In my view, many of the systems analysts resent those who are doing the Navy's real work. Not possessing themselves the requisite technical knowledge or experience, their shortest road to superiority is cynicism of the experience and wisdom of others. They know that few can challenge them successfully, since only they understand the disgorgings of their computers. It is difficult to confront them directly because they are sheltered from debate. Untrained and unpracticed in technology, ignorant of military history, and lacking naval experience, the systems analysts nevertheless wield vast power, if not to propose, at least to stop the recommendations of those trying to build a viable Navy.

These are the kinds of forces we are fighting today. If you study all of the writings of the systems analysts on the issue of nuclear propulsion for surface warships you will find that they never address the issue of the vulnerability of oil supply lines. Yet that is the issue involved in the need for nuclear propulsion in the first place.

OILER SHOULD NOT BE NUCLEAR

MR. P. MURPHY. Why is it that you do not recommend that oilers and replenishment ships be nuclear powered in order to save precious fuel.

Admiral RICKOVER. Basically, the resources necessary to support nuclear ships should be used for our most important ships; our submarines and strike force surface warships. No consideration should be given to nuclear power for support ships at least until the strike force ships are all nuclear. At that time the advantages would have to be weighed to see if it might be worthwhile to consider for oilers and replenishment ships. Frankly, I doubt that day will ever come. Certainly the oiler is the least likely type of ship to need nuclear propulsion, since the oil it uses for propulsion is a small fraction of the oil it carries. The purpose of the other replenishment ships is to bring supplies from ports to the fleet. Generally they can get their own propulsion fuel in the same ports.

LONG BEACH CONVERSION

MR. P. MURPHY. Admiral, you recommend that the USS *Long Beach* be converted to an Aegis ship at a cost of \$785 million with \$371 million of initial funds provided in fiscal year 1977. As you

know, advance procurement funding is to be used only for certain critical long leadtime components, and not used to partially fabricate ships or begin conversion. How would you spend the \$371 million if it were added?

Admiral RICKOVER. That is for Government-furnished radars and ordnance equipment. None of those funds are for the nuclear propulsion plant under my cognizance. It is very important that a production Aegis weapons systems get into the fleet as soon as possible so the bugs can be worked out. Converting the *Long Beach* is the cheapest and fastest way to get it in a nuclear ship. The Navy initially recommended it, but was turned down.

Mr. MURPHY. If the advance procurement funds were provided in fiscal year 1977 when would the *Long Beach* be deployed?

Admiral RICKOVER. In late 1981 or early 1982. That is as early or earlier than you can get Aegis deployed any other way.

Mr. LEIGHTON. It is 2 years ahead of the first nuclear strike cruiser.

NUCLEAR CAPABLE SHIPYARDS

Mr. P. MURPHY. You have indicated, Admiral, that in the past we have had five private shipyards building nuclear warships and now we are down essentially to Newport News and Electric Boat. We have been building an average of about six nuclear-powered ships per year for the last 5 years. It would appear on the surface that that would be sufficient work to keep five shipyards reasonably busy along with their other commercial work. Why did we allow these five nuclear-capable shipyards to dwindle down to only two?

Admiral RICKOVER. The number of private yards building nuclear ships dwindled because the Navy did not have enough business to justify the need for more yards. At present Newport News constructs carriers, CVNs, and could continue to do so at the rate of one every other year. That yard is also building the CGN38 Class cruisers, the CGN 38, 39, 40 and 41. Electric Boat Division is building the *Trident* missile submarines. Both Newport News and Electric Boat are building the SSN688 Class submarines. The Navy currently has expressions of interest for building the strike cruiser from Ingalls which used to build nuclear submarines and from General Dynamics, Quincy, which built nuclear cruisers in the past. So, now we have Newport News, Ingalls and Quincy who are interested in working on strike cruisers.

Mr. P. MURPHY. Do you mean if we were building an average of six nuclear-powered ships a year, each of five shipyards wouldn't be interested in getting one of those a year, or perhaps more than one?

Admiral RICKOVER. That includes submarines, Mr. Murphy, and that is not many ships. The number of surface ships is very small. It works out to only one a year. That is the problem.

Mr. P. MURPHY. They are not interested in getting one nuclear powered ship a year?

Admiral RICKOVER. It is also too expensive for the Navy to set up a yard to build one ship.

We have been thinking about getting Navy yards back into the construction business—Mare Island Naval Shipyard for submarines, and possibly Puget Sound for building aircraft carriers. We have not wanted to do it in the past because it was considered more expensive,

but with the claims private shipbuilders are submitting, it is no longer out of the question.

COST CONSIDERATIONS

Mr. P. MURPHY. Why wouldn't a shipyard want to build one nuclear surface ship or submarine a year, unless, of course, he is not hungry and has plenty of work to do? He is in the shipbuilding business to build ships.

Mr. LEIGHTON. It is not just that the shipyard would not want to do it; it would cost the Navy far more money. If the Navy had six submarines authorized in a year, for example, and went out to five construction yards, the Navy would bid them to the yards on the basis of a one ship, two ship, or three ship quote. When those quotes came back in you would find that to build, say, three submarines a year in one yard was much cheaper than one submarine per year in each of three yards. So, the Navy would take the lowest quote for the three submarines from the one yard and the next three from a second yard, if the delivery dates were acceptable. That is illustrative of why Ingalls got out of the submarine construction business. It was not that they wanted to get out; it was a matter that Electric Boat and Newport News underbid them and there wasn't enough submarine construction business at the time to keep three yards going efficiently.

Admiral RICKOVER. The overhead for three ships is not much greater than the overhead for one ship. That is the point. The Navy could award six submarines a year to five yards but it would be very expensive.

Mr. LEIGHTON. If the Navy continues to build a total of five or six nuclear ships a year, even including carriers and cruisers in addition to submarines, it will probably not end up with more than two yards building nuclear ships.

If a third yard comes in, one of the present two may go out because this level of building ships cannot sustain more than two yards economically over a long period.

SHIPBUILDING BACKLOG

Mr. P. MURPHY. The private yards, today, have the largest peacetime backlog of shipbuilding they have ever had.

Mr. LEIGHTON. Right now they do, but there is a slump projected over the next several years. There has been a tremendous change in the projections for commercial shipbuilding business over the last 18 months, and there is a dearth of new work projected for the shipyards over the next 2½ years. It is a very serious problem. The shipbuilding industry, as a total, has gone through a feast and famine, as the Admiral mentioned.

There is a big backlog of ships in the yards at present which will hold employment levels up through 1976. Then there is a big dropoff in 1977 and 1978 for which ships that would be awarded in 1977 and in 1978 would not compensate. Then employment rises again in 1979. It is a serious problem to the shipbuilding industry as a whole, and arises to a large extent from the very serious drop in tanker orders as a result of the high rise in the cost of oil and cutback on orders for oil, so there are today far too many tankers already available. So, virtually no tankers are being ordered in our yards or elsewhere in the world. As

a matter of fact, tankers are being laid up wherever you turn and this has caused a big dropoff in prospective ship orders. So on both the Navy side and commercial side, prospective shipbuilding work in 1977 and 1978 is way down, and the yards that have built up will work through their workload and come to a big dropoff until projected employment starts to rise again in 1979.

Admiral RICKOVER. Let me summarize this part of it. It is extremely expensive to build one ship in a yard. I will give you a classical example of the way a navy yard was kept alive from the early 1800's to the late 1800's. Generally there was one ship in the yard at a time. In one case, the keel of a ship was laid in 1817. She was completed in 1825 but remained on the stocks. Finally, in 1864, 47 years after the keel was laid, she was launched.

Now, at one time in the early 1960's, the Navy ordered 14 nuclear ships in a year. That is when there were five private yards and two Navy yards building them. These yards actually completed 17 nuclear ships in 1 year.

FIRM LONG RANGE PROGRAM NEEDED

Mr. P. MURPHY. Admiral, you have indicated, and so has Mr. Leighton, that if we could initiate a firm long range nuclear shipbuilding program, we could obtain the additional shipbuilding capacity we may need to produce it.

This has not proven to be true on the nonnuclear side of the shipbuilding house. For example, the Navy initiated the FFG-7 patrol frigate program, announcing a 50-ship program and a requirement for at least three shipyards to build them. While the Navy expected to receive responses from at least seven shipbuilders on the fiscal year 1976 buy, they received only two—one from Bath, the lead yard, and one from Todd. Two years ago the Navy received only one bid on two tenders. Admiral, where do you receive the confidence that the same is not true for nuclear-powered ships?

Admiral RICKOVER. The confidence is in our experience. We had a program and did it, as I just mentioned. If we could plan several years ahead, we could do it again.

Without a firm long range building program, we can not hope to interest yards or material suppliers, for that matter, in setting up to build nuclear ships because the kind of equipment we use is highly specialized and complex. If the program keeps changing and there are no orders to place, the supplier ends his production line and applies his facilities and manpower to other business. Then, if he is willing to get back into our business later, we have to pay the added startup costs over again.

I can assure you if we could be certain what the future building rate is, we could do much better both financially and getting the ships completed on time. But since the analysts in OSD and the OMB keep using the gimmick of having more nuclear ships to build in future years, but never this year, as in the case of CVN-71, this goes a long way to destroying the Navy's credibility with component suppliers and shipbuilders.

Mr. FLYNT. You are saying that you cannot buy nuclear ship components off the shelf?

Admiral RICKOVER. That is right, sir. That is one of our problems.

First, if we didn't have the existing capacity, we would have to start training the suppliers to build up and learn how to do it. Now we have suppliers who do know how and have the capacity. If we don't get long leadtime funds for the next carrier in fiscal year 1977; if long lead funding is delayed for a year or 2 years; that in itself will delay delivery of the ship on more than a day-for-day basis due to this problem with having qualified suppliers. It will cost much more also. It also will cost a lot more in the shipyards because their workloads decline and they must lay off people, sir.

This is a very serious problem. It is hard to realize what it means to lay off thousands of trained people in a yard and what it takes to build the work force back up and train them all over again.

In the Navy shipbuilding program, aside from wartime, it has always been a feast or a famine.

Mr. P. MURPHY. I am trying to understand this problem. For example, if we funded two strike cruisers, instead of one, perhaps the second would go to General Dynamics. If we add two or three more—

Admiral RICKOVER. If we built one or even two per year we would probably go to one yard to minimize startup costs. It would really depend on the business outlook and other work in the yards; one yard could build two in 1 year. Given a larger, long range program it might turn out better to have two shipbuilders actively competing and both building the ships. I believe, sir, that General Dynamics, if they get a CSGN construction contract, would build the CSGN's at their Quincy yard.

Mr. P. MURPHY. If we funded long leads for two or three strike cruisers, the Navy would probably bid them in a package of three and say it is cheaper to build three in one yard and it would go to Newport News.

Admiral RICKOVER. We don't know that. We would not hold off placing the contract for the lead ship in fiscal year 1978 even if we expected two ships in fiscal year 1979 as has been proposed by the House Armed Services Committee.

Mr. P. MURPHY. What would prohibit the Navy from saying "Well, it is cheaper to build three in one yard, therefore we are going that way?"

Admiral RICKOVER. We might decide deliberately to put one or more in another yard if we could get a reasonable deal. Yard capacity and obtainable delivery dates as well as price would be considered in how the awards would be made.

Mr. P. MURPHY. Even though they cost more?

Admiral RICKOVER. Somewhat more, yes. Thinking of the future and getting the ships on time. We are not committed necessarily, just because a man bids low. If he bids low and delays completing them, or then submits inflated claims, we don't want that either. Also, if we could see that the long range program required more yards, we might be willing to pay a reasonable premium to start up another yard.

CONSTRUCTION OF CVN 71

Mr. P. MURPHY. By the same token, if we put in a long lead for the new carrier, that would go to Newport News, would it not?

Admiral RICKOVER. Yes, sir, that would. Today that would be so. Although, as I mentioned before, the Navy is thinking seriously of going to the Puget Sound Navy Yard to see what would be necessary in facilities and manpower buildup and training to be able to build a nuclear carrier there.

Mr. P. MURPHY. It would take them some time?

Admiral RICKOVER. It would take time for Puget Sound to gear up for carrier construction. These are the things that the Navy has to work on, sir.

The Navy is often accused of being inefficient in all these shipbuilding aspects. From the standpoint of wartime—and I am familiar with that because I was on duty in Washington during the whole mobilization period for and during World War II, and I dealt with shipbuilders—it was very easy contractually. The Navy told the shipbuilder what it wanted; the Navy was not concerned with money; there were no claims. It was easy. The Navy could draft people, they could do anything they needed to.

Today, the Navy cannot do that. There probably are a thousand laws on the books today including NEPA, OSHA and others that assign other agencies the job of telling the Navy what to do in the shipyards. Today, the shipbuilders' hands are tied to a large extent, too, by all these requirements.

CONSTRUCTION OF STRIKE CRUISERS

Mr. LEIGHTON. Just take the strike cruiser program. We have to make our plans for the work for the next 5 years. The strike cruiser program will be anywhere from zero to nine ships in the next 5 years. If there are going to be nine ships, the Navy will probably want to have them built in at least two yards, so that is two yards where we have to have capability for strike cruisers. Now, there are three yards who want to bid on the program. We can develop two yards to build the strike cruisers if we know the Navy is going to build nine strike cruisers in the next 5 years, with some others behind them.

Conversely, there are a lot of people who don't want to build the strike cruiser at all, so maybe the Navy will have zero. The Navy cannot go out and get industrial companies to commit themselves that they are going to start lining up their facilities and their manpower planning and keep their capacity open, just on the basis that the Navy may have a program, and it may be from zero to nine.

Now, if the Navy had a program and knew what it was, then we could make the arrangements with industry to build it at the cheapest cost. Our problem is that we just don't ever know in advance what the Navy is going to have.

TIMING OF CVN-71

Take the aircraft carrier, another *Nimitz* class aircraft carrier. We already have a minimum of a 4-year gap between the *Carl Vinson*

and the next carrier. If Congress doesn't put the long lead money in fiscal 1977 for the next one, there will be a 5-year gap.

Now, that is the largest gap between two carriers in the last quarter century at Newport News. If long lead money is not provided in fiscal year 1977 and then it is decided to put long lead funds in fiscal year 1978 to build another *Nimitz*-class carrier, the Navy is faced with the fact that most of the people who are now building the *Carl Vinson* will have been laid off or diverted to other work, before they can go to work building that next carrier. So the inefficient build-up and training of a work force starts over again. The workers are either fired, laid off, or they go to something else. Then when the Navy gets approval to build another aircraft carrier, they go to the shipbuilder and say, "Fellows, get me 5,000 people with the necessary skills to build an aircraft carrier," and that is anything but an efficient way to build ships. These feast and famine shipbuilding programs waste the taxpayers money because of inefficiency while the Navy is denied ships they sorely need.

Admiral RICKOVER. I realize the onus that you work under in appropriations. However, when you talk about these complex military items, I think you may think we are buying some sort of standard hardware off the shelf. Most people think that. They think it is simple. I thoroughly subscribe to what Mr. Leighton said. We can build ships more efficiently and thus more cheaply and faster if there is some real long-range basis for planning. But there is no real long-range planning today as far as large ships are concerned.

SHIPBUILDING PROGRAM PLANS

Mr. P. MURPHY. The DLGN, when that program was initiated, how many were to be built?

Mr. LEIGHTON. The DLGN 38 class started out to be a four-ship program, then it was increased by Congress to five, and then reduced by the Defense Department to three. Then it went to a total of five ships, and then back to four last year.

Mr. P. MURPHY. It was far more than five at one time and then stayed at five for several years, but we didn't hear Quincy saying, "I want to get in and start bidding on that program."

Mr. LEIGHTON. There was a time when the Navy had a long range plan for 23 ships, but that was canceled by the Department of Defense. No more than five ever reached the point of funds being requested from Congress. Quincy decided to get out of Navy business entirely several years ago. The yard was completely reorganized when General Dynamics decided to dedicate the Quincy yard to building LNGs. The LNG market today is not nearly as large as it looked like 18 months ago. They are still building LNGs; they still intend to bid on LNGs. But they have decided they would like to get back into building Navy ships. They have reformed the management; they have made major changes in labor arrangements and they also look more attractive to the Navy from the standpoint that the yard appears to be on a more efficient basis today than in their last days of building Navy ships.

If the company thinks they can handle Navy business, from the Navy standpoint it at least appears they might be able to give better prices

to the Navy than they could in the past. Until we get their bid, we don't know what it will look like. They will be bidding along with other yards also.

INGALLS WANTS TO BUILD SUBMARINES

We hear that Ingalls is considering wanting to get back into submarine building. We don't know whether that is true or not, but we do know they face a big drop in workload in the 1977-78 time frame. They may decide they want to bid on the SSN 688's. They bid on the first flight of SSN 688's. They were unsuccessful, but we hear they may want to bid on the next flight. If they do, that will have to be taken into consideration along with all the rest of the bids.

Mr. P. MURPHY. I certainly hope that is true, Mr. Leighton. Every year we hear the Navy shipbuilding witnesses, they always state it will be a rosy picture next year. We keep looking for the roses and each year it seems to be the same thing. I hope you are right in your analysis of our future capacity to build Navy ships.

Mr. LEIGHTON. Neither the Admiral nor I want to paint it as rosy. The ships we are talking about are the most complex devices ever conceived by man. There is no way to build them without a lot of problems. But I think anybody in the shipbuilding business will tell you it is very important to get an agreed-to program so that people can lay out what they expect for work and lay out their plans accordingly.

Admiral RICKOVER. We realize it is beyond your authority to do this; we understand this. But we are faced always with this dilemma and it is responsible for many of our difficulties.

Mr. P. MURPHY. Shipyards generally have known there is going to be a Navy shipbuilding program every year. It is a question of how many are going to be built. But there is going to be work. They may not know the exact numbers.

Admiral RICKOVER. It takes a great deal of planning and foresight for additional ships. Each type of ship requires different skills and to some extent different facilities. They can't go ahead and hire people and pay them on the hope they will get specific ships. They don't have the money for that, sir.

SHIP COST ESTIMATING

Mr. P. MURPHY. With respect to having Congress look at and authorize a shipbuilding program each year, we note that last year when the fiscal year 1976 budget was submitted the Navy advised Congress that in fiscal year 1977 the Navy would budget \$4.8 billion to fund 30 ships. Now, if you subtract \$1.6 billion that was budgeted in fiscal year 1977 for escalation and cost growth for fiscal year 1975 and prior year ships, the Navy has requested \$4.7 billion for 16 ships instead of the 30 they planned to budget. Admiral Rickover, what is the explanation for this situation? Is the Navy continuing to underestimate the cost of ships?

Admiral RICKOVER. I do not believe that this change in the Navy's fiscal year 1977 budget should be attributed solely to the Navy's under-

estimating the cost of ships. Ship cost estimating has been helped considerably by changes in the rules for estimating the effects of inflation. The Navy used to be constrained to predetermined inflation factors which often were much lower than actual inflation. Recently, the Navy has been permitted to budget based on its own estimate of inflation.

Mr. P. MURPHY. I believe they were permitted to do that in fiscal year 1976.

Mr. LEIGHTON. From 1976 on.

Mr. P. MURPHY. The estimate for fiscal year 1977 last year should have been far better than it was. There is a big difference between 16 ships and 30 for the same amount of money.

Admiral RICKOVER. Those ship numbers are somewhat misleading. As I understand it, the difference in the number of ships in the two projections results from major changes in the mix of ships being requested. For example, in January 1975, the Navy contemplated buying nine relatively low cost patrol hydrofoil missile ships in fiscal year 1977 and did not project a lead DDG (Aegis), a relatively high cost ship. The decision not to proceed with the nine patrol hydrofoil missile ships but to add the lead DDG in fiscal year 1977 has reduced the number of ships and only partially offset the increased cost of the Aegis ship. There are other similar changes between last year's projection and the current budget.

In any case, I do not believe that the particular situation you cite is due to poor cost estimating. However, this does not mean that you will ever have such a thing as perfect cost estimating. A cost estimate for a particular item is generally lower than the final cost for that item. There are many reasons for this, some of which are inflation and changes to incorporate the latest technological advances. You can find examples of this by looking at the Washington subway project, the Rayburn Building, bridges, or anything else.

POPE PIUS' EXPERIENCE WITH COST ESTIMATING

There is a story about Pope Pius II's experience with cost estimating in the 15th century, which is related in "Memoirs of a Renaissance Pope—The Commentaries of Pius II." The Pope had received many insinuations against his architect, a Florentine named Bernardo, that he had cheated, that he had blundered in the construction of a church and a palace, that he had spent more than 50,000 ducats when his estimate had been 18,000. The law would have obliged the architect to make up the difference.

Pius, when he had inspected the work and examined everything, sent for the man.

When the architect arrived in some apprehension, since he knew that many charges had been brought against him, Pius said, "You did well, Bernardo, in lying to us about the expense involved in the work. If you had told the truth, you could never have induced us to spend so much money and neither this splendid palace nor this church, the finest in all Italy, would now be standing. Your deceit has build these glorious structures which are praised by all except the few who are consumed with envy. We thank you and think you deserve especial honor among all the architects of our time"—and he ordered full pay

to be given him and in addition a present of 100 ducats and a scarlet robe. He assigned him new commissions and bestowed on his son the grace he asked. When he heard the Pope's words, Bernardo burst into tears of joy.

So, even at that time they had cost overruns.

Mr. P. MURPHY. I think we have observed a silver lining recently because I recall there was an article in the Washington Post several months ago that indicated the new Space and Air Museum on the mall came in on schedule and under cost.

Admiral RICKOVER. I have an answer for that one. Some people over-estimate the cost of a program and receive more money than they should. When someone brags that the final cost of his program came in under his estimate, be careful; his estimate probably was too high to begin with.

MANNING OF NUCLEAR POWERED SHIPS

Mr. P. MURPHY. If as you say the need exists now for 3,250 nuclear trained officers, but you have only 2,300 on board, and if you have been losing over 200 nuclear trained officers per year, how are you going to man the nuclear powered Navy you recommend?

Admiral RICKOVER. While it is true that the Navy at present is only able to man 71 percent of its nuclear officer billets, it must not be inferred that it cannot man the nuclear Navy. There are nuclear officer billets on board ships and at shore stations. Even with the current manning levels all nuclear billets on board ships are being manned. Unfortunately, this precludes a normal sea-shore rotation for these officers, with a number of shore billets not being filled. This coupled with the attractiveness of the civilian nuclear power industry has resulted in poor retention of middle grade officers. The various provisions of the nuclear officer incentive pay bill, H.R. 10451, will result in better retention and that is the key to your question.

At this time the Navy is able to attract sufficient candidates for the program by taking in reserve officers through the nuclear propulsion officer candidate program (NUPOC). This program commissions acceptable college graduates and guarantees them nuclear training. Historically their retention rate has been less than 10 percent. However, it is necessary that the Navy attract more regular officers, so that the reserve officer input, with its attendant low retention history, can be decreased. New requirements for USNA and NROTC graduates, as well as the accession bonus provision of H.R. 10451, should insure that enough regular officers are attracted to the program to enable us to man the most ambitious nuclear-powered fleet that the American people might choose to build. Some relatively small monetary incentives must be provided to improve retention, and thereby ensure that the ships are properly manned. We are currently training approximately 450 officers per year and can expand that number as necessary to man any nuclear fleet that can be constructed in the foreseeable future.

Ever since the first nuclear submarine put to sea some 20 years ago, I have heard the argument that additional nuclear ships should not be built because the Navy would be unable to man them. We have proved them wrong for 20 years. Today with 106 nuclear submarines and 10 nuclear surface ships manned, the same concerns over the build-

ing of additional nuclear powered ships persists. We can man the nuclear fleet authorized by Congress. It has not been an easy task, and legislative action on H.R. 10451 is needed to improve the retention of trained officers. But it has been done in the past and I can see no reason why the Navy cannot continue to man its nuclear powered ships in the future.

REQUESTS FOR EQUITABLE ADJUSTMENT

Mr. P. MURPHY. You have addressed this subject earlier, Admiral. Shipbuilding claims have reached an alltime high—\$1.7 billion. Does this include the so-called requests for equitable adjustment?

Admiral RICKOVER. Yes, sir.

The expression "request for equitable adjustment" is synonymous with claim; any difference between the two expressions is only semantic. Request for equitable adjustment is used by some Navy officials in lieu of the word claim to avoid showing a big backlog of claims. But by whatever name they are called, these are complex, time-consuming requests for money which must be processed carefully and thoroughly.

When I talk claims here, I am talking about any request for money no matter how it is labeled by the shipbuilder. I believe the total is now at the highest point it has ever been. In the time since the \$1.7 billion figure was determined, the Navy has received two more large claims. I think the total is now about \$1.9 billion.

Often, these claims are vastly exaggerated. That is why I encouraged my superiors to institute a requirement that before a claim can be reviewed by the Navy, it has to be certified by the senior company official that it is current, complete, and accurate. Some shipbuilders do not like that requirement. One of them has generally refused to abide by it. You see, even when shipbuilders do certify their claims, the settlement price actually arrived at is generally far less than was claimed.

The House Armed Services Committee has included language in the Defense Authorization bill requiring with each claim a statement or certification signed by the top company official that the information in the claim is current, complete, and accurate. We do not always get that today.

Mr. P. MURPHY. I believe the chairman of this committee included in the committee report last year, an expression along these lines.

Admiral RICKOVER. I think you did and I suggest it be reiterated. We are flooded with claims from contractors who just put in everything they can find, whether or not the Government is liable. They expect the Navy to point out the defects in their claims so that they can revise and resubmit them. The entire process is a great waste of time, and points up only too clearly how exaggerated these claims are.

USE OF PUBLIC LAW 85-804

Frankly, some contractors would like to have their claims settled by a Public Law 85-804 determination. It is easier and faster than going through the time-consuming claims process. But use of this authority presents problems. For example, if only some contractors are helped, what do you do when other defense contractors and subcontractors request extra-contractual relief? How can you support extra-

contractual payments to large conglomerates which are already reporting near record profits? How do you enforce future contracts once you have excused a contractor from his contractual obligations?

While the top Defense and Navy officials have the authority under Public Law 85-804 to make extra-contractual payments to contractors where they are warranted, those of us at the working level do not have that authority. We are required by the law to analyze each claim and to see that it is legally justified before payment, and that takes time. But then the shipbuilders complain to our seniors that we are slow in settling claims. Well, you can't have it both ways. Either claims are settled quickly without a thorough review, or they are given that review and handled over a longer period of time.

I said earlier in the hearing that the Navy is not allowed to hire outside lawyers to help fight the claims. This is one reason claims review takes so long. The shipbuilder has large numbers of people who are engaged in dredging up anything at all that they think can be made the basis of a claim. On the other side, we are not allowed to hire the people to fight these claims properly. Most of the work reviewing claims is done by the few technical people who are knowledgeable. This takes time away from their regular work. It is an impossible situation and I don't know why it is permitted to continue.

Mr. P. MURPHY. How much of this \$1.7 billion involves nuclear-powered ships?

Admiral RICKOVER. Before 1975, only a small fraction of the claims and appeals involved nuclear-powered ships. In the last 1½ years, however, most of the new claims have been filed against contracts for nuclear-powered ships.

Of the \$1.7 billion in shipbuilding claims and appeals, about \$1 billion involves nuclear-powered ships. However, since that figure was determined, another \$220 million in claims against nuclear ships have been submitted. An approximate up-to-date total would be \$1.9 billion in shipbuilding claims and appeals, of which \$1.2 billion involve nuclear-powered ships.

ADMIRAL RICKOVER'S POSITION ON CLAIMS

Mr. P. MURPHY. What position have you taken with your superiors in the handling of shipbuilding claims?

Admiral RICKOVER. I have consistently recommended to my superiors officially and in writing that claims be settled on a legal basis.

Mr. P. MURPHY. Could you supply for the record then whatever correspondence you have had with your superiors with respect to this claims problem?

Admiral RICKOVER. Yes, sir, I would be very glad to, although you may have to ask for the documents formally. I cannot supply the letters without higher approval, but as far as I am concerned, I will supply you the letters I have written on that subject. I have taken a firm stand that no money should be paid out by the Government unless it is actually owed to the contractor. I believe you will find that I have taken a firmer stand on that than anyone in the Navy.

[The information follows:]



DEPARTMENT OF THE NAVY
NAVAL SHIP SYSTEMS COMMAND
WASHINGTON, D. C. 20360

IN REPLY REFER TO

May 10, 1971

MEMORANDUM FOR THE GENERAL COUNSEL OF THE NAVY

Subject: Shipbuilder Claims

1. At a meeting on March 23, 1971, we discussed the problem of shipbuilder claims. I stated my concern that these claims had become a way of life in the shipbuilding industry; that shipbuilders are able to turn almost any contract into a cost-plus contract by simply submitting claims for change orders or for extra work beyond the requirements of the contract.
2. Subsequent to this meeting, the Deputy General Counsel sent me a copy of his July 22, 1969 memorandum which he had submitted to the Vice Chief of Naval Operations. In this memorandum he explained the position of the Office of General Counsel on shipbuilder claims. Also, I have reviewed General Accounting Office report of April 28, 1971, which criticized the Navy for not obtaining specific evidence to support shipbuilding claims settlements.
3. It is my opinion that neither the Navy nor the General Accounting Office has fully faced up to the claims problem, and that the Navy is not taking adequate or appropriate steps to exercise fiscal responsibility and to protect the government.
4. Here is the situation we face today as I see it:
 - a. Most of our major shipbuilding contracts are awarded sole-source or with only limited competition. Even in the recent SSN 688 class procurement where there was a fair degree of competition, the Navy is using incentive type contracts under which the Government assumes the major portion of the risk of cost overruns. In sum, there is little or no competition to keep prices down.
 - b. For many years shipbuilders have been operating on what is, in effect, a noncompetitive basis. There is, and has long been, no compulsion, no requirement for them to develop effective cost controls, procurement practices, or concern about the efficiency of their operations. Generally, the attitude in these shipyards is that costs cannot be controlled and they will end up to be whatever they turn out to be. Wasteful subcontracting practices,

inadequate cost controls, loafing, and production errors mean little to these contractors. They will make their profits whether the product is good or bad; whether the price is fair or whether it is higher than it should be; whether delivery is on time or late. Shipbuilders can let costs come out where they will and count on getting relief through changes and claims, relaxation of procurement regulations and laws, government loans, follow-on sole-source contracts, and other escape mechanisms. It necessarily follows that there is considerable inefficiency and waste in shipbuilding. In fact, current Department of Defense profit policies actually reward higher costs with higher profits and punish greater efficiency with lower profits.

c. Under current shipbuilding contracts the Government is highly vulnerable to claims. These contracts are built around detailed technical specifications which are necessary to assure essential military features. For various reasons, the Government itself furnishes many of the components and equipments which the shipbuilder is to install. The work extends over a long period of time, four to five years or more. Under these circumstances, changes are inevitable. Inevitably too, shipbuilders can find ambiguities or minor faults with specifications; the Government may be late in furnishing some of the components. A shipbuilder can always find some reason for increasing the price of the contract. Regardless of his inefficiency and no matter how high his costs, the shipbuilder can protect his profit by claims against the Government. In actual practice, the contract is binding on the Government alone, not on the shipbuilder.

d. Today many of our shipbuilders devote considerable efforts to establishing, early in their contracts, a basis for large claims to be submitted later. Some shipbuilders have set up sizeable permanent organizations whose sole purpose it is to develop claims against the Government. Every Government action is carefully screened to discover any possible basis for a claim. In some cases shipbuilders delay pricing of individual change orders in order to force negotiation of an overall settlement of several changes to which can be added large amounts of unsubstantiated costs for delay, disruption or other claims.

e. In preparing his claim, the shipbuilder assembles a team of experienced lawyers, accountants, and engineers—as many as are needed. The shipbuilder also engages the services of a law firm that specializes in prosecuting claims against the Government. The claims team develops a rationale for the claim and then puts together volumes of documents carefully selected to support the shipbuilder's contentions. The Government pays directly or in overhead as much as 90-98 percent of the shipbuilders' costs and expenses. Thus, the Government has placed itself into the position of paying almost the entire cost to the shipbuilder of making and prosecuting his claim against the Government.

f. In contrast to the shipbuilder's claims organization, the Government usually has but a small number of people knowledgeable in the details of the claim; fewer yet who are competent to defend against it. Government technical personnel can ill afford the time from their work that is required to analyze contractor claims thoroughly, to refute them or to separate valid from invalid claims. As a result most claims are being settled by bargaining, not by factual, legal or accounting determinations. In fact, many shipbuilders have made factual determination impossible, by simply not keeping adequate records. This, I believe, is why shipbuilders are adamant in refusing to maintain adequate accounting records which would show the actual costs of changes and of other work.

g. Once a claim is submitted, the shipbuilder and his claims lawyers press for a quick settlement, using their considerable influence in the Department of Defense, and threatening action before the Armed Services Board of Contract Appeals or the courts. Knowing that legal action to defend itself can consume years of effort by the few Government people available, who must meanwhile continue to handle their normal assignments, the Navy has been forced to resort to lump sum settlements and "handshake agreements" based on bargaining.

h. Since the shipbuilder knows his claim will be settled by bargaining on a lump sum basis, he is encouraged to exaggerate his claim so as to obtain as high a settlement as possible. As House Ways and Means Committee Chairman Mills once pointed out, industry negotiators sometimes plant a few Easter eggs in their proposals for Government negotiators to find. On finding them the latter score some points, but the farsighted contractor remains, as intended, ahead of the game.

5. To the extent shipbuilders get more than they should in claims settlements, the Navy is subsidizing inefficiency and undermining its own contracts. As long as shipbuilders know that the government will bail them out through changes and claims, it will be impossible to achieve effective cost control, improved efficiency, or lower costs.

6. Deputy Counsel's July 22, 1969 memorandum to the Vice Chief of Naval Operations stated his intent to put shipbuilder claims through a "legal wringer" to squeeze the water out of any that are not solid. This is essential. Any claim or part of a claim not solidly grounded in fact or in law, or not susceptible of factual determination should be disallowed. Items not clearly supported by factual records or not susceptible of factual determination should, if pursued by the shipbuilder, be settled by the courts, not by the Navy.

7. I realize that your office does not generate shipbuilding claims; that they arise out of actions by others. I also realize that it is not your job, but the job of others to eliminate practices which give rise to unfounded claims. It nevertheless appears to me that it devolves upon you as the Navy's legal officer to see to it that these claims are settled legally and properly, and without setting damaging precedent for the future. In this sense, your clients are the American public and those of us in the Navy who are charged with building ships at minimum cost. There always will be great pressures to settle claims quickly. These pressures militate against thorough review. The Navy, by failing to ensure adequate legal review has already set precedents damaging to future contracts.

8. In view of the above I recommend the following:

a. Government contracts should prohibit payment, directly or indirectly, of any costs associated with preparation or prosecution of claims against the Government. The Armed Services Procurement Regulation should be strengthened as necessary to implement this; and with no room for ambiguity, as is presently the case in many of its provisions.

b. Whenever it is necessary to augment its own resources for legal analysis and defense against claims of shipbuilders, the Office of General Counsel should obtain competent outside help—legal and technical. I understand that outside legal help was used in connection with the subsidence problem at the Long Beach Naval Shipyard. The use of outside legal firms to help the Government defend against claims would ease the burden on the small existing organization. It would serve to expedite the review and settlement process, and would provide for the thorough analysis required to settle claims on their merits.

c. The settlement of claims is principally a legal matter, not a contract negotiation. Therefore, the Office of General Counsel should establish a Review Board composed of qualified legal, accounting and technical experts to carefully review proposed claim settlements and to eliminate from them any items not clearly supported by factual determination of entitlement and amount. The elimination of unsubstantiated items from negotiated settlements would compel shipbuilders to keep proper records.

d. The Office of General Counsel should promulgate a list of contractors who frequently or repetitively make claims against the Government, or who submit excessive or unwarranted claims. Procuring agencies should give consideration to a contractor's claims record in awarding new contracts.

I believe the above steps would help to ensure that current claims are settled properly and that further degradation of the contractual relationship with our shipbuilders is avoided.

9. The Government and members of the shipbuilding industry have become mutually hostile groups in that the one desires a satisfactory product at a reasonable price while the other appears to desire the greatest price the traffic will bear. These antipathies will continue to the detriment of the shipbuilders and of the Government unless there is developed a self-disciplined manner of dealing with one another. What we need between these two hostile groups is the greatest courtesy and consideration. We need a moderation and mutual consideration in their behavior that is not evident today. Such mutual consideration cannot be achieved as long as these shipbuilders make it standard practice to use every possible stratagem against their Government: as long as they resort to dubious accounting practices; employ large number of lawyers and accountants whose sole objective is to prosecute claims against their Government; use the monopoly position and superior bargaining power they possess to take advantage of their Government's urgent needs by forcing costs as high as is possible. In short, operating on the basis that by these actions they have nothing to lose and everything to gain.

10. I know of no company that conducts its contracting business as loosely as the Navy does ~~its~~ shipbuilding. This loose way of doing business has now led to a situation where many officials of companies in overall charge of shipbuilding look on shipbuilding as a financial proposition, pure and simple. These officials hold their positions because of their financial acuity, their political contacts and ability to manipulate government contracts to their own advantage.

11. A degree of self-limitation is essential in all human behavior; a mutual self-limitation which represents tacit agreement on the rules of the game. This is essential to the survival of both business and Government and is within the bounds of practical possibility. This must be achieved as soon as possible.

H. G. Rickover
H. G. Rickover

Copy to:

Secretary of the Navy

Assistant Secretary of the Navy (Installations and Logistics)

Assistant Secretary of the Navy (Financial Management)

Chief of Naval Operations

Chief of Naval Material

Commander, Naval Ship Systems Command



DEPARTMENT OF THE NAVY
NAVAL SHIP SYSTEMS COMMAND
WASHINGTON, D C 20380

IN REPLY REFER TO

11 FEB 1972

MEMORANDUM FOR THE CHIEF OF NAVAL MATERIAL

Subject: Claims Procedures

Reference: (a) NAVMAT NOTICE 4200 dtd 11 Jan 1972
(b) My memorandum for the General Counsel of the Navy dtd
May 10, 1971 subj: Shipbuilder Claims

1. I have just learned of the new procedures established by reference (a) for handling contractor claims against the Navy. I am concerned because these new procedures appear to be a step in the wrong direction, particularly for the large complex shipbuilding claims we are encountering today.
2. The new procedures provide for settlement of contract claims at the "lowest possible level in the contracting framework." Claims of \$10 million or more are subject to review by a General Board consisting of selected senior flag officers in the Naval Material Command and the Office of the Chief of Naval Operations. This General Board is to be assisted by a Claims Board composed of "procurement executives" designated by COMNAVSHIPS, COMNAVAIR, COMNAVORD and COMNAVELEX. Presumably, assignment to the Claims Board is in addition to each procurement executive's normal full-time job. Reference (a) further provides that a Navy Deputy General Counsel will be an adviser to but not a member of the Claims Board.
3. I consider a number of things to be wrong with this approach.
 - a. First, the new procedures make claims settlements a routine contract matter. Yet these claims, by their very nature, go beyond routine contract actions and therefore should be accorded special handling. Routine settlement of claims as an ordinary contracting matter will encourage more claims and will tend to undermine our contractual relations.
 - b. These claims usually involve complex questions of fact and of law; to properly resolve these matters requires both special expertise and legal training. My experience over a period of many years is that most Navy contracting officers and procurement executives are not adequately trained or experienced to analyze and settle these large claims. Further, few flag officers possess the training, background, experience and judgment to deal with such claims; even fewer have the time to do so.
 - c. The settlement of claims, particularly large complex claims against the Government is principally a legal matter, not a contract negotiation. The Navy should not pay any claim or part of a claim that is not solidly grounded in fact or in law. Any claim not susceptible of factual determination should be rejected. Items not clearly supported by factual records or not susceptible of factual determination should, if pressed by contractors, be settled by the courts, not by the Navy.

4. In reference (b) I pointed out that our contractors are exerting considerable effort to establish, early in their contracts, claims against the Government. Some contractors have set up large organizations with experienced lawyers, accountants and engineers — as many as are needed — to develop claims against the Government. Often, they also engage outside claims experts in the legal profession to guide and assist them. The Government has no comparable body of talent to defend itself against these claims.

5. In reference (b) I also pointed out that to the extent contractors get more than they should in claims settlements, the Navy is not only subsidizing inefficiency but also undermining its own contracts. As long as contractors believe that the Government will bail them out through changes and claims, it will not be possible to achieve effective cost control, efficiency, or lower costs.

6. I would like to reiterate my recommendations in reference (b) for handling major claims against the Government:

a. I would assign primary responsibility to the Office of the General Counsel.

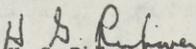
b. The Office of General Counsel should establish a Review Board composed of qualified legal, accounting and technical experts to carefully review proposed claim settlements and to eliminate from them any items not clearly supported by factual determination of entitlement and amount. The elimination of unsubstantiated items from negotiated settlements would compel contractors to keep proper records.

c. Whenever it is necessary to augment its own resources for legal analysis and defense against contractor claims, the Office of General Counsel should obtain competent outside help — legal and technical. The use of outside legal firms to help the Government defend against claims would ease the burden on the small existing organizations. It would serve to expedite the review and settlement process, and would provide for the thorough analysis required to settle claims on their merits.

d. Government contracts should prohibit payment, directly or indirectly, of any costs associated with preparation or prosecution of claims against the Government. The Armed Services Procurement Regulation should be strengthened as necessary to implement this; and with no room for ambiguity, as is presently the case in many of its provisions.

e. The Office of General Counsel should promulgate a list of contractors who frequently or repetitively make claims against the Government, or who submit excessive or unwarranted claims. Procurement agencies should give consideration to a contractor's claims record in awarding new contracts.

7. I know of your strong desire to improve Navy procurement. I trust you will give full consideration to my recommendations. We must have procedures that will ensure that all claim settlements are adequately supported, factually and legally.


H. G. Rickover

Copy to:
Assistant Secretary of the Navy
(Installations and Logistics)
General Counsel of the Navy
Commander, Naval Ship Systems Command



DEPARTMENT OF THE NAVY
NAVAL SHIP SYSTEMS COMMAND
WASHINGTON, D. C. 20380

IN REPLY REFER TO

08H-558

9 AUG 1972

MEMORANDUM FOR THE CHIEF OF NAVAL MATERIAL

- Subj: Recommendations for improving Navy claims procedures based on experience gained from Litton Systems, Incorporated, Ingalls Nuclear Shipbuilding Division, claim against the Navy under Contract N00024-68-C-0342 for construction of SSN's 680, 682, and 683
- Ref: (a) My memorandum dtd 19 Jul 1972 for the Chief of Naval Material; subj: Ingalls Nuclear Shipbuilding Division, Litton Systems, Inc., claim against the Navy under N00024-68-C-0342 for construction of SSN's 680, 682, and 683 with encl (1) thereto
- Encl: (1) My memorandum dtd 10 May 1971 for the General Counsel of the Navy; subj: Shipbuilder claims
(2) My memorandum dtd 11 Feb 1972 for the Chief of Naval Material; subj: Claims procedures
1. As you are aware, I have been concerned about the Navy's claims processing procedures for some time. In enclosures (1) and (2), I made recommendations for handling major claims against the Government. The purpose of this memorandum is to amplify these recommendations based on my experience with the subject Litton claim.
 2. By reference (a) I advised you of the facts surrounding Litton's claim, and of the difficulties the Navy has encountered during the past year and a half in trying to evaluate it. Since December 1969 Litton submitted five different versions of this claim. The claim itself consisted of many smaller claims, each of which NAVSHIPS had to research and evaluate. Often after NAVSHIPS obtained facts which tended to disprove a particular item in the claim, Litton would withdraw that item and substitute another in its place. NAVSHIPS then had to conduct another evaluation. This repetitive submission and evaluation of Litton claim proposals has added substantially to the time required for the NAVSHIPS evaluation.
 3. The data Litton provided to support its claim was incomplete and often unreliable. The company omitted data that did not support its claim. It was up to NAVSHIPS to collect relevant information and to piece together a balanced view of the facts. In this regard, NAVSHIPS had to rely mostly on contractor files because NAVSHIPS itself does not have a systematic method of collecting and recording significant data concerning contract performance.

4. After many man years of effort by NAVSHIPS technical, project, contract, and legal personnel, NAVSHIPS was able to reconstruct, with reasonable accuracy, what actually happened. The NAVSHIPS evaluation showed that the Government was liable for only about \$4 - \$7 million of the \$37 million claimed by Litton. Litton had experienced a large cost overrun on the contract and, through its claims, was trying to pass the entire overrun to the Government.

5. The Litton claim read convincingly. But after NAVSHIPS had carefully reconstructed the facts it became obvious that the claim was greatly exaggerated. For example:

a. Litton claimed that late Government-furnished steel disrupted hull construction and eventually delayed ship deliveries by six months. In fact, steel work on the pacing items was completed essentially in accordance with Litton's schedules. Moreover, Litton's own weekly production reports showed that construction was proceeding smoothly.

b. Litton claimed that submarine hull sections had to be subcontracted due to late Government-furnished steel. Yet Litton's own documents prepared at the time the hull sections were subcontracted stated that the reason for subcontracting was a shortage of skilled manpower at the shipyard.

c. In its fifth claim submittal, Litton introduced a new \$4.6 million item entitled "Escalation in Excess of Total Estimated Escalation Payments to be Made Under Article 16 (proposed)". This item turned out to be simply a "plug figure" to keep the claim at about \$37 million, after Litton had to drop other claim items that had been discredited during the NAVSHIPS evaluation. The Government auditor found there was no support for the item.

6. Litton was unwilling to negotiate the claim on an item-by-item basis. During the negotiation sessions, NAVSHIPS presented its evaluation of the claim and invited Litton to point out any errors in the NAVSHIPS analysis. Litton disagreed in general with the NAVSHIPS conclusions but provided no evidence to refute them. The company's approach seemed to be that it had spent the money claimed and it was up to the Navy to reimburse Litton, whether or not the company could demonstrate legal entitlement to the money. The company said that if NAVSHIPS would not agree to virtually the full \$37 million claim, Litton would pursue settlement through other channels — presumably with higher level Navy officials.

7. Faced with Litton's continuing intransigence, NAVSHIPS was forced to issue a formal contracting officer's decision; Litton may appeal this decision, if it so chooses, to the Armed Services Board of Contract Appeals. If Litton does appeal, NAVSHIPS will have to spend many more man years of effort defending itself against this one \$37 million claim. Considering that the Navy's current claim backlog is about \$1.2 billion, we must streamline our claim processing procedures or most of NAVSHIPS' manpower will be consumed in claims work.

8. Our experience with the Litton claim shows that a contractor today holds the upper hand in the claims process. He has it in his power to make it impossible for the Navy to evaluate the claim. By changing items in the claim after the Navy has evaluated them, he can make the Navy spend months or even years in the evaluation process. He can make it difficult for the Navy to determine the facts. He can exaggerate his claims with impunity and with no penalty. Capitalizing on the resulting delays, he can exert political pressure to arrive at a favorable lump-sum settlement at higher management levels in the Navy, where the details of the claim are not known or understood. The Navy is then constantly placed on the defensive.

9. In order to improve its handling of shipbuilder claims, NAVSHIPS has gone into great detail to determine the contractor's specific legal entitlement and cost of each element of a claim. By following this procedure on Litton's SSN and AE claims, NAVSHIPS determined that only a small fraction of each claim was valid. However, NAVSHIPS cannot continue to apply so much effort on shipbuilding claims and still carry out its primary functions. The rules must be tightened so that the Navy can have ready access to relevant facts, so as not to be compelled to waste large amounts of time trying to evaluate claims that are not properly documented by the shipbuilder. Such access would produce a more prompt and equitable resolution of claims.

10. My specific recommendations are:

a. The Navy should reject promptly claims that are not adequately supported and documented. Contractors should be required to relate specific dollar amounts with individual items of a claim so that each item can be evaluated and settled on its merits. Contractors who repetitively submit unfounded or unwarranted claims, or those who frustrate the claims process by changing the basis of the claim during evaluation, should not be considered for future business when other viable sources are available.

b. The senior company official in charge at the plant or location involved should be required to certify, upon first submittal of a claim, that he has personally reviewed the claim and all supporting data, and that the information contained therein is current, complete, and accurate. Moreover, he should also certify that all information bearing on the claim, whether or not it is favorable to the company's position, has been disclosed. The Navy should prosecute the offenders in any case where a certification is erroneous.

c. The contractor should be required to differentiate between factual and judgmental data in his claim. Factual statements should be keyed to the specific supporting documents to facilitate evaluation.

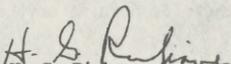
d. Field contract administration offices should be required to maintain a daily record of significant events occurring during the life of each contract. The record should be supplemented by photographs, references to key documents, or other information as necessary to ensure a complete and independent record of contractor performance in the event of subsequent claims.

11. By requiring full and accurate disclosure of relevant facts the Navy would be better able to dispose of contractor claims promptly and equitably. Where agreements cannot be reached despite full disclosure of the facts, the Navy should make its determination and then let the matter be handled within the legal mechanism that was specifically designed and set up to deal with such disputes.

12. With regard to shipbuilder claims, we have become thoroughly trapped in a system of our own creation in which a contract entered into by the Navy is no longer a "meeting of the minds" but has become a license for the contractor to use every means he can devise to achieve his predetermined profit goals -- regardless of his actual performance. Our contractors have fully developed the concept that they are no longer bound by the contracts they freely entered into. And, in fact, they are not so bound since they are able to deal on an informal basis with high officials who are not familiar with the facts nor legally responsible for the contract. I submit that under these conditions there is no real contract in the traditional, legal, or moral sense of the term.

13. It is wrong to imagine that the system is better than its officials and that things will work out for the better no matter how our officials conduct themselves. I recommend that we go back to dealing with our contractors in the traditional legal and moral manner. We should require our contractors to deal with those who have been assigned responsibility for our contracts. We should establish rigid rules in accordance with the recommendations listed above for processing contractor claims. The machinery for this manner of dealing is legal and is available; it does not need or require informal interpretation on the part of those who are not themselves responsible for the contract.

14. I would appreciate being informed of what action you take with regard to my recommendations.


H. G. Rickover

Copy to:
Commander, Naval Ship Systems Command



DEPARTMENT OF THE NAVY
 NAVAL SHIP SYSTEMS COMMAND
 WASHINGTON, D. C. 20360

IN REPLY REFER TO
 08H-582

11 DEC 1972

MEMORANDUM FOR THE CHIEF OF NAVAL MATERIAL

Subj: Recommendations for improving Navy claims procedures based on experience gained from Litton Systems, Incorporated, Ingalls Nuclear Shipbuilding Division, claim against the Navy under contract N00024-68-C-0342 for construction of SSN's 680, 682, and 683

Ref: (a) My memorandum dtd 11 Feb 1972 for the Chief of Naval Material, subj: Claims Procedures
 (b) My memorandum dtd 9 Aug 72 for the Chief of Naval Material, same subject
 (c) My memorandum dtd 19 July 1972 for the Chief of Naval Material, subj: Ingalls Nuclear Shipbuilding Division, Litton Systems, Inc., claim against the Navy under N00024-68-C-0342 for construction of SSN's 680, 682, and 683 with encl (1) thereto
 (d) Your memorandum of October 5, 1972, same subject

Encl: (1) Actions to be taken by the Supervisor of Shipbuilding, Pascagoula regarding Claims and Claim Prevention

1. In references (a) and (b) I made recommendations for handling major claims against the government. In reference (c) I amplified those recommendations based on my experience with the subject Litton submarine claim. Reference (d) was your response to reference (c).

2. Reference (d) stated general agreement with the thrust of my recommendations and then commented on each of them. However, there are several points that I believe can and should be clarified with regard to reference (d). These are identified below:

a. I recommended that the Navy reject promptly claims that are not adequately supported and documented. Reference (d) enclosed a CNM policy statement which establishes criteria for rejecting claims submitted on a "total cost" or "total time" approach. However, some major claims inadequately supported by the contractor, do not fall into the "total cost" or "total time" category. Therefore, I recommend that your policy statement be expanded to require rejection of all claims that are not adequately supported and documented.

b. I recommended that contractors who repeatedly submit unfounded claims not be considered for future business. Reference (d) states that when it is determined that existing statutes or regulations have been violated vigorous action should be taken. I believe it is a mistake for the Navy to continue to do business with contractors who submit unfounded

claims even if such action does not violate existing statutes or regulations. I recommend that, as a minimum, a contractor's past poor record in the claims area be treated as a negative factor in evaluating that company's proposals for future business.

c. I recommended that the senior company official in charge of the plant or location involved be required to identify, upon submittal of the claim that he has personally reviewed the claim and all supporting data and that the information contained therein is current, complete and accurate. Further, I recommended that he also certify that all information in the company's custody or control, bearing on the claim, whether or not it is favorable to the company's position, has been disclosed. Reference (d) states that the thrust of my recommendation is already provided in certain statutory remedies including the Truth-in-Negotiations Act. However, it is my view that the Navy's procedures need to be strengthened to make the most out of current statutory remedies and to discourage the submittal of inflated and exaggerated claims. The Navy does not currently require that cost and pricing data be certified by top management and does not require certification until after negotiations are complete. When an item in the claim is challenged by Navy negotiators, the contractor frequently substitutes another in its place. Some contractors seem to set predetermined dollar targets for their subordinates and this encourages exaggeration and inflation in claims.

It would help curtail this practice if the Navy would require the senior company official in charge of the plant or location involved to certify personally the validity of the claim and the accuracy and completeness of the supporting data so that he, rather than his subordinates, would bear the penalty of false statements. Also, as I previously recommended, the certification should be submitted at time of claim submission, rather than after final agreement has been reached. In this way government personnel would not have to waste their time evaluating information which has not been thoroughly checked and certified by senior contractor management. Moreover, the contractor should certify that all information relating to the claim, not just data favorable to his position, has been disclosed. I think you would find fewer cases of inflated or unsupported claims if my recommendations in this area were adopted.

d. I recommended that contractors be required to differentiate between factual and judgmental data in their claims and that factual statements should be keyed to specific supporting documents. Reference (d) agrees with this recommendation and stated that the matter would be referred to the ASPR Committee. My experience has been that the ASPR Committee infrequently acts with dispatch. I recommend that you implement this requirement for Navy contracts while the ASPR Committee is deliberating.

e. I recommended that field contract administration offices be required to maintain a daily record of significant events occurring during the life of each contract. The record should be supplemented by photographs, references to key documents and personnel, and other information necessary to insure a complete and independent record of contractor performance in the event of subsequent claims. Reference (d) agrees with this recommendation and states that this will be directed by a Navy Procurement Directive and other means. At this time I do not believe that any formal instructions have been issued or that any action has been implemented at the field level, although I believe there has been general agreement among Navy officials on this matter for several years. In the absence of such directives, I met recently with the Supervisor of Shipbuilding, Pascagoula, and in one morning we worked out an agreement on the procedures he should follow to better protect the government against claims by Litton. Enclosure (1) is a copy of this agreement. NAVSHIPS procurement and contract administration officials approved these arrangements that same day. The need to start documenting contract performance is important and urgent. I recommend that we accelerate our efforts to establish overall guidance in this area throughout the Navy.

3. In summary, I recommend that the Navy:

a. Promptly reject inadequately supported or documented claims. The policy enunciated in enclosure (1) to reference (d) should be made applicable to all claims, and not limited to claims submitted on a "total cost" or "total time" basis.

b. Treat as a negative factor in evaluating a company's proposal for future business, a record of repeatedly submitting large, unfounded claims or a course of conduct designed to frustrate the settlement of claims.

c. Require the senior company official in charge of the plant or location to certify at the time of claim submission that (1) he has personally reviewed the claim and all the supporting data, (2) the data is current, complete and accurate, and (3) all information bearing on the claim within the company's custody or control has been disclosed, whether or not it is favorable to the company's position.

d. Implement within the Navy, pending ASPR action, the decision to require contractors to differentiate between factual data and judgment in their claims and to key facts to specific supporting documents.

e. Immediately implement the decision to require field contract administration offices to maintain a daily record of significant events occurring during the life of the contract; this should be supplemented by photographs, references to key documents and personnel, and other appertaining information.

4. I expect that in the future we will see more, not less, claims activity. Our procedures for handling these claims should, therefore, be strengthened without delay to help put the Navy in the best possible position to defend itself against unwarranted and unfounded claims and to discourage submittal of such claims.

5. I would appreciate being informed of what action you take with regard to my recommendations.


H. G. Rickover

Copy to:
Assistant Secretary of the Navy
(Installations & Logistics)
Commander, Naval Ship Systems Command
Office of General Counsel



DEPARTMENT OF THE NAVY
NAVAL SHIP SYSTEMS COMMAND
WASHINGTON, D. C. 20360

IN REPLY REFER TO
0811-2017

2 2 MAR 1973

MEMORANDUM FOR THE CHIEF OF NAVAL MATERIAL

Subj: Recommendations for Improving Navy Claims Procedures

- Ref: (a) My memorandum dtd 9 Aug 72 for the Chief of Naval Material, subj: Recommendations for improving Navy claims procedures based on experience gained from Litton Systems, Incorporated, Ingalls Nuclear Shipbuilding Division, claim against the Navy under contract N00024-68-C-0342 for construction of SSN's 680, 682, and 683
- (b) My memorandum dtd 11 Dec 72 for the Chief of Naval Material, same subject
- (c) Your memorandum of Oct 5, 72, same subject
- (d) Your memorandum dtd Jan 19, 73, subj: Recommendations for Improving Navy Claims Procedures
- (e) My memorandum dtd 19 Jul 72 for the Chief of Naval Material, subj: Ingalls Nuclear Shipbuilding Division, Litton Systems, Inc., claim against the Navy under N00024-68-C-0342 for construction of SSN's 680, 682, and 683 with encl (1) thereto

1. In references (a) and (b) I recommended specific actions to improve Navy claims procedures. In reference (c), you concurred in the thrust of those recommendations and, by reference (d), you forwarded enclosures implementing them. Since you and the Assistant Secretary of the Navy (Installations and Logistics) have expressed approval of these recommendations, I am concerned because the implementation of one of them is so wide of the mark as to constitute no improvement at all.

2. This recommendation as originally presented in reference (a), reads:

"The senior company official in charge at the plant or location involved should be required to certify, upon first submittal of a claim, that he has personally reviewed the claim and all supporting data, and that the information contained therein is current, complete and accurate. Moreover, he should also certify that all information bearing on the claim, whether or not it is favorable to the company's position, has been disclosed. The Navy should prosecute the offenders in any case where a certification is erroneous."

3. The Navy's implementation of this recommendation reads:

"c. The Navy should require, at the time of initial submission of a claim, that a responsible senior official authorized to commit the company submit an affidavit representing, to the best of his knowledge and belief, that --

- i. company employees and officials have thoroughly investigated the facts surrounding the claim, and
- ii. the conclusions drawn from discovered facts reasonably and accurately reflect the material damages or contract adjustments for which the Navy is allegedly liable."

This procedure will have little or no effect in stopping the difficulties being encountered. Worse yet, it palliates serious problems rather than cures them,

4. The above procedure is deficient in the following ways:

- a. The senior management official should sign the certificate rather than one of his subordinates.

- b. The certificate should assure that all data bearing on the claim, whether or not favorable to the company's position, has been disclosed and that the data is accurate, complete and current. The affidavit requires none of this.

In short, the implementation does not elicit the right assurances from the right man. Even if the affidavit, as written, were demonstrably false and even fraudulent, it is hard to see how it could be the basis of a lawsuit; if there is no creditable threat of court action, how does such an affidavit provide any incentive for the senior corporate official to ensure that data presented is accurate, complete and current?

5. My reasons for recommending that the Navy obtain a proper certificate on claim submittals were given in reference (b):

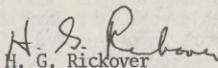
"The Navy does not currently require that cost and pricing data be certified by top management and does not require certification until after negotiations are complete. When an item in the claim is challenged by Navy negotiators, the contractor frequently substitutes another in its place. Some contractors seem to set predetermined dollar targets for their subordinates and this encourages exaggeration and inflation in claims. It would help curtail this practice if the Navy would require the senior company official in charge of the plant or location involved to certify personally the validity of the claim and the accuracy and completeness of the supporting data so that he, rather than his subordinates, would bear the penalty of false statements. Also, as I previously recommended, the certification should be submitted at time of claim submission, rather than after final agreement has been reached. In this way government personnel would not have to waste their time evaluating information which has not been thoroughly checked and certified by senior contractor management. Moreover, the contractor should certify that all information relating to the claim, not just data favorable to his position, has been disclosed. I think you would find fewer cases of inflated or unsupported claims if my recommendations in this area were adopted."

6. I consider that obtaining a proper certification of contractor claim submittals would be an important step in getting accurate, complete and current information in a timely fashion so that claims may be processed in a logical and efficient manner. It is extremely wasteful for Government personnel to review submission after submission while the contractor changes the facts, slanting some, failing to disclose others, and only signing the Truth-in-Negotiations certificate after the claim has been negotiated to settlement--sometimes after years of submissions and re-submissions. The Litton claim against the Navy for construction of SSN's 680, 682 and 683, which I summarized in reference (e), is a good example of such a case. The Government needs the assurance that accurate, complete and current data has been submitted by the contractor when the Government's team begins work on a claim, as well as at the conclusion of negotiations.

7. I recognize that ASPR policy is to obtain only one certificate under P.L. 87-653--at the end of negotiations. It was not always this way, and I recommend that in major claims (those in excess of \$1 million) we require an appropriate certificate as recommended above with the initial submission and at the conclusion of negotiations.

8. I recommend that paragraph 4.c of NAVMAT NOTICE 4200 be rewritten and that ASPR 3-807.4 be changed as appropriate.

9. I would appreciate being informed of what action you take with regard to my recommendations.


H. G. Rickover

Copy to:
Assistant Secretary of the Navy
(Installations and Logistics)
Commander, Naval Ship Systems Command
Office of the General Counsel



DEPARTMENT OF THE NAVY
NAVAL SHIP SYSTEMS COMMAND
WASHINGTON, D. C. 20360

IN REPLY REFER TO
08H-2042

14 JUN 1973

MEMORANDUM FOR THE CHIEF OF NAVAL MATERIAL

Subj: Obtaining outside assistance in defending against shipbuilder claims

1. On March 26, 1973, senior officials from the Naval Material Command, the Office of General Counsel, and the Naval Ship Systems Command, met with you to discuss how the Navy could better deal with its large backlog of contractor claims. You expressed concern at the large Navy backlog of shipbuilding claims, the likelihood of having to cancel ships if the Navy cannot successfully defend itself against these claims, and the substantial time and effort of key Navy officials being consumed by these claims to the detriment of other Navy work. You asked for recommendations.
2. I recommended that the Navy contract with outside firms who could assist the Navy in preparing its defense against these claims. I am convinced that the Navy cannot devote sufficient time, effort and talent to handle the claims properly and still carry out its primary functions. By contracting for this work, the Navy would be in a better position to see that the claims work is prosecuted by specialists on a coordinated and full time basis. The various claims cross so many organizations within the Navy that their evaluation is cumbersome and responsibility is diluted.
3. I recognize that what I am suggesting is different from the way Government agencies have typically handled these problems. However, the Government has never before been faced with anything approaching the magnitude and complexity of the shipbuilding claims that are being presented against the Navy today. When private companies are confronted with extensive litigation, they generally hire outside counsel even when they have attorneys on their staffs. In this way they can obtain the services of specialists and additional people to handle peak workloads and litigation without disrupting on-going work. But I am proposing something broader than just hiring outside attorneys.
4. A professional group of outside lawyers, technical personnel and procurement experts working full time could develop the capability to do much of the claims evaluation work better than it is being done today. This is not to say that Government employees are less intelligent than contractor personnel; it is just that they are overloaded and hampered by the system. In my own case, I found I had to go outside Government and procure nuclear design and manufacturing work from private industry. Only in that way have I been able to focus responsibility properly and direct the work. I believe the same benefits could accrue for the Navy if it subcontracted claims work. The Government would, of course, continue to guide the work, make the final decisions and, if necessary, present its own case in court.

5. The General Counsel disagrees with this approach and recommends hiring more Government lawyers to handle claims. After investigating the matter, he reported to you by memorandum dated April 12, 1973, that no one in the Navy has authority to hire outside counsel to handle claims asserted by contractors. He further stated that the Navy would get more for its money by hiring Government lawyers than it would by contracting with outside firms; that there are statutory restrictions regarding the hiring of outside counsel to represent the Government in litigation; that these restrictions could be construed as applying to claims prior to the institution of court action; and that statutory restrictions would effectively limit the pay of consultants to the Federal salary scale. He recommended that alternative solutions be explored in order to achieve adequate legal staffing within the Navy.

6. It is not apparent to me from the General Counsel's memorandum that all possibilities of getting outside assistance have been explored and are foreclosed by existing statutes. For example:

a. His memorandum gives the impression that outside assistance would have to be handled as a consulting arrangement where employees could not be paid more than Government employees. However, in other areas, the Department of Defense has been able to contract with consulting firms or other outside groups, such as the Logistics Management Institute, for specific jobs without limiting salaries to the Federal salary schedule. If these arrangements can be justified, it is not apparent to me why contracts for the preparation of legal and technical analyses, briefs and recommendations for the Government in the area of shipbuilding claims would run afoul of statutory restrictions on the hiring of consultants.

b. His memorandum addresses the legal problems involved with hiring outside counsel to represent the Government in a court of law. It states that in such cases, the attorney would have to be designated a Special Assistant Attorney General, and his compensation would be limited by law to \$12,000. The memorandum does not say that the Attorney General is precluded from obtaining outside assistance when a Government attorney tries the case.

c. His memorandum states that the law could be construed to preclude contracting out for assistance in connection with claims because no court has ruled otherwise. The phrasing of this conclusion implies that the opposite construction is also possible.

7. Based on the above, I urge that the Navy make every effort to obtain outside assistance in working off the current claims backlog. In this regard I recommend the following:

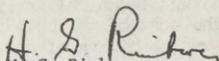
a. The Navy should request a formal ruling from the Comptroller General as to the legality of a Navy contract with an outside firm for the purpose of analyzing specific claims, gathering data, preparing recommendations and the like. The contract would provide for technical and procurement support as well as legal assistance.

b. In the event the Comptroller General rules there is no legal way the Navy can obtain such assistance under contract, the Navy should request assistance from the Attorney General under Section 364 of the Department of Justice Act which, according to the General Counsel's memorandum, provides as follows:

"Whenever the Head of a Department or Bureau gives the Attorney due notice that the interest of the United States require the service of counsel upon the examination of witnesses touching any claim, or upon the legal investigation of any claim, pending in such Department or Bureau, the Attorney General shall provide such service,"

c. If the Attorney General concludes he is barred by statute from contracting for the requisite assistance, the Navy should propose appropriate legislation to permit such arrangements.

8. I would appreciate being advised of what action you take in this matter.


H. G. Rickover

Copy to:
Assistant Secretary of the Navy
(Installations and Logistics)
The General Counsel of the Navy
Commander, Naval Ship Systems Command



DEPARTMENT OF THE NAVY
NAVAL SHIP SYSTEMS COMMAND
WASHINGTON, D.C. 20382

IN REPLY REFER TO
08H-708

2 0 FEB 1974

MEMORANDUM FOR CHIEF OF NAVAL MATERIAL

Subj: Shipbuilding Claims

Ref: (a) NAVSHIPS Counsel Point Paper entitled "Shipbuilding Claims and Their Evaluation by the Navy," Ser 58 dtd 7 Feb 1974
(b) My Memorandum for CNM, Ser 08H-2042 dtd 14 June 1973

1. Reference (a) was prepared in response to a Deputy Secretary of Defense question as to whether the techniques used by NAVSHIPS for evaluating and resolving major shipbuilding claims are unnecessarily demanding and time-consuming and whether there are ways of simplifying the process, particularly with regard to evaluating delay and disruption claims. The purpose of this memorandum is to set forth my views which differ in several respects from those expressed in reference (a).
2. Reference (a) states that the claims problem results from contractor losses on shipbuilding contracts awarded during the past fifteen years and attributes these losses to matters over which the shipbuilders have no control; e.g. war, inflation, depletion of manpower, or Navy insistence on procurement by formal advertising. It leaves the impression that the shipyards have been victimized by economic events beyond the shipbuilders' control, but non-compensable under Navy contracts. Shipbuilders and their claims lawyers have been advocating this argument for years. I do not agree with it.
3. Other defense contractors have operated profitably under long term, fixed priced contracts in the face of the same wars, inflation, manpower shortages, and Department of Defense procurement policies, without resorting to claims. In the case of inflation, shipbuilders have an advantage over other defense contractors because shipbuilding contracts include a special escalation clause which increases the contract price in direct relation to increases in labor and material price indices. Moreover, no one, to my knowledge, has ever forced a shipbuilder to accept a contract. By entering into these contracts, shipbuilders have agreed to take the risks involved. Either they expected at the time of contract award to make a profit, or they engaged in a "buy in." In any event, the responsibility should not lie with the Government or its procurement policies if a contractor subsequently loses money.
4. In my opinion, the major reason for losses under shipbuilding contracts is poor shipyard management. During the past five years I have made formal reports of deficiencies in nearly all aspects of shipyard operations. The

following are typical of the problems I have pointed out which cause cost overruns, losses, or low profits at various shipyards: Ineffective cost controls and cost reporting systems; costs not related to progress in a manner that identifies potential overruns in time to take corrective action; subcontract procurements not managed in a business-like manner; excessive sole source subcontract procurements; superficial negotiations of subcontracts; poor productivity including widespread idleness and loafing; inadequate material controls; overtime not properly controlled; ineffective internal audit systems; excessive overhead costs. It is the responsibility of shipyard management to control these problems.

5. By and large private shipyards today are run, in effect, not by technical managers or experienced shipbuilders, but by legal, financial, and contract experts. These men are skilled in dealing with the Government, and proficient in public relations and "creative accounting." In general, they are not interested in the quality of ships or the difficult problems of production; they are interested in making money. Naturally, every company is in business to make a profit. But with the takeover of the shipbuilding industry by conglomerates, achievement of profit objectives transcends all else. Today, many top shipyard managers find that it is more profitable to let costs come out where they will, and count on getting relief through changes and claims; relaxation of procurement regulations and laws; Government loans; follow-on sole source contracts; and other escape mechanisms. As a result, shipbuilding has become largely a financial game.

6. Regarding the Deputy Secretary of Defense's question whether the techniques used by NAVSHIPS for evaluating and resolving major shipbuilding claims are unnecessarily demanding and time-consuming, I would answer yes. It is unnecessarily demanding because contractors can submit, revise and resubmit claims to the Navy, the Armed Services Board of Contract Appeals and the courts in an effort to recover some predetermined amount. It will continue to be unnecessarily time-consuming as long as the Navy must rely for claims defense work primarily on people who are inexperienced in evaluating claims, who are responsible for other ongoing work, and who receive little effective help or guidance in their claims evaluation efforts.

7. At the end of 1973, some 74 shipbuilding claims were pending either in NAVSHIPS or before the Armed Services Board of Contract Appeals. These claims totalled roughly \$1.3 billion, about \$350 million more than in 1972. I am particularly familiar with one of these claims--Litton's claim on the SSN 680, 682, and 683 ship construction contract. It illustrates what we are up against. Since November 1970, Litton submitted 5 different versions of this same claim prior to the Contracting Officer's decision, restructured the claim once more in its appeal to the Armed Services Board

of Contract Appeals, and then even revised it again during the Board's hearing. Each revision required extensive analysis and evaluation by Government personnel whose experience and primary responsibilities generally were in fields other than claims. This claim has consumed thousands of manhours of effort by technical, project, contract and legal personnel in the Navy--at the expense of important ongoing work. The Armed Services Board of Contract Appeals is still conducting hearings on this case. Even if the Navy gets a favorable ruling by the Board, the Contractor may elect to take the case to a federal court. Thus the end is not even in sight.

8. The claims litigation circuit is inherently time-consuming. A contractor has no incentive to drop a claim as long as he anticipates receiving enough additional money on appeal to cover his litigation costs. Usually he can collect what he wins at each level. If the contractor persists long enough, the Government may eventually agree to a higher settlement to escape the nuisance of further litigation. Moreover, at each higher level of appeal, there is less familiarity with the details and therefore more likelihood of a compromise decision. Since the Government does not appeal adverse decisions of the Armed Services Board of Contract Appeals, anything the contractor wins there, is his to keep. So he risks little or nothing and has everything to gain by continuing to prosecute a claim.

9. In my opinion, the Navy's claims effort to date, although substantial, has not been adequate to meet the problem. In an attempt to defend better against claims, the Office of the General Counsel established a separate Contract Appeals Division to handle cases before the Armed Services Board of Contract Appeals. NAVSHIPS established a special claims evaluation group at Pascagoula to work on Litton claims. In December 1973 the special claims group at Pascagoula alone had about 70 people, 40 clerical and 30 professional. Most of the 30 professionals were SUPSHIP employees, temporarily detailed to the claims group, who had little or no expertise in evaluating claims. Because many assignments to the claims group are temporary and turnover is high, little permanent capability has been developed for future claims. In addition there has been a lack of coordination among the Pascagoula claims evaluation group, the Contract Appeals Division, and NAVSHIPS project, contract, legal, and technical personnel. As a result, NAVSHIPS technical and project personnel inexperienced in claims matters have had to formulate much of the substance and strategy of the Navy's case for the SSN 680 claim both before and during the trial. Because the Government people working on the claims are neither experienced nor well directed, much of their work has been unproductive.

10. Despite shortcomings in the Navy's handling of the SSN 680, 682, and 683 claim, that claim probably has received far more attention and effort than many larger claims in the Navy's \$1.3 billion backlog. It is obvious to me that the Navy cannot sustain a comparable effort on the 73 other unresolved claims without effectively destroying our ability to build and maintain ships.

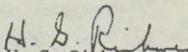
11. In March, 1973 you called a meeting of senior Navy procurement, technical and legal officials and expressed concern at the large backlog of Navy shipbuilding claims, the amount of effort required of key Navy personnel to process these claims, and the likelihood of having to cancel ships if the Navy could not successfully defend itself against these claims. I recommended then that the Navy concentrate on developing a professional group of outside lawyers, technical personnel, and procurement experts, who could work full time on claims evaluation and case preparation for the Navy. The Navy General Counsel at that time, Mr. Mankin, was convinced that the problem could be solved by hiring more Government lawyers and subsequently wrote a memorandum to that effect. In reference (b) I explained why hiring more Government lawyers would not do the job. Under the present system, the Navy cannot devote sufficient time, effort and talent to handle claims properly and still carry out its primary functions.

12. I recognize that NAVSHIPS has contracted for outside technical assistance to help evaluate certain aspects of the Litton claims. This is not enough. The Navy needs to develop a full-time professional claims group outside the Government to handle claims. The vast extent of claims renders such a method essential. The Government would have to guide the work, make decisions and perhaps represent itself in court but most of the work should be performed by outside experts.

13. It is clear that the Navy is not itself equipped to handle the claims problem. Litton's AE (Ammunition Ship) claim (about \$37 million) is about to be litigated. The Navy is behind schedule in preparing its defense on Litton's "Project X" or "Impact" claim (about \$100 million). Although this claim was submitted to the Armed Services Board of Contract Appeals in August 1972, the Navy recently had to ask for a six-months delay in the trial date which had been set for May 1974. The claims group at Pascagoula is now trying to acquire additional people to work on these claims.

14. To maintain the integrity of existing contracts, the Navy cannot afford to let shipbuilders reprice loss contracts through the guise of claims. Since several shipbuilders seem determined to shift the responsibility for their overruns to the Navy no matter what the circumstances, we must organize properly so that we can defend against unwarranted claims without jeopardizing our primary responsibilities. As a first step and test case, I recommend that the Navy contract with a group of outside lawyers, technical personnel and procurement experts to coordinate and prepare the Navy's defense on Litton's "Project X" or "Impact" claim. This is a large and complex claim, involving issues of principle which, if not handled properly, could set unfavorable precedents and open new bases for claims at other shipyards. It deserves the best talent the Navy can obtain.

15. I would appreciate being advised of what action you take in this matter.


H. G. Rickover

Copy to:
Assistant Secretary of the Navy
(Installations and Logistics)
The General Counsel of the Navy
Commander, Naval Ship Systems Command



DEPARTMENT OF THE NAVY
 NAVAL SEA SYSTEMS COMMAND
 WASHINGTON, D.C. 20362

IN REPLY REFER TO
 08H-742

26 JUL 1974

MEMORANDUM FOR THE GENERAL COUNSEL, OFFICE OF THE SECRETARY OF DEFENSE

Subj: Use of Outside Counsel to Assist the Navy in Defending Against Shipbuilding Claims

- Encl: (1) My memorandum dtd 10 May 1971 for the General Counsel of the Navy; subj: Shipbuilder claims (Encl (1) to Encl (3), below)
- (2) My memorandum dtd 11 Feb 1972 for the Chief of Naval Material; subj: Claims procedures (Encl (2) to Encl (3) below)
- (3) My memorandum Ser 08H-558 dtd 9 Aug 1972 for the Chief of Naval Material, subj: Recommendations for improving Navy claims procedures based on experience gained from Litton Systems, Inc., Ingalls Nuclear Shipbuilding Division, claim against the Navy under Contract N00024-68-C-0342 for construction of SSN's 680, 682, and 683
- (4) My memorandum Ser 08H-2042 dtd 14 June 1973 for the Chief of Naval Material, subj: Obtaining outside assistance in defending against shipbuilder claims
- (5) My memorandum Ser 08H-708 dtd 20 Feb 1974 for Chief of Naval Material, subj: Shipbuilding Claims
- (6)

(7)

(8)

(9)

DELETED

(10)

(11)

1. At our meeting on July 10, 1974, you asked that I summarize my views on major shipbuilding claims, with particular emphasis on why I recommend greater use of outside counsel to assist the Government.
2. In enclosures (1) through (5) I have reported to various Navy officials problems associated with shipbuilding claims as I see them and my specific recommendations for corrective action. In short the problem is this: Shipyard management attention today is focused primarily on legal, contractual, and financial matters rather than on technical and production problems. With the takeover of shipyards by conglomerates many top shipyard managers have found they can compensate for their own management or production problems and devote their primary effort toward getting relief through changes and claims, or by trying to force relaxations of procurement regulations and laws. Some shipbuilders begin establishing the basis for a large claim from the early days of contract performance in case they run into problems later. Often they assemble teams of experienced lawyers, accountants and engineers to accomplish this.
3. In cases where a shipbuilder incurs a substantial loss or fails to make his desired profit, he may submit a large claim to make up the difference. Often the claims consist of general allegations, but the Navy ends up with the burden of trying to determine whether the shipbuilder is entitled to any additional sums and if so, how much. This process can take years and tie up hundreds of hours of top technical, legal, and contractual people on the part of the Navy. If the Navy gathers evidence that disproves an element of the claim, the shipbuilder can delete that item and substitute another allegation so that the claim does not get below the desired amount. All the while, the shipbuilder complains to senior Department of Defense officials about the "unreasonableness" of the Navy personnel charged with responsibility for evaluating the claim. These are precisely the tactics the Navy encountered in the Litton Systems, Incorporated, claim under the SSN 680, 682 and 683 shipbuilding contract.
4. Enclosures (6) through (11) are memoranda I sent to my superiors describing the problems we faced in the Litton claim. I urge that you read them carefully. This case is an excellent illustration of the difficulty in effectively fighting against unwarranted claims, and why the Navy needs to develop a professional group of outside lawyers, technical personnel, and procurement personnel working full time to do claims evaluation work. The Navy cannot devote sufficient time, manpower, and resources to handle major shipbuilding claims properly and still carry out its primary functions. Expected reductions in Navy personnel will further aggravate the problem.
5. I was recently exposed to outside counsel in connection with an important defective pricing case involving a subcontractor under several cost reimbursement prime contracts for naval nuclear equipment. The subcontractor filed suit in District Court in an effort to dissuade the Navy from pursuing the defective pricing issue. Since the dispute arose under cost reimbursement prime contracts, the Navy had a direct financial interest in the outcome of the case as well as a duty to enforce the Truth-in-Negotiations Act (P.L. 87-653).

6. Initially the Government's interests were represented by the prime contractor's counsel, Covington and Burling. However, to preclude any possibility of a conflict of interest arising where the Government's interests might be different from prime contractors, the Navy General Counsel arranged for the prime contractor to retain at Government expense another outside law firm, to represent the Navy in one count of the lawsuit. The firm of Ruckelshaus, Beveridge, and Fairbanks was selected.

7. Because of these special arrangements, my staff dealt directly with both outside law firms. I was favorably impressed by their competence and efficiency. Both firms assigned experienced trial counsel to the case.

8. Outside counsel were especially effective during the discovery phase of proceedings. They helped formulate a plan of attack, took the initiative in interviewing potential witnesses, and in drafting subpoenas and interrogatories. My staff was in the position of reviewing well prepared drafts, rather than having to do much of the preliminary work themselves as is often the case when I must rely solely on Government attorneys who are overloaded and hampered by the system. Outside counsel responded quickly, in a matter of days and sometimes hours, to each maneuver by plaintiff. Their prompt action prevented an attempt by plaintiff to suspend the suit in district court and to move the case to the Armed Services Board of Contract Appeals, a move which the Government opposed. Working with these two firms was a most satisfactory experience.

9. The final result, in which the advice and action of outside counsel played a significant role, was that the subcontractor proposed a satisfactory settlement of the outstanding issues, and as a part of that settlement, dismissed the suit in district court. Thus the Government avoided a long and costly lawsuit. This experience has reinforced my judgement that use of outside counsel in proper circumstances, is a wise course to follow. Large corporations with in-house legal staffs, do not hesitate to hire outside counsel when facing major litigation. Neither should the Government.

10. You asked that I recommend two cases involving shipbuilding claims in which to test the use of outside counsel. My recommendations are:

a. The \$100 million Litton so-called "Project X" Claim (ASBCA #17579). This is a large and complex claim. It presents a legal theory which has never been recognized by the Navy and, if Litton succeeds, will have a profound impact on shipbuilding claims. It would open a new basis for recovery at other yards and lead to a new round of multi-million dollar litigations.

In 1970 Litton filed a protective suit in the Court of Claims (No. 302-70); an appeal to the Armed Services Board of Contract Appeals was filed in August 1972. The Navy is handling the case with in-house counsel but has

not been able to provide the necessary continuity or support. The chief trial counsel has been changed three times in the past year, the most recent change being made this month. Legal assistance has been on a part time basis. The Navy has been trying to recruit additional attorneys to assign to the claim, but at the salaries the Government offers, it is not possible to hire top flight, experienced trial lawyers. In my opinion, this case is too important to turn over to new hires and trainees. I believe the Government should retain outside counsel to help focus the issues and direct the strategy in this claim, under Government supervision of course.

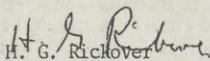
b. The Newport News claim under Contract No. N00024-68-C-0355 for construction of the DLGN's 36 and 37. This represents an opportunity to test use of outside counsel at an early stage in the development of the claim. Newport News has already submitted a series of claims totaling about \$54 million, a major portion of which relates directly to Naval Reactor business. The Navy expects six to eight million dollars of additional claims to be filed against this contract. Our technical evaluation is that these claims are grossly inflated but that they approximate the amount of the Newport News projected overrun plus profit. I believe that if we hired outside counsel, and adequate supporting technical personnel, the Department of Defense could save millions of dollars. If we do not convince the contractor that the Navy can and will enforce its contractual rights, we shall be plagued with this and similar claims for many years to come.

11. In summary the Navy cannot devote sufficient time, manpower, and resources to handle major shipbuilding claims properly and still carry out its primary functions. The Navy has been forced to rely primarily on people who are inexperienced in evaluating claims, who are responsible for other ongoing work, and who receive little effective help or guidance in their claims evaluation efforts. The various elements of claims defense cross so many different command and organizational lines that review of claims and preparation for defense are unnecessarily cumbersome and time consuming.

12. I believe it is both practical and essential that the Navy develop a professional group of outside lawyers, technical personnel and procurement experts working full time to do the claims evaluation work and that such action would substantially enhance the Navy's ability to ensure that contractors are paid no more than they are entitled to under their contracts. The Government would, of course, continue to be responsible for guiding the work, making final decisions and, if necessary, presenting its cases in court.

13. As long as shipbuilders believe they can be reimbursed for their own ineffectiveness and mistakes through claims the Navy will continue to have massive claims, shipbuilders will not have the incentive to improve their efficiency, and the price of ships will continue to skyrocket. If this trend continues, we will not be able to afford the ships we must have to defend our country adequately.

14. I would appreciate being informed of what action you intend to take in this regard.


H. G. Rickover

Copy to:
Assistant Secretary of the Navy
(Installations and Logistics)
Chief of Naval Material
The General Counsel of the Navy
Commander, Naval Sea Systems Command



DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND
WASHINGTON, D.C. 20362

IN REPLY REFER TO
08H-739

26 JUL 1974

MEMORANDUM FOR THE GENERAL COUNSEL, OFFICE OF THE SECRETARY OF DEFENSE

Subj: Chu Associates decision; need to appeal

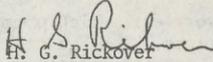
1. In our meeting on July 10, 1974, we discussed briefly the Wunderlich Act, 41 USC 321,322. I expressed my conviction that the Government should have the same right of appeal from adverse decisions of the Armed Services Board of Contract Appeals as contractors have. This memorandum is submitted in accordance with your request.
2. Recently the Naval Sea Systems Command attempted to present a defective pricing case which arose under one of my contracts. A subcontractor failed to submit data which, in our opinion, was required to meet the criteria of the Truth-in-Negotiations Act (P.L. 87-653). In defense, the subcontractor cited the case of Chu Associates, Inc. Armed Services Board of Contract Appeals 15004 (1973). In that case the Armed Services Board of Contract Appeals held that the contractor was not obliged to disclose a lower supplier quote to the Government under the Truth-in-Negotiations Act as long as he did not intend to use that quote at the time he signed the certificate of current cost and pricing data. This was held to be so even though the contractor subsequently contracted with that supplier and realized a large wind-fall profit thereby.
3. This was the very evil which prompted passage of the Truth-in-Negotiations Act in the first place. The Chu case and other decisions of the Armed Services Board of Contract Appeals which follow it, have rendered the statute virtually ineffective. The issue of what constitutes "data" in the context of the Truth-in-Negotiations Act is a question of statutory interpretation, and would seem to be appropriate for appeal to the Court of Claims. The final determination of law in this matter should not be made by an administrative judge on the Armed Services Board of Contract Appeals.
4. As you are aware, the recent Supreme Court decision, S&E Contractors, Inc. v United States 406 US 1 (1972) is widely thought to hold that the Government cannot appeal from an adverse ruling of the Armed Services Board of Contract Appeals. However, at least one high Justice Department official has expressed publicly the opinion that an agency has the right of appeal from a decision of its own Board of Contract Appeals. He believes the S&E case holds only that the General Accounting Office and the Justice Department (or any other outside agency) may not intervene and prevent an agency from paying a contractor in accordance with a decision of its Board of Contract Appeals when it desires to do so.

5. The Chu decision, if it is not reversed, has the effect of rendering the Truth-in-Negotiations Act almost useless in protecting the Government in sole source price negotiations. All a contractor has to do, when caught withholding important and relevant cost or pricing data, is to claim he never intended to use the information at the time he signed the certificate. The burden of proof then shifts to the Government to disprove that contention or lose its right to a price reduction. Obviously there will be few cases in which the Government will have the evidence to prove the contractor intended to use certain cost data when he testifies he did not intend to use it.

6. Even apart from the Chu decision, the need for the Department of Defense to have the right to appeal from adverse Armed Services Board of Contract Appeals decisions is important because of the magnitude of claims being decided by that Board and the complexity of the issues in some of those cases, especially in the multi-million dollar shipbuilding cases. These cases should not be finally decided by an administrative judge with only one party enjoying the right of appeal.

7. I recognize that legislation is now before Congress to clarify the Wunderlich Act to make explicit the Government's right of appeal. The Department of Defense should support that provision of the proposed legislation. But the legislative process could take many months and passage is by no means certain. Therefore, I recommend that the Department of Defense appeal the Chu decision, or the next appropriate appeal case following Chu, using the Department of Justice theory that an agency may appeal adverse decisions of its own Board of Contract Appeals.

8. I would appreciate being informed of what action you intend to take in this regard.


H. G. Rickover

Copy to:
Assistant Secretary of the Navy
(Installations and Logistics)
Chief of Naval Material
The General Counsel of the Navy
Commander, Naval Sea Systems Command



DEPARTMENT OF THE NAVY
 NAVAL SEA SYSTEMS COMMAND
 WASHINGTON, D.C. 20362

IN REPLY REFER TO
 08

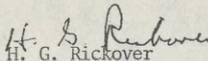
1 6 OCT 1974

MEMORANDUM FOR THE GENERAL COUNSEL OF THE NAVY

Subj: Contracting for Outside Counsel

1. Since 1971, I have been recommending that the Navy contract with outside attorneys to assist the Navy in handling its billion dollar backlog of shipbuilding claims. The Office of the General Counsel, Navy simply did not have and still does not have the necessary resources to handle this backlog properly.
2. From the outset, the Office of the General Counsel opposed obtaining outside counsel, wrote legal memoranda questioning the legality of such action, and indicated that OGC had the situation under control. However, I believe you recognize that the situation is still not under control. There remains a large backlog of shipbuilder claims. There is a high turnover of Government attorneys working in the claims area; their experience level is low. In contrast, shipbuilders are contracting with prestigious law firms for experienced attorneys to develop and prosecute these claims.
3. In my memorandum dated 26 July 1974 to the General Counsel, Office of the Secretary of Defense, I reiterated the importance of obtaining outside counsel to assist the Navy in defending against shipbuilding claims. In that memorandum I recommended that the Navy obtain outside counsel to assist with claims developing at Newport News. You subsequently agreed to contract for outside counsel at Newport News. However, since that time NAVSEA efforts to award such a contract have been thwarted by your office. Despite repeated personal commitments from you as to when you would have such a contract, all of which you have missed, we are no closer today to having a contract than we were six weeks ago. Moreover, it has been impossible to deal effectively with your subordinates, since they apparently have been instructed that you are handling this matter personally.
4. I can only conclude from your procrastination that you do not wish to act on this contract. In contrast, your counterparts in the shipbuilding business have not hesitated to hire outside counsel who are claims experts to direct preparation of their claims and to present them. As long as shipbuilders believe they can be reimbursed for their own ineffectiveness and mistakes through claims, the Navy will continue to have massive claims, shipbuilders will not have the incentive to improve their efficiency, and the prices of ships will continue to skyrocket. This is why you should act now to obtain assistance through outside counsel.

5. Obviously, you are unwilling to act in this matter. Therefore, I suggest you assign authority to act to one of your subordinates and withdraw personally so that this matter can proceed. Please let me know what action, if any, you intend to take in this matter.


H. G. Rickover

Copy to:
Secretary of the Navy
Chief of Naval Material
Commander, Naval Sea Systems Command



DEPARTMENT OF THE NAVY
 NAVAL SEA SYSTEMS COMMAND
 WASHINGTON, D.C. 20362

IN REPLY REFER TO

18 MAR 1976

MEMORANDUM FOR THE CHIEF OF NAVAL MATERIAL

Subj: Certification of Newport News Claims

Encl: (1) My memo for the Deputy Commander for Contracts,
 Naval Ship Systems Command dtd 30 Jun 72

1. I understand that you plan to meet with Mr. Diesel, President of Newport News, on March 19, 1976 to discuss ship-building claims. I recommend you take up the subject of claims certification as the first item of business at that meeting.

2. Navy Procurement Directives (NPD 1-401.55) require that, prior to evaluating contractor claim submittals, Contracting Officers must obtain an affidavit from the responsible senior company official certifying that, to the best of his knowledge and belief "...(i) the facts in the claim are current, complete, and accurate and, (ii) the conclusions in the claim accurately reflect the material damages or contract adjustments for which the Navy is allegedly liable." Newport News provided such an affidavit on its initial claim under the SSN 688 Class contracts but has refused to provide affidavits on its other claims.

3. This requirement was implemented because prior experience indicated that contractors often submitted grossly inflated claims and then revised and resubmitted them whenever the Government's evaluation of amounts actually owed did not turn out to be enough to satisfy the contractor. Enclosure (1) presents an example of one specific case and is similar to what the Navy is facing with Newport News today. A possible fraud action in this case is still being investigated by a grand jury.

4. In addition to refusing to provide the required affidavits on its subsequent claims, now it appears that Newport News is even trying to nullify the one affidavit it did provide. The situation is this:

- On July 2, 1975, Newport News submitted a \$142.5 million claim on its SSN 688 Class submarine contracts.
- On October 3, 1975, Newport News, at Naval Sea Systems Command (NAVSEA) request, provided the required affidavit for the above claim; NAVSEA began evaluating the claim.

- In February 1976, NAVSEA, based on a preliminary analysis, concluded that a provisional price increase of about \$10 million could be made on the claim.
- On March 3, 1976, you met with Newport News officials and informed them that the company would shortly be receiving a provisional payment of about \$10 million.
- On March 8, 1976, Newport News submitted a revised claim, now totaling \$270.1 million, covering these same ships; the required affidavit was not submitted, and has not yet been requested.

Although the revised claim is voluminous, comprising 15 books, a cursory review by NAVSEA personnel indicates that the revisions are not confined to additional items of alleged Government responsibility arising after submission of the first claim. Many of the elements of the first claim, which the company certified as being "current, complete, and accurate" have also been revised substantially.

5. I believe it is now essential for the Navy to stand firm on its requirement for this affidavit and the other safeguards it has instituted to protect the public from unwarranted expenditures. If the Navy makes a provisional payment on the revised and uncertified SSN 688 claim or if it proceeds to evaluate other uncertified Newport News claims in the face of pressure from Newport News, the Navy will have set a precedent for all other contractors to push for higher settlements than the legal merits of their claims would justify. The Navy can then look forward to years of wasted effort evaluating exaggerated and constantly changing claims.

6. I know you are being urged to "improve relations" with shipbuilders. However, the problem is not one of human relations; it is strictly a matter of money. Newport News appears to want the Navy to ensure the company's profitability. This could well require a payment of more than the amount they are entitled to under their contracts. The Navy, however, can only pay claims on their legal merits. Payments on any other basis would require the Secretary of the Navy to exercise his authority to grant extra-contractual relief under P.L. 85-804.

7. By applying pressure and threatening not to build ships, the company apparently believes it can get paid more on its claims than it could otherwise get. Until contractors are

convinced that the Navy intends to handle claims properly and in accordance with established safeguards, they will continue to submit inflated claims and attempt to negotiate settlements with senior Defense officials for more than they are legally entitled.

8. In summary, the Navy policy should be to expedite claim settlements on the basis of legal entitlement. However, this cannot be accomplished until Newport News submits realistic claims and certifies that the claims and supporting data are current, complete, and accurate. I recommend you relate this to Mr. Diesel. If he refuses to submit such realistic certified data, I recommend the Navy suspend its evaluation of Newport News claims and not grant provisional price increases against their claims until the matter is resolved to the Navy's satisfaction. In the long run this will expedite resolution of the claims problem.

9. I would appreciate being informed of what action you take in this regard.


H. G. Rickover

Copy to:
Assistant Secretary of the Navy (I&L)
Commander, Naval Sea Systems Command



DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND
WASHINGTON, D.C. 20362

IN REPLY REFER TO

24 MAR 1976

MEMORANDUM FOR THE ASSISTANT SECRETARY OF THE NAVY
(INSTALLATIONS AND LOGISTICS)

Subj: Relations with Newport News Shipbuilding and Dry
Dock Company

1. I understand that you and other senior Navy officials are to meet with the Deputy Secretary of Defense this week to discuss how the Navy might improve relations with Newport News. In view of our past discussion I thought you might like to have my views on this subject. Therefore I have summarized them in this memorandum.

2. The basic question in the Newport News situation is whether the Navy will take responsibility for financial problems at Newport News regardless of the company's responsibility and performance under its Navy shipbuilding contracts.

3. Most of the financial problem on Newport News Navy shipbuilding contracts is the outgrowth of company actions taken several years ago. In 1971, Newport News projected a need to build up manpower from 18,200 early in 1971 to over 30,000 employees in 1973 to meet its commitments on existing Navy contracts. In the fall of 1972, Newport News signed a contract for three Liquefied Natural Gas Carriers (LNG's) and announced plans to build a new yard for construction of these and other merchant ships. At that time, Newport News had an employment level of about 27,000 people and was still building up its manpower. Newport News and Tenneco officials stated at the time that they expected to make manpower for the commercial work available within their expected 30,000 employment level due to a projected decline in Navy work starting in mid-1974:

4. To assuage Navy concern over the potential impact of the commercial work on Navy work, the Chairman of the Board of Tenneco in a letter dated February 12, 1973 assured the Navy that:

"Tenneco will not allow performance of work on non-Navy contracts to interfere with the performance of work necessary to meet Newport News commitments on Navy contracts."

5. In early 1973, shipyard productivity decreased and there was a large increase in fabrication errors--apparently caused by the lower skill level of the new hires. In 1973, Newport News announced that it had abandoned its plans to build up to the 30,000 employees which it had projected were necessary to meet commitments on Navy contracts. Since that time the employment level has decreased to the present level of about 22,000.
6. The decline in productivity and increase in rework during the work force expansion caused an increase in the number of manhours required to complete present Navy contracts. To accommodate this increase in manhours and the shortfall in manning, Newport News stretched out Navy ship construction schedules. Under the contract terms these manpower problems and the costs of escalation on the deferred work are the responsibility of the shipyard.
7. The shipyard still does not have sufficient trained manpower to meet existing commitments on Navy contracts, and is currently faced with having to build up the manpower assigned to commercial contracts or delay the commercial ships. Newport News is claiming that the Navy is responsible for all the delays and higher costs which accrue on Navy work.
8. Newport News assembled a large team to prepare claims on Navy shipbuilding contracts. To generate bases for these large omnibus claims, employees have been encouraged to search out and report actions and events that might be used as a basis for a claim against the Navy. Even minor technical details or problems are now treated as contractual matters.
9. Settlement of contract changes has also become increasingly difficult. Often the company either refuses to price the changes in advance, quotes an excessive and unsupported price, or demands the right to reopen contract pricing later for other reasons such as the "cumulative impact of contract changes."

10. Recently Newport News has accelerated its efforts to have the Navy accept responsibility for financial problems at Newport News. For example, during the past year:

- o Newport News stopped work on the CGN 41, claiming that the contract option for construction of CGN 41 is invalid. A U.S. District Court directed that the company continue construction while the parties attempted to negotiate their differences and while several issues in dispute were submitted to the Comptroller General for rulings. When the Comptroller General ruled in the Navy's favor the company disagreed and returned the dispute to court.
- o Newport News continued to refuse to accept most contract changes without reserving rights to "cumulative impact" thus making it impossible to preprice most changes. This created the large backlog of unpriced changes about which Newport News repeatedly complains.
- o Newport News stated, in a February 20, 1976 letter to the Chief of Naval Operations, that it was considering stopping work on the CVN 70 and not entering into new Navy shipbuilding contracts. The company repeated that statement in a March 15, 1976 letter to Congressman T.N. Downing which has been published in the Congressional Record.

11. Newport News has now submitted to the Navy the large omnibus claims it has been assembling for over a year. These shipbuilding claims now total over \$894 million in requested ceiling price adjustments and cover every active Navy shipbuilding contract at the shipyard in addition to several completed contracts. Newport News has been utilizing these claims as the basis for getting the Navy to accept responsibility for the financial problems at the shipyard. However:

- a. Newport News refuses to certify these claims as being current, complete, and accurate as required by Navy Procurement Directives. From preliminary Navy review it appears that claims are inflated.
- b. Newport News typically does not show a relationship in these claims between alleged Government actions and increased costs and delays. It simply lists a series of alleged Government actions, and then claims that the Government is responsible for all increased costs and delays.

12. While Newport News is owed some money on its claims, the company, by the nature of its claims submissions, has made it very difficult and time consuming to sort out the items for which legal entitlement exists. It is reasonable to conclude from the manner in which the claims have been presented that the company believes that actual entitlement under these claims is considerably less than the amount the company is seeking.

13. In his March 15, 1976 letter to Congressman Downing, the President of Newport News stated "I need to bring all the pressure to bear that I can for a prompt and equitable resolution of the differences between the company and the Navy. Time has run out." Yet, over \$665 million (three-fourths of the total) of Newport News' claims were submitted or revised within the last two months. Moreover, it was Newport News' decision to store up small changes and other items for use in large omnibus claims rather than adjudicate them on their merits at the time they arose.

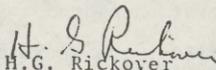
14. The problem with Newport News is strictly one of money. Relations between the shipyard and the Navy will continue to be poor until the company is paid what it wants or until company officials are convinced that the Navy will pay only what it legally owes. In this regard, you should recognize that the Newport News parent, Tenneco, is not in any financial trouble--the corporation is reporting record profits.

15. Under P.L. 85-804, the Secretary of the Navy has authority to make payments to contractors regardless of contract terms. In this regard, various possibilities have been discussed. For example, it has been suggested that Newport News contracts be reformed to extend contract delivery dates and apply revised escalation provisions on the basis that escalation provisions on current contracts are inadequate. Actually current contracts adequately protect shipbuilders against inflation if the contractors meet contract schedules or if all delays are Government-responsible. Extending contract delivery dates and providing escalation coverage to current Newport News schedules, however, would result in the Government financing contractor-responsible delays.

16. Granting extra-contractual relief in the current circumstances would create problems. Even if Congress were to approve such relief and appropriate the necessary funds, the Navy would be left with the problem of fending off requests from other contractors for similar treatment. It would become increasingly difficult to enforce Government contracts or settle claims on their legal merits.

17. Assuming that the Navy intends to resolve claims on their legal merits rather than grant extra-contractual relief, I recommend the following actions be taken:

- a. Make it clear to Newport News and Tenneco management that the Navy will process their claims and settle them based only on the legal merit of the claims.
- b. Return responsibility for settling these claims to the Naval Sea Systems Command and discourage company officials from seeking settlements at higher levels.
- c. Enforce the Navy requirement that the senior responsible company official certify that the claims are current, complete, and accurate.
- d. Provide the Naval Sea Systems Command sufficient resources to review claims expeditiously. Current Navy legal support is inadequate and too much of the burden falls upon technical people, who are becoming increasingly unable to carry out their primary duties because of the claims workload. The Navy needs to hire, or have the Department of Justice hire for the Navy, outside legal counsel and such other assistance as is necessary to assist in the evaluation of claims and claims related matters.


H.G. Rickover

Copy to:
The Secretary of the Navy
The Under Secretary of the Navy
The Chief of Naval Operations
The Chief of Naval Material
Commander, Naval Sea Systems Command



DEPARTMENT OF THE NAVY
 NAVAL SEA SYSTEMS COMMAND
 WASHINGTON, D. C. 20362

IN REPLY REFER TO

5 MAY 1975

MEMORANDUM FOR THE CHIEF OF NAVAL MATERIAL

Subj: Proposed revision to Navy claim procedures prescribed in Navy Procurement Directives (NPD 1-401.55)

- Ref: (a) My Memorandum dtd 9 Aug 72 for the Chief of Naval Material, subj: Recommendations for improving Navy claims procedures based on experience gained from Litton Systems, Inc., Ingalls Nuclear Shipbuilding Division, claim against the Navy under contract N00024-68-C-0342 for construction of SSN's 680, 682, and 683
- (b) My Memorandum dtd 22 Mar 73 for the Chief of Naval Material, subj: Recommendations for Improving Navy Claims Procedures

1. In August 1972, reference (a), I recommended specific action to improve Navy claims procedures. One recommendation was to require the senior company official in charge at the plant or location involved to certify, upon first submittal of a claim, that he had personally reviewed the claim and all supporting data, and that the information contained therein was current, complete, and accurate. The purpose of the certificate is to assure that all data bearing on the claim, whether or not favorable to the company's position, is disclosed and that the data is accurate, complete and current. This recommendation was ultimately incorporated in Navy Procurement Directive (NPD) 1-401.55.

2. I understand that your office is in the process of issuing a revision to NPD 1-401.55 which would redefine the term "claim" in a way which would eliminate the requirement for the certificate in all but a handful of cases. Such a redefinition might undercut other safeguards that have been established in the claims area.

3. Whether the contractors' requests for additional funds are labeled Claims, Requests for Equitable Adjustment, Engineering Change Proposals, Constructive Changes, Correction of Defects to Government Furnished Property, Suspensions, Requests for Relief under Public Law 85-804 or whatever, the need for effective safeguards is the same. As you know, the Electric Boat Division of General Dynamics Corporation recently submitted a \$220 million

claim but labeled it a "Request for Equitable Adjustment." Under the proposed revision to NPD 1-401.55, this \$220 million request might no longer qualify as a claim. Thus, the present NPD requirements for certification of the claim and for other safeguards might be voided.

4. I have been informed that further changes to the NPD now being considered at the staff level would take care of this problem. However, current plans are to issue the first change now, before the second change is approved for issue.

5. I recommend that NPD 1-401.55 not be issued until suitable provisions are made to ensure that the safeguards that have been established for handling claims, including the requirement for certification of claims, are applicable to all requests for increases in contract pricing by whatever name they may be called.

6. I would appreciate being informed of what action you take with regard to my recommendations.


H. G. Rickover

Copy to:
NAVSEA 00
NAVSEA 02
NAVSEA 00L



DEPARTMENT OF THE NAVY
 NAVAL SEA SYSTEMS COMMAND
 WASHINGTON, D. C. 20362

IN REPLY REFER TO

2 JUN 1975

MEMORANDUM FOR THE CHIEF OF NAVAL MATERIAL

Subj: Proposed revision to Navy claim procedures prescribed in Navy Procurement Directives (NPD 1-401.55)

Ref: (a) My memo to you dtd 5 May 75, same subject
 (b) Your memo to me dtd 27 May 75, subj: Senior company officials certification regarding contract claims and changes

1. In reference (a) I pointed out that your office was in the process of revising NPD 1-401.55 to redefine the term "claim" in a way which might undercut certain safeguards that have been established in the claims area. Specifically, the change would eliminate, in all but a handful of cases, the current requirement that the senior company official in charge at the plant location involved certify to the accuracy, currency, and completeness of his claim submissions. I recommended that the proposed revision to NPD 1-401.55 not be issued until suitable provisions are made to insure that the safeguards that have been established for handling claims, including the requirement for certification of claims, are applicable to all requests for increases in contract pricing by whatever name they may be called.

2. In reference (b) you pointed out that while the proposed revision to NPD 1-401.55 will modify and decrease the type and number of contractual actions that must be treated as formal contract claims, it will not modify the requirement for complete documentation or justification required to support requests for equitable adjustment. You also acknowledged "the need for a senior company official, to certify to the completeness and accuracy of a request for equitable adjustment in cases involving complex fiscal or factual issues, particularly when extensive fact-finding is required to determine the extent of government liability." Attached to reference (b) was the additional language which you stated would be incorporated in Revision 4 to the NPD.

3. Upon review of the additional new language, and further reflection on the changes previously proposed for NPD 1-401.55 in Revision 4, I believe this change to NPD 1-401.55 should not be made. If implemented, it will weaken the Government's position in dealing with contractors and make the Navy look foolish before Congress for the following reasons:

a. The proposed changes will be interpreted as a public relations effort by the Navy to redefine itself out of the claims backlog. Revision 4 redefines the term "claim" so that claims based on alleged late or defective government-furnished material or information would be relabeled "requests for equitable adjustment." Some of the largest and most difficult claims we have fall into that category. The \$30 million SSN 680, 682, 683 submarine claim submitted by Litton, for example, is based primarily on late government-furnished steel. The current \$200 million claim from Electric Boat is based largely on late or defective government-furnished information. To contend that these are not claims would undermine the Navy's credibility.

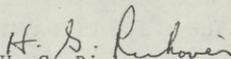
b. At present, the NPD has extensive requirements for fact-finding, certificates, and other safeguards applicable to claims. Revision 4 to the NPD, even with the additional language proposed in your memorandum, would relax these requirements.

(1) The NPD currently requires contractor certification of all claims. The proposed new language reclassifies certain categories of claims as "requests for equitable adjustment." In such cases, the certification requirement is eliminated if the request is \$2 million or less.

(2) The current NPD requirements for a thorough review of legal entitlement, extensive fact-finding, and analysis by the Government in the case of claims would not be mandatory in the case of "requests for equitable adjustments" in the amount of \$2 million or less. Nor would these requirements be mandatory, even in the case of requests for equitable adjustment over \$2 million, if the Procurement Contracting Officer at headquarters determines that the "request" can be handled in the field by the Administrative Contracting Officer.

4. The Navy has many large claims and more are probably forthcoming. In this environment, it is inappropriate for the Navy to be renaming its claims or relaxing its procedures for handling them. The fact that a contractor's claim involves government-furnished material or government-furnished information does not make it less of a claim. Moreover the safeguards to be applied in handling the claim should not depend on how it is labeled or whether the claim is handled by a Procurement Contracting Officer or an Administrative Contracting Officer.

5. I am unaware of any instance wherein the Government's interest has been compromised by calling a claim a claim. Nor after further review and reflection on the changes proposed to the NPD, do I see how relaxing the procedures presently applied to claims will benefit the Government. Accordingly, I recommend that the change to NPD 1-401.55 proposed in Revision 4 not be issued. I would appreciate being informed of what action you take in this regard.


H. G. Rickover

Copy to:
NAVSEA 00
NAVSEA 02
NAVSEA OOL



DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND
WASHINGTON, D.C. 20362

IN REPLY REFER TO
1 August 1975

MEMORANDUM FOR THE CHIEF OF NAVAL MATERIAL

Subj: Proposed Revision to Navy Claim Procedures Prescribed
in Navy Procurement Directives (NPD 1-401.55)

Ref: (a) My memo to you dtd 2 Jun 75; same subject
(b) Your memo to me, Ser No 132-75, dtd 24 Jul 75

1. In previous correspondence, including reference (a), I pointed out that your office was in the process of revising Navy Procurement Directive (NPD) 1-401.55 to redefine the term "claim" in a way which might undercut safeguards that had been established in the claims area. I recommended that the proposed revision not be issued until suitable provisions were made to insure that the established safeguards for handling claims, including the requirement for certification of claims, had been made applicable to all requests for increases in contract pricing by whatever name they may be called. In reference (a), I recommended that the proposed changes not be issued since they would be interpreted as a public relations effort on the part of the Navy to redefine itself out of the claims backlog.

2. In reference (b), you stated that you were withholding publication of the revision to NPD 1-401.55 to permit a thorough review. You further stated there have been several more iterations of this revision since my memorandum to you of 2 June 1975. However, you did not include a copy of the latest revision; consequently, I have had no opportunity to review it.

3. You stated in reference (b) that "all REA's greater than \$500,000 will be given the same close scrutiny as claims, i.e., they must be certified by a 'senior company official'--no exception--and unless specifically excepted by the (Systems Command) Contracting Officer and Counsel, will be subjected to multi-discipline review and analysis..."

4. I noted in reference (a) that your proposed revision would delete the current NPD requirements for a thorough review of legal entitlement, extensive fact-finding, and analysis by the Government in the case of requests for equitable adjustment below a \$2 million floor. Even above

\$2 million, these protections would not be required if the Procurement Contracting Officer at Headquarters determined that the "request" could be handled in the field by the Administrative Contracting Officer. Your latest proposed revision lowers the floor to \$500,000; this is an improvement. But it also provides that the Systems Command Contracting Officer and Counsel can except the "request" from the full review. Thus, the relaxation in the handling of claims or "requests" above the floor is still in the current version of the change. This is not in the best interest of the Government.

5. Since reference (b) did not mention dropping the previously proposed language which redefined "claims", I assume that this language is also in the currently proposed version. I reiterate that the proposed redefinition of "claims" will be interpreted as a public relations gimmick by the Navy to redefine itself out of the claims backlog. It will tend further to undermine the Navy's credibility with Congress and the public.

6. Expanding the requirement for submission of a certificate to include requests for equitable adjustment between \$500,000 and \$2 million is a step in the right direction. But I see no reason why the requirement for certification should be limited by the same \$500,000 floor as the requirement for multi-discipline review. All taxpayers, including those with families, who earn \$5,000 or even less per year are required to certify to the truth of their income tax returns regardless of amount; all Government employees must certify to the truth of the facts when submitting travel vouchers. I see no reason why Government contractors should not also be required to furnish accurate, complete, and current data even on claims or requests for equitable adjustment of less than \$500,000 and to certify that fact. How do you think the citizens who have to pay these claims or requests for equitable adjustment with their tax dollars would vote on this issue? After all, are not you and I supposed to be representing their interests and desires?

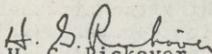
7. It should be realized by all in the Navy who have the responsibility for paying and settling claims that the money must be paid out of ship construction appropriations. Therefore, every dollar spent by the Navy on an unverified claim or request for equitable adjustment reduces the funds available for ships. Those Navy officials who do not

understand this point might act differently if they treated public money as their own. Moreover, some officials responsible for handling and settling claims apparently consider it their duty to do what is expedient or to execute their own ideas of fairness to contractors regardless of the contractors' legal entitlement. I believe this attitude, more than any other factor, is responsible for the large number and amount of claims we are now experiencing.

8. In view of the above, I recommend the following:

- a. Make no changes to the present definition of "claims".
- b. Change NPD 1-401.55 to include all requests for equitable adjustment, as you have proposed to do.
- c. Require, without exception, the multi-discipline team approach for requests for equitable adjustment above a certain dollar limit, such as the \$500,000 limit you propose. Provision should also be made for use of the multi-discipline team approach by the Systems Commands for complex cases under the dollar limit.
- d. Require submission of certification as set forth in NPD 1-401.55 for all requests for equitable adjustment regardless of dollar amount.

9. I would appreciate being informed of what action you take in regard to the above. I would also appreciate being furnished, for review, a copy of the revision to NPD 1-401.55 for comment prior to issuance.


H. G. Rickover

Copy to:
NAVSEA 00
NAVSEA 02
NAVSEA 00L



DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND
WASHINGTON, D.C. 20362

IN REPLY REFER TO

18 AUG 1975

MEMORANDUM TO ADMIRAL MICHAELIS

Subj: Proposed Revision to Navy Procurement Directive
(NPD 1-401.55, July '75)

1. Thank you for your memorandum of 11 August 1975 which forwarded the latest draft of the proposed revision to Navy Procurement Directive (NPD) 1-401.55. I was pleased that you decided not to change the definition of "claims" nor relax the safeguards applicable to them. Also, the addition of a new provision, NPD 1-406.51 which requires that even formally issued change orders shall be subject to the same NPD requirements as claims if they involve difficult or complex legal, factual or fiscal issues, will be beneficial.

2. Concerning the proposed, new language which is to be inserted as NPD 1-401.55(c)(2)a, some clarification is needed. This new policy statement directs that "...where Navy actions (or inactions) alleged by the contractor, after appropriate evaluation, constitute a change, the Contracting Officer should promptly formalize such constructive change(s) in writing...".

3. The above language would appear to require the Contracting Officer to concede liability for certain constructive changes even though the parties are unable to agree on an equitable adjustment in contract price and delivery for the item in question. I do not believe it is to the Government's advantage to acknowledge responsibility except when agreement can also be reached on price and delivery. If such agreement cannot be reached, the claim may be referred to the Armed Services Board of Contract Appeals where the contractor bears the burden of proving legal entitlement. He should not be released from that burden unless the claim can be completely settled.

4. From conversations between my staff and members of the Office of the General Counsel, I understand that the proposed change to NPD 1-401.55(c)(2)a is not meant to authorize or direct Contracting Officers to issue unpriced contract modifications. Instead, it is intended to encourage finalization of fully negotiated, priced modifications. To clarify this intent and to preclude arguments to the contrary, additional language should be inserted. I suggest that after the words "in writing", the following be added: "as soon as the parties have negotiated an acceptable adjustment to the contract price and delivery clauses."

5. I would appreciate being informed of what action you intend to take with regard to my recommendation.


H. G. Rickover

Copy to:
Commander, Naval Sea Systems Command
NAVSEA 02
NAVSEA OOL



DEPARTMENT OF THE NAVY
 NAVAL SEA SYSTEMS COMMAND
 WASHINGTON, D.C. 20362

IN REPLY REFER TO
 24 January 1975

MEMORANDUM FOR THE GENERAL COUNSEL OF THE DEPARTMENT OF DEFENSE

Subj: Recommendation to Disqualify Certain Law Firms From
 Representing Companies on Claims in Which Their
 Attorneys Originally Represented the Government

1. Knowing your desire to improve the Government's posture regarding shipbuilding claims, I am bringing to you a matter in your area which needs corrective action.
2. As you know, I am strongly opposed to the practice of Government attorneys swapping sides and representing contractors in claims against the Government. Navy lawyers, however, have held steadfastly that there is nothing illegal or improper with this practice so long as the attorney does not personally get involved:
 - In any case in which he previously represented the Government, or,
 - For a period of one year, in any case which fell under the authority of his former position in Government, even if he were not personally involved.

As a result, many former Government officials have left to become claims attorneys.

3. I have looked into the matter further and discovered that the American Bar Association's Canons of Ethics prohibit a law firm from representing a client if one of its members is prohibited from doing so. The Department of Defense has continued to do business with law firms which do not live up to this standard. Let me describe one recent example for you.

4. The firm of Sellers, Connor, and Cuneo is representing shipbuilders in claims against the Navy valued by the contractors in the hundreds of millions of dollars. Faced with this large backlog, the firm has recently hired two more senior Government officials who were working in the claims area. One was a senior official from the Armed Services Board of Contract Appeals; the other was the Deputy Counsel in charge of claims for the Naval Ship Systems Command (now the Naval Sea Systems Command). I will limit my comments to the latter man.

5. The Deputy Counsel for Claims was responsible for analyzing the shipbuilders' claims, advising the Navy claims team on entitlement, collecting evidence, and preparing the Government defense and any counterclaims the Navy might have against the shipbuilders. This responsibility covered virtually every shipbuilding claim that the Cuneo firm is involved in. He played a major role in developing the Government's positions in these cases and should have intimate knowledge of the Government's defenses. He knows the Government's legal positions, its evidence, and its witnesses. Now that the Cuneo firm has hired him, the firm is privy to Navy inside information. If the Deputy Counsel himself represented the shipbuilders referred to above as clients of his firm, he would be violating a statute and he would be subject to criminal penalties.

6. The canons of the legal profession dictate that the Cuneo firm should withdraw from all claims involving the Naval Sea Systems Command except those claims submitted subsequent to the firm's hiring of the former Deputy Counsel. Relevant formal opinions rendered by the American Bar Association Committee on Professional Ethics state the following:

- In the case of ... "two lawyers desiring to form a partnership where they have presently many cases against each other," the Standing Committee on Professional Ethics ruled, "if the lawyers in that situation desire to form a partnership I see no alternative to their dropping out of both sides of each such cases." (sic)
(Informal Opinion Number 437)

- As to how the above restriction on individual lawyers applies to other members of their law firm, the Standing Committee on Professional Ethics has ruled;

... "the relations of partners in a law firm are so close that the firm, and all members therein, are barred from accepting any employment, that one member of the firm is prohibited from taking." (Formal Opinion Number 33)

"... an attorney may not represent a client if he will be required to attack the testimony of his partner."
(Formal Opinion Number 220)

"... anything which requires a lawyer to withdraw from a case requires that his partners withdraw."
 (Formal Opinion Number 50)

Despite these specific rulings, the Cuneo firm has not withdrawn from any of the cases which fall within the purview of these rulings. Nor have I seen any effort by the Defense Department to insist that the law firms it deals with conduct business in accordance with the standard of ethics established by the legal profession.

7. There may well be other instances wherein law firms for defense contractors are engaging in unethical practices before defense agencies or before the Armed Services Board of Contract Appeals. For example, I understand that two attorneys, formerly employed by the Naval Air Systems Command, are now associated with a Washington law firm and are working on a claim by a NAVAIR contractor against the Navy. All situations of that nature would also seem to warrant investigation.

8. In the interest of handling claims on a more business-like basis and to discourage the unethical and improper practice of law by claims firms, I recommend that you:

a. Make a formal complaint to the American Bar Association Committee on Ethics concerning the conduct of Sellers, Connor & Cuneo.

b. Have the Military Departments and the Defense Supply Agency identify to you all cases of Government attorneys swapping sides during litigation before the Armed Services Board of Contract Appeals, or any other tribunal, or during investigation, review or negotiation of claim settlements.

c. Take action to get the Rules of the Armed Services Board of Contract Appeals amended to bar law firms from representing a contractor before the Board in any case in which one or more of the firm's members previously represented the Government or is disqualified from representing the contractor under any statute or regulation.

d. Instruct all elements of the Department of Defense not to conduct business with law firms in cases such as those described in (c) above.

9. I would appreciate being informed of the action you take in this matter.

H. G. Rickover
 H. G. Rickover

Copy to:
 Secretary of the Navy
 Chief of Naval Operations
 Chief of Naval Material
 Commander, Naval Sea Systems Command
 NAVSEA 00L
 NAVSEA 02



DEPARTMENT OF THE NAVY
OFFICE OF THE GENERAL COUNSEL
WASHINGTON, D. C. 20360

8 April 1975

Committee on Professional Ethics
American Bar Association
1155 East 60th Street
Chicago, IL 60637

Gentlemen:

Your advice is solicited on the following situation confronting the Office of the General Counsel for the Department of the Navy in relation to the Code of Professional Responsibility of the American Bar Association and the codes adopted by the Bars of the District of Columbia and Virginia.

An Attorney formerly employed in a major subdivision of this Office and while so employed was deputy counsel there, responsible for and involved in analyzing and preparing the Navy's position in defense of certain claims brought before the Navy by several corporations. Our Office, including that subdivision, is located in Virginia and transacts its business throughout the United States.

While still employed by us, the attorney gave proper notice to his supervisors that he desired to commence negotiating for employment with a specific law firm located in the District of Columbia. Partners and associates of that firm had been and continue to be engaged in representing the same corporations referred to above in the prosecution of those same claims against the Navy. Our employee declared himself disqualified from any further activity in connection with those claims during his negotiations. He advised us, by copy of a paper which he submitted to that firm, that he had identified to his prospective employers the extent of his disqualification under sections 207 and 208 of Title 18, United States Code, and under regulations issued by the Navy and Department of Defense governing standards of conduct of its employees.

Under those statutes, the attorney declared, he regarded himself under a lifetime prohibition from representing anyone other than the Navy in connection with the claims being prosecuted by two of those corporations (because he had participated in them personally and substantially for the Government) and under a like prohibition for one year's duration in connection with the claim of the third corporation, (because the claim was under his official responsibility, although he had not personally and substantially participated in it).

During the summer of 1974, the attorney left our employ and took a position as an associate in the law firm in question. We have no information that the attorney, in his new employment, is personally involved in the Navy claims, and the law firm has asserted that he is not involved.

From the point of view of the ethical considerations as stated in the Code of Professional Responsibility, however, Disciplinary Rule 5-105(D), DR 9-101(B), and Ethical Consideration 9-3 appear to be relevant. Prior to February 1974, DR 5-105(D) read as follows:

"If a lawyer is required to decline employment or to withdraw from employment under DR 5-105, no partner or associate of his or his firm may accept or continue such employment."

Subsequently, in February 1974, the Code was revised so that DR 5-105(D) now reads as follows:

"If a lawyer is required to decline employment or to withdraw from employment under a Disciplinary Rule, no partner, or associate, or any other lawyer affiliated with him or his firm, may accept or continue such employment."

This amendment, along with others made at the same time, apparently was not published until late in 1974. EC 9-3 provides:

"After a lawyer leaves judicial office or other public employment, he should not accept employment in connection with any matter in which he had substantial responsibility prior to his leaving, since to accept employment would give the appearance of impropriety even if none exists."

DR 9-101(B) implements ER 9-3 as follows:

"A lawyer shall not accept private employment in a matter in which he had substantial responsibility while he was a public employee."

If DR 5-105(D), as amended last year, is intended, as it appears to read, for that Rule to encompass DR9-101(B), then the Code as applied to the above-described situation would appear to have been contravened.

It is also noted that the Code must be adopted by each local bar jurisdiction. The Preliminary Statement to the Code states:

"The Code is designed to be adopted by appropriate agencies both as an inspirational guide

to the members of the profession and as a basis for disciplinary action when the conduct of a lawyer falls below the required minimum standards stated in the Disciplinary Rules."

Disciplinary Rule 5-105(D) as adopted by the District of Columbia, where the law firm involved is located, is different from its ABA equivalent and reads as follows:

"If a lawyer is required to decline employment or to withdraw from employment under DR 5-105, no partner or associate of his or his firm may accept or continue such employment." [Emphasis supplied]

This current D.C. Rule appears to have incorporated the comparable ABA Rule prior to the amendment to the latter in February 1974.

Despite the existing differences in terminology between the Codes of the American Bar Association and the Bar of the District of Columbia, we feel that the law firm, in continuing to represent the aforementioned corporations in their claims against the Navy, and as to which this Office provides legal representation to the Navy, may be acting in contravention of the standards of professional conduct imposed by both Codes.

In view of the foregoing, we would be grateful for your prompt advice as to whether this Office should continue to deal with the law firm regarding the claims in question.

Sincerely,

E. Grey Lewis

E. GREY LEWIS
General Counsel



DEPARTMENT OF THE NAVY
 NAVAL SEA SYSTEMS COMMAND
 WASHINGTON, D.C. 20362

IN REPLY REFER TO
 4 Nov 1975

MEMORANDUM FOR THE GENERAL COUNSEL, DEPARTMENT OF THE NAVY

- Subj: Disqualification of law firms from representing companies on claims in which their attorneys originally represented the Government
- Ref: (a) My memo dtd 24 Jan 1975 to the General Counsel, Department of Defense
 (b) Letter dtd April 8, 1975 from the General Counsel, Department of the Navy to the American Bar Association, Committee on Professional Ethics
- Encl: (1) My letter to Lawrence E. Walsh, President, American Bar Association dtd 4 November 1975

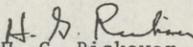
1. In reference (a) I pointed out that the firm of Sellers, Connor, and Cuneo had hired the Deputy Counsel for Claims from the Naval Sea Systems Command; that Sellers, Connor, and Cuneo is representing shipbuilders in claims against the Navy valued by the contractors in the hundreds of millions of dollars; that the former Deputy Counsel had extensive responsibility for preparing the Navy's position on many of these claims. I pointed out that under the American Bar Association's Canons of Ethics, the law firm is obliged to withdraw from those cases for which the Deputy Counsel was responsible. In reference (b) you requested a formal opinion on this matter from the American Bar Association Committee on Professional Ethics.

2. I understand the American Bar Association has still not rendered an opinion. Repeated follow-up efforts by my office to yours have been unsuccessful in precipitating a response from the American Bar Association. Meanwhile, the problem persists. I recently received a copy of the Armed Services Board of Contract Appeals' decision #18503, Appeal of General Dynamics. The company was represented by Sellers, Connor, and Cuneo and the case was one which fell under the authority of the former Deputy Counsel of the Naval Sea Systems Command. As I understand the Bar Association's Canons of Ethics, the Sellers, Connor, and Cuneo firm should not have been allowed to represent the plaintiff in this case. Yet no action was taken to disqualify that firm pending a response from the American Bar Association.

3. It has been over ten months since I first raised this issue officially and seven months since you requested an opinion from the American Bar Association. I believe there has been ample time to resolve the issue. Since there has been more than ample time for the American Bar Association to act, and since it appears you are unable to obtain a reply, I have sent the attached letter directly to the President of the American Bar Association requesting his assistance in this matter. I will provide you a copy of his response.

4. Pending receipt of his response I recommend that you suspend all dealings between the Navy and any law firm on matters in which members of the law firm, previously represented the Government or is disqualified from representing the contractor under any statute or regulation.

5. I would appreciate being informed of what action you plan to take in this regard.


H. G. Rickover

Copy to:
Assistant Secretary of the Navy
(Installations & Logistics)
Chief of Naval Material
Commander, Naval Sea Systems Command



DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND
WASHINGTON, D.C. 20362

IN REPLY REFER TO
4 Nov 1975

Mr. Lawrence E. Walsh, President
American Bar Association
One Chase Manhattan Plaza
New York, New York 10005

Dear Mr. Walsh:

I wish to solicit your help in a matter of importance to the Navy and to the American Bar Association. About seven months ago, the General Counsel of the Navy asked the American Bar Association to render an opinion on a question of legal ethics. The case involves a law firm which continues to represent clients in matters against the Navy in apparent violation of the Canons of Ethics. A copy of this letter is enclosed for your reference.

The issue is a simple one. A law firm representing shipbuilders on claims against the Navy, hired the Deputy Counsel for Claims, Naval Sea Systems Command, who was responsible for those same claims while with the Navy. He had been with the Navy for approximately ten years and had an intimate knowledge of the Navy's legal positions on shipbuilding claims, of Navy witnesses, and documentation. These shipbuilding claims are highly complex both legally and technically and involve hundreds of millions of dollars. Even though I am not an attorney, the rules and opinions of your Association as they relate to this situation seem clear. Rule DR9-101(B) reads: "A lawyer shall not accept private employment in a matter in which he had substantial responsibility while he was a public employee."

The former Deputy Counsel concedes that he is barred by statute from representing contractors in matters formerly under his cognizance. Yet, his new employer has refused to withdraw from cases involving those same matters as required by Rule DR5-105(D) which states:

"If a lawyer is required to decline employment or to withdraw from employment under a Disciplinary Rule, no partner, or associate, or any other lawyer affiliated with him or with his firm, may accept or continue such employment."

Prior opinions of the American Bar Association in similar cases have been clear. For example,

- In the case of ". . .two lawyers desiring to form a partnership where they have presently many cases against each other," the Standing Committee on Professional Ethics ruled, "if the lawyers in that situation desire to form a partnership I see no alternative to their dropping out of both sides of each such cases." (sic) (Informal Opinion Number 437)
- As to how the above restriction on individual lawyers applies to other members of their law firm, the Standing Committee on Professional Ethics has ruled:
 - ". . .the relations of partners in a law firm are so close that the firm, and all members therein, are barred from accepting any employment, that one member of the firm is prohibited from taking." (Formal Opinion Number 33)
 - ". . .anything which requires a lawyer to withdraw from a case requires that his partners withdraw." (Formal Opinion Number 50)

After I raised this issue with my superiors, the Navy General Counsel referred the matter to the American Bar Association for a formal opinion. In the meantime, the law firm has continued to represent clients to the Navy in cases that appear to be in direct violation of the American Bar Association's Canons of Ethics. I understand the American Bar Association has not yet rendered an opinion.

I realize you are a busy man and may be unfamiliar with this affair. However, there is considerable congressional interest in the Navy's shipbuilding claims problem and, in particular, in the issue referred to above. The long delay in deciding this case reflects adversely on the American Bar Association.

I anticipate being called to testify before Congress again in the near future. I would like to be in a position to report what action the American Bar Association has taken on this matter since it aroused considerable interest when I

testified before. In this regard, I would appreciate your help in resolving this matter promptly. I would also appreciate being informed of the date by which your organization will issue its opinion.


H. S. Rickover

Copy to:
Chief of Naval Material
Commander, Naval Sea Systems Command
General Counsel, Department of Defense
General Counsel, Department of the Navy

Enclosure:
As stated



DEPARTMENT OF THE NAVY
OFFICE OF THE GENERAL COUNSEL
WASHINGTON, D. C. 20360

8 April 1975

Committee on Professional Ethics
American Bar Association
1155 East 60th Street
Chicago, IL 60637

Gentlemen:

Your advice is solicited on the following situation confronting the Office of the General Counsel for the Department of the Navy in relation to the Code of Professional Responsibility of the American Bar Association and the codes adopted by the Bars of the District of Columbia and Virginia.

An Attorney formerly employed in a major subdivision of this Office and while so employed was deputy counsel there, responsible for and involved in analyzing and preparing the Navy's position in defense of certain claims brought before the Navy by several corporations. Our Office, including that subdivision, is located in Virginia and transacts its business throughout the United States.

While still employed by us, the attorney gave proper notice to his supervisors that he desired to commence negotiating for employment with a specific law firm located in the District of Columbia. Partners and associates of that firm had been and continue to be engaged in representing the same corporations referred to above in the prosecution of those same claims against the Navy. Our employee declared himself disqualified from any further activity in connection with those claims during his negotiations. He advised us, by copy of a paper which he submitted to that firm, that he had identified to his prospective employers the extent of his disqualification under sections 207 and 208 of Title 18, United States Code, and under regulations issued by the Navy and Department of Defense governing standards of conduct of its employees.

Under those statutes, the attorney declared, he regarded himself under a lifetime prohibition from representing anyone other than the Navy in connection with the claims being prosecuted by two of those corporations (because he had participated in them personally and substantially for the Government) and under a like prohibition for one year's duration in connection with the claim of the third corporation, (because the claim was under his official responsibility, although he had not personally and substantially participated in it).

During the summer of 1974, the attorney left our employ and took a position as an associate in the law firm in question. We have no information that the attorney, in his new employment, is personally involved in the Navy claims, and the law firm has asserted that he is not involved.

From the point of view of the ethical considerations as stated in the Code of Professional Responsibility, however, Disciplinary Rule 5-105(D), DR 9-101(B), and Ethical Consideration 9-3 appear to be relevant. Prior to February 1974, DR 5-105(D) read as follows:

"If a lawyer is required to decline employment or to withdraw from employment under DR 5-105, no partner or associate of his or his firm may accept or continue such employment."

Subsequently, in February 1974, the Code was revised so that DR 5-105(D) now reads as follows:

"If a lawyer is required to decline employment or to withdraw from employment under a Disciplinary Rule, no partner, or associate, or any other lawyer affiliated with him or his firm, may accept or continue such employment."

This amendment, along with others made at the same time, apparently was not published until late in 1974. EC 9-3 provides:

"After a lawyer leaves judicial office or other public employment, he should not accept employment in connection with any matter in which he had substantial responsibility prior to his leaving, since to accept employment would give the appearance of impropriety even if none exists."

DR 9-101(B) implements ER 9-3 as follows:

"A lawyer shall not accept private employment in a matter in which he had substantial responsibility while he was a public employee."

If DR 5-105(D), as amended last year, is intended, as it appears to read, for that Rule to encompass DR9-101(B), then the Code as applied to the above-described situation would appear to have been contravened.

It is also noted that the Code must be adopted by each local bar jurisdiction. The Preliminary Statement to the Code states:

"The Code is designed to be adopted by appropriate agencies both as an inspirational guide

to the members of the profession and as a basis for disciplinary action when the conduct of a lawyer falls below the required minimum standards stated in the Disciplinary Rules."

Disciplinary Rule 5-105(D) as adopted by the District of Columbia, where the law firm involved is located, is different from its ABA equivalent and reads as follows:

"If a lawyer is required to decline employment or to withdraw from employment under DR 5-105, no partner or associate of his or his firm may accept or continue such employment." [Emphasis supplied]

This current D.C. Rule appears to have incorporated the comparable ABA Rule prior to the amendment to the latter in February 1974.

Despite the existing differences in terminology between the Codes of the American Bar Association and the Bar of the District of Columbia, we feel that the law firm, in continuing to represent the aforementioned corporations in their claims against the Navy, and as to which this Office provides legal representation to the Navy, may be acting in contravention of the standards of professional conduct imposed by both Codes.

In view of the foregoing, we would be grateful for your prompt advice as to whether this Office should continue to deal with the law firm regarding the claims in question.

Sincerely,

E. Grey Lewis

E. GREY LEWIS
General Counsel



DEPARTMENT OF THE NAVY
 NAVAL SEA SYSTEMS COMMAND
 WASHINGTON, D.C. 20362

IN REPLY REFER TO

18 November 1975

MEMORANDUM FOR THE GENERAL COUNSEL, DEPARTMENT OF THE NAVY.

Subj: Disqualification of law firms from representing companies on claims on which their attorneys originally represented the Government

Ref: (a) My memo to you dtd 4 Nov 75, same subject
 (b) Your memo to me dtd 5 Nov 75, same subject

1. By reference (a) I forwarded to you a copy of a letter I wrote to the President of the American Bar Association (ABA) regarding disqualification of law firms on claims on which their attorneys originally represented the Government. I requested his assistance in obtaining the ABA's opinion on the matter since you had requested such a ruling seven months ago but had not yet received a response. In reference (a) I recommended that, pending receipt of that response, you should suspend all dealings between the Navy and any law firm on matters in which members of the law firm previously represented the Government or is disqualified from representing the contractor under any statute or regulation.

2. By reference (b) you responded that you "fully share" my impatience with the failure of the ABA to respond to your request for an opinion on this question. However, you stated that, in your opinion, my letter to Judge Walsh, the President of the ABA was unnecessary because you met with him several weeks ago and because you had written to Mr. Van Dusen, the Chairman of the Ethics Committee, as late as October 29, 1975.

3. It was well over a year ago since the Deputy Counsel for the Naval Sea Systems Command joined the law firm of Sellers, Connor, and Cuneo, and that firm has continued to represent clients to the Navy in apparent violation of the ABA's Code of Professional Ethics. The Navy itself took no action until I raised the ethics issue in my memorandum of 24 January 1975, some six months later. Now another nine months have elapsed without any results despite your visit with the President of the ABA, your letter to Mr. Van Dusen, or such other follow up efforts as you may have made.

4. I wrote directly to the President of the ABA because action is needed and it has not been forthcoming. The Sellers, Connor, and Cuneo firm, in apparent violation of the Code of Professional Ethics, continues to be involved with the Navy in claims and other matters totaling hundreds of millions of dollars. Further delay compounds the very inequities the Code of Professional Ethics was designed to preclude.

5. I have never understood why the Navy, on its own, is unable to apply the Code of Professional Ethics--without reference to the ABA. Moreover, the long delay by the ABA in responding to the Navy's request necessarily casts doubt on its willingness to enforce its own professional standards. If action is delayed long enough, the ABA will be rendering a ruling in principle which, because of the delay, will have no effect on the case in point.

6. I recognize that as an attorney you have professional obligations, and that you wish to defer action until the ABA has issued "formal guidance." However, the ultimate responsibility of any General Counsel of the Navy is to the United States Government and not to the Bar Association. Others in the Navy also have responsibilities which are impacted by the failure to resolve this issue promptly. Since the ABA has ignored your requests for an opinion, I would think you would welcome assistance from others such as myself rather than discouraging it.

7. While the ABA procrastinates, the Government's rights are being compromised. Action is needed now. Therefore I reiterate my recommendation in reference (a) that, pending receipt of the ABA's response, you should suspend all dealings between the Navy and any law firm on matters in which a member of the law firm previously represented the Government or is disqualified from representing the contractor under any statute or regulation. In that way the Navy's position will not continue to be compromised while awaiting the ABA's ruling.

H. G. Rickover
H.G. Rickover

Copy to:
Assistant Secretary of the Navy
(Installations and Logistics)
Chief of Naval Material
Commander, Naval Sea Systems Command



DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND,
WASHINGTON, D.C. 20362

IN REPLY REFER TO

MEMORANDUM FOR THE GENERAL COUNSEL, DEPARTMENT OF THE NAVY

Subj: Disqualification of law firms from representing companies on claims on which their attorneys originally represented the Government

Ref: (a) My memo to General Counsel, Department of Defense dtd 24 Jan 1975
(b) Your ltr to ABA dtd 8 Apr 1975
(c) Mr. Van Dusen's ltr to you dtd Nov 24, 1975

1. In reference (a) I raised the issue of the law firm of Sellers, Connor, and Cuneo continuing to represent shipbuilders on claims against the Navy after a Navy lawyer who had worked on these claims, or been responsible for them, had joined the firm. This appeared to be in violation of the American Bar Association's (ABA) Canons of Ethics.

2. Upon learning of this concern, Sellers, Connor, and Cuneo sought to justify its continued representation of those clients. One of its points was that the Office of General Counsel, Navy (OGC) had hired attorneys who formerly worked for General Dynamics, and other OGC lawyers continued to litigate those claims. You took action to neutralize that argument of Navy impropriety by disqualifying all Navy OGC lawyers in those General Dynamics cases. Thereafter, on 8 April 1975, by reference (b), you wrote to the American Bar Association's Committee on Professional Ethics asking if OGC should continue to deal with Sellers, Connor, and Cuneo on the claims in question since you were concerned that the law firm might be acting in contravention of the standards of professional conduct. We have both been concerned about the length of time which has elapsed since then and that the firm has continued to represent those clients, to the possible detriment of the Navy.

3. After more than 7 months delay, the ABA has finally rendered its decision, reference (c). In summary, the ABA ruling is that:

"...whenever the government agency is satisfied that the screening measures will effectively isolate the individual lawyer from participating in the particular matter and sharing in the fees attributable to it, and that there is no appearance of significant impropriety affecting the interests of the government, the government may waive the disqualification of the firm under DR 5-105(D). In the event of such waiver, and provided the firm also makes its own independent determination as to the absence of particular circumstances creating a significant appearance of impropriety, the result will be that the firm is not in violation of DR 5-105(D) by accepting or continuing the representation in question."

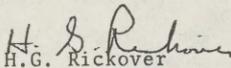
4. A waiver in the case of Sellers, Connor, and Cuneo would not appear appropriate because:

a. The attorney involved was a key member of the Navy's legal staff for shipbuilding claims, and was directly responsible for and involved with the Navy's legal position. He has an intimate knowledge of the Navy's facts, witnesses and of the strengths and weaknesses of the Government's cases. This is therefore a situation in which the lawyer was involved in a major way.

b. The firm of Sellers, Connor, and Cuneo is a relatively small one, with its attorneys necessarily having many internal contacts each day. In this respect it is quite different from the United States v. Standard Oil Company case cited in the ABA's opinion. In the Standard Oil case, the lawyer in question was isolated in the Paris office of the law firm, geographically separated from the New York lawyers who were working on the case.

c. The appearance of impropriety is strong because of the former Deputy Counsel's key position in the Navy. For this reason alone the Navy should not grant a waiver.

5. Since the ABA's answer lends substance to your earlier concern that continued representation by Sellers, Connor, and Cuneo in certain cases violates the ABA's Canons of Ethics, it appears the last impediment to action in this case has been removed. I would appreciate being informed of your final disposition of this matter.


H.G. Rickover

Copy to:
Assistant Secretary of the Navy
(Installations and Logistics)
Chief of Naval Material
Commander, Naval Sea Systems Command



AMERICAN BAR ASSOCIATION

STANDING
COMMITTEE
ON ETHICS AND
PROFESSIONAL
RESPONSIBILITY

1155 EAST 60TH ST., CHICAGO, ILLINOIS 60637 TELEPHONE (312) 947-3890

cc: Adm. Rickover

CHAIRMAN
Lewis H. Van Dusen, Jr.
Suite 1100
Philadelphia National
Bank Building
Philadelphia, PA 19107

Betty B. Fletcher
Seattle, WA
Thomas C. MacDonald, Jr.
Tampa, FL

L. Clair Nelson
Stamford, CT
Harold L. Rock
Omaha, NB

John Joseph Snider
Oklahoma City, OK
John F. Sutton, Jr.
Austin, TX
Sherman S. Welpton, Jr.
Los Angeles, CA

STAFF DIRECTOR
C. Russell Twist
1155 E. 60th St.
Chicago, IL 60637

November 24, 1975

E. Grey Lewis, Esq.
General Counsel
Department of the Navy
Office of the General Counsel
Washington, DC 20360

Re: Informal Opinion 1336 - F. O. 342

Dear Mr. Lewis:

I am sorry you were unable to get to my office as suggested on November 14. However, our Committee has now issued its Formal Opinion 342, and I am herewith enclosing a copy. It seems to me that this opinion finally provides a long overdue answer to your inquiry concerning the disqualification of a law firm hiring a government lawyer who previously worked on a case which the law firm was handling. If you have any further questions, please get in touch with me. We do appreciate your patience.

Sincerely,

Lewis H. Van Dusen, Jr.
Lewis H. Van Dusen, Jr.

LHVDjr/rnb

cc: Committee Members; C. Russell Twist, Esq.

Enclosure

26 NOV 1975

Dated: 11/24/75

FINAL

FORMAL OPINION 342

Following the 1974 amendment of DR 5-105(D), which extended every disqualification of an individual lawyer in a firm to all affiliated lawyers,^{1/} the interpretation and application of DR 9-101(B) have been increasingly of concern to many government agencies as well as to many former government lawyers now in private practice.^{2/} DR 9-101(B) is based upon former ABA Canon 36, but its standard or test is different. Our task is to interpret DR 9-101(B) in light of its history and in consideration of its underlying purposes and policies.

DR 9-101(B) reads as follows:

A lawyer shall not accept private employment in a manner in which he had substantial responsibility

^{1/} As amended at the Mid-Winter meeting of the ABA in February 1974, DR 5-105(D) provides: "If a lawyer is required to decline employment or to withdraw from employment under a Disciplinary Rule, no partner, or associate, or any other lawyer affiliated with him or his firm, may accept or continue such employment." Prior to amendment, the rule undertook to disqualify all such affiliated lawyers only when the lawyer in question was "required to decline employment or to withdraw from employment under DR 5-105..." But see fn. 2, *infra*.

^{2/} It has long been recognized that the disqualification of one lawyer in an organization generally constituted disqualification of all affiliated lawyers; see, e.g., *American Can Co. v. Citrus Feed Co.*, 436 F.2d 1125 (5th Cir. 1971); *Laskey Bros. of W. Va. v. Warner Bros. Pictures*, 224 F.2d 824 (2nd Cir. 1955); *Silver Chrysler Plymouth v. Chrysler Motors Corp.*, 370 F.Supp. 581 (E.D. N.Y. 1973), *aff'd*, ___ F.2d ___ (2nd Cir. 1975); *W. E. Basset Co. v. H. C. Cook Co.*, 201 F.Supp. 321 (D. Conn. 1962); Formal Opinions 169 (1937), 49 (1931), 33 (1931), and 16 (1929); Informal Opinions 1336 (1975), and 906 (1966); Texas Ethics Comm. Opinion 100 (1954); Perkins, *The Federal Conflict-of-Interest Law*, 76 Harv. L. Rev. 1113, 1162 (1963); Kaufman, *The Former Government Attorney and the Canons of Professional Ethics*, 70 Harv. L. Rev. 657, 660 (1957); Kaplan, *Forbidden Retainers*, 31 N.Y.U. L.Rev. 914, 926 (1956); Casenote, 69 Harv. L.Rev. 1339 (1956). The rule is based upon the close, informal relationship among law partners and associates and upon the incentives, financial and otherwise, for partners to exchange information freely among themselves when the information relates to existing employment. As to the application of DR 5-105(D) in situations involving DR 9-101(B), see the discussion *infra*.

while he was a public employee.^{3/}

At the outset, the relationship between DR 9-101 (B) and the provisions of Canons 4 (Confidences and Secrets) and 5 (Independent Professional Judgment) should be explored briefly. To some extent, the Disciplinary Rules of those two canons reinforce the same ethical concepts underlying DR 9-101 (B).

The Disciplinary Rules of Canon 4 generally forbid a lawyer to reveal or use a confidence or secret of a client; see DR 4-101 (B). That rule applies to a government lawyer as well as to private practitioners, for "the Disciplinary Rules should be uniformly applied to all lawyers, regardless of the nature of their professional activities."^{4/} A lawyer violates DR 4-101 (B) only by knowingly revealing a confidence or secret of a client or using a confidence or secret improperly as specified in the rule. Nevertheless, many authorities have held that as a procedural matter a lawyer is disqualified to represent a party in litigation if he formerly represented an adverse party in a matter substantially related to the pending litigation.^{5/} Even though DR 4-101 (B) is not breached

^{3/} The companion provision in the former ABA Canons of Professional Ethics was found in Canon 36 and read as follows: "A lawyer, having once held public office or having been in the public employ, should not after his retirement accept employment in connection with any matter which he has investigated or passed upon while in such office or employ."

^{4/} Preliminary Statement, CPR.

^{5/} See *Enle Industries, Inc. v. Patentex, Inc.*, 478 F.2d 562 (2nd Cir. 1973); *American Can Co. v. Citrus Feed Co.*, 436 F.2d 1125 (5th Cir. 1971); *Silver Chrysler Plymouth, Inc. v. Chrysler Motors Corp.*, 370 F. Supp. 581 (E.D. N.Y. 1973), aff'd. ___ F.2d ___ (2nd Cir. 1975); *Humble Oil & Refining Co. v. American Oil Co.*, 224 F. Supp. 909 (E.D. Mo. 1963); *Schmidt v. Pine Lawn Memorial Park*, 198 N.W.2d 496 (S.D. 1972); Kaufman, *The Former Government Attorney and the Canons of Professional Ethics*, 70 Harv. L. Rev. 657 (1957); Note, 64 Yale L. J. 917 (1955).

by the mere act of accepting present employment against a former client involving a matter substantially related to the former employment, the procedural disqualification protects the former client in advance of and against a possible future violation of DR 4-101 (B).^{6/}

The Disciplinary Rules of Canon 5 bring into professional regulation, and with some specificity, the ancient maxim that one cannot serve two masters.^{7/} The disciplinary rules of Canon 5 are concerned largely with the effect of dual representation upon the quality of the professional service rendered to a client. Therefore the rules generally require a lawyer to refuse employment or to withdraw from employment when his exercise

^{6/} If this device of a procedural disqualification based upon the substantial relationship of the subject matter of the two employments were not used, the remedy would be either, first, an after-the-fact disciplinary action in which the issue is whether a particular confidence or secret was actually revealed or used improperly, or second, a procedural disqualification based upon the fact issue of whether confidences or secrets were actually revealed in the first employment that are so relevant that they are likely to be revealed or used during the second employment. The "substantially related" test is less burdensome to the client first represented and is less destructive of the confidential nature of the attorney-client relationship. See *Emle Industries, Inc. v. Patentex, Inc.*, 478 F.2d 562, 571 (2nd Cir. 1973) in which it is pointed out that an inquiry, on a procedural motion to disqualify, into actual confidences "would prove destructive of the weighty policy considerations that serve as the pillars of Canon 4 of the Code" and that if the procedural disqualification were not used as a prophylactic measure a lawyer might unconsciously or intentionally use a confidence or "out of an excess of good faith, might bend too far in the opposite direction, refraining from seizing a legitimate opportunity for fear that such a tactic might give rise to an appearance of impropriety." Cf. EC 5-14, CPR.

^{7/} "No man can serve two masters: for either he will hate the one, and love the other: or else he will hold to the one, and despise the other. Ye cannot serve God and mammon." Matthew 6:24. See also Formal Opinions 33 (1931), 71 (1932), and 83 (1932). The latter quoted Hoffman's Eighth Resolution: "If I have ever had any connection with a cause, I will never permit myself (when that connection is for any reason severed) to be engaged on the side of my former antagonist."

of professional judgment on behalf of a client may be affected; see DR 5-105; EC 5-14; and EC 5-15. The rules also forbid a lawyer to switch sides even in situations where the exercise of the lawyer's professional judgment on behalf of a present client will not be affected.^{8/} To this extent, the Disciplinary Rules of Canon 5 regulate the employment a lawyer may undertake after concluding or terminating past employment, whether the past employment was as a private or as a public lawyer.

DR 9-101 (B) appears under the maxim of Canon 9, "A Lawyer Should Avoid Even the Appearance of Professional Impropriety." It is obvious, however, that the "appearance of professional impropriety" is not a standard, test or element embodied in DR 9-101 (B).^{9/} DR 9-101 (B) is

^{8/} The prohibition against switching sides where the exercise of the lawyer's professional judgment on behalf of a client will not be affected is somewhat obscure. The prohibition is found in DR 5-105 (A) and (B), forbidding the acceptance or retention of employment involving the representation of "differing interests," which is defined as every interest "that will adversely affect either the judgment or the loyalty of a lawyer to a client. . . ." Definitions (1). Generally, see E. F. Hutton & Co. v. Brown, 305 F. Supp. 371 (S.D. Tex. 1969).

^{9/} But cf. *Silver Chrysler Plymouth, Inc. v. Chrysler Motors Corp.*, F.2d (2nd Cir. 5/23/75); *General Motors Corp. v. City of New York*, 501 F.2d 639 (2nd Cir. 1974); *Motor Mart, Inc. v. Saab Motors, Inc.*, 359 F. Supp. 156 (S.D. N.Y. 1973); *Hilo Metals Co., Ltd. v. Learner Co.*, 258 F. Supp. 23 (D. Hawaii 1966); *United States v. Standard Oil Co.*, 136 F. Supp. 345 (S.D. N.Y. 1955); Kaufman, *The Former Government Attorney and the Canons of Professional Ethics*, 70 Harv. L. Rev. 657 (1957). Judge Weinstein made an appropriate comment regarding "Appearances of Impropriety" in *Silver Chrysler Plymouth, Inc. v. Chrysler Motors Corp.*, 370 F. Supp. 581, 589: "Defendants seem to suggest that the complexities of the factual determination to be made by this court should be avoided by a decision couched in notions of possible appearance of impropriety. On the contrary, the importance of the underlying policy considerations call for careful analysis of the matters embraced by previous and present litigations. Vague or indefinite allegations do not suffice. * * * The danger of damage to public confidence in the legal profession would be great if we were to allow unfounded charges of impropriety to form the sole basis for an unjust disqualification."

located under Canon 9 because the "appearance of professional impropriety" is a policy consideration supporting the existence of the Disciplinary Rule. The appearance of evil is only one of the underlying considerations, however, and is probably not the most important reason for the creation and existence of the rule itself.

The policy considerations underlying DR 9-101 (B) have been thought to be the following: the treachery of switching sides;^{10/} the safeguarding of confidential governmental information from future use against the government;^{11/} the need to discourage government lawyers from handling particular assignments in such a way as to encourage their own future employment in regard to those particular matters after leaving government service;^{12/} and the professional benefit derived from

^{10/} See Formal Opinion 71 (1932); Kaplan, *Forbidden Retainers*, 31 N.Y.U. L. Rev. 914, 917 (1956); Ass'n. of the Bar of the City of New York, *CONFLICT OF INTEREST AND FEDERAL SERVICE* 45 (1960). Thus Canon 5 and DR 9-101 (B) are based at least in part on the same considerations of ethics.

^{11/} See *Allied Realty of St. Paul v. Exchange National Bank of Chicago*, 283 F. Supp. 464 (D. Minn. 1968), aff'd 408 F.2d 1099 (8th Cir. 1969); Kaufman, *The Former Government Attorney and the Canons of Professional Ethics*, 70 Harv. L. Rev. 657 (1957). Cf. McKay, *An Administrative Code of Ethics: Principles and Implementation*, 47 A.B.A. J. 890 (1961). Thus Canon 4 and DR 9-101 (B) are based at least in part on the same considerations of ethics. Speaking of former Canon 36, the forerunner of DR 9-101 (B), Judge Kaufman said: "Canon 36 was designed to supplement the other two [Canons regarding conflicts and confidences], not to replace them." *Id.* at 660.

^{12/} "Interviews revealed a substantial body of opinion that government employees who anticipate leaving their agency some day are put under an inevitable pressure to impress favorably private concerns with which they officially deal." Ass'n. of the Bar of the City of New York, *CONFLICT OF INTEREST AND FEDERAL SERVICE* 233 (1960). See also *Allied Realty of St. Paul v. Exchange National Bank of Chicago*, 283 F. Supp. 464 (D. Minn. 1968), aff'd 408 F.2d 1099 (8th Cir. 1969); *Hilo Metals Co. v. Learner Co.*, 248 F. Supp. 23 (D. Hawaii 1966); Formal Opinion 37 (1931).

avoiding the appearance of evil.^{13/}

There are, however, weighty policy considerations in support of the view that a special disciplinary rule relating only to former government lawyers should not broadly limit the lawyer's employment after he leaves government service. Some of the underlying considerations favoring a construction of the rule in a manner not to restrict unduly the lawyer's future employment are the following: the ability of government to recruit young professionals and competent lawyers should not be interfered with by imposition of harsh restraints upon future practice nor should too great a sacrifice be demanded of the lawyers willing to enter government service;^{14/} the rule serves no worthwhile

^{13/} See *General Motors Corp. v. City of New York*, 501 F.2d 639 (2nd Cir. 1974); *Motor Mart v. Saab Motors, Inc.*, 359 F. Supp. 156 (S. D. N.Y. 1973); *Hilo Metals Co., Ltd. v. Learner Co.*, 258 F. Supp. 23 (D. Hawaii 1966); *United States v. Standard Oil Co.*, 136 F. Supp. 345 (S.D. N.Y. 1955); Kaufman, *The Former Government Attorney and the Canons of Professional Ethics*, 70 Harv. L. Rev. 657 (1957).

^{14/} "It is not sufficiently recognized that post-employment restrictions can be overly stringent, hurting the government more than they help it. This is most easily seen in the deterrent effect of such regulation upon the government's recruitment of manpower; no man will accept government appointment -- especially temporary government appointment -- if he must abandon the use of his professional skills for several years after leaving government service. The adverse effect of such restrictions on the government's efficient use of skills and information is probably even greater. The knowledge of an experienced former official may be made to operate against the government, but it may also contribute to the ends of the government." Ass'n. of the Bar of the City of New York, *CONFLICT OF INTEREST AND FEDERAL SERVICE* 224 (1960). It was also said that the "most damaging result of the present system is its deterrent effect on the recruitment and retention of executive and some kinds of consultative talent." *Id.* at 181.

See also *Silver Chrysler Plymouth, Inc. v. Chrysler Motors Corp.*, 370 F. Supp. 581 (E.D. N.Y. 1973) ("A concern both for the future of young professionals and for the freedom of choice of the litigants in

public interest if it becomes a mere tool enabling a litigant to improve his prospects by depriving his opponent of competent counsel;^{15/} and the rule should not be permitted to interfere needlessly with the right of litigants to obtain competent counsel of their own choosing, particularly in specialized areas requiring special, technical training and experience.^{16/}

DR 9-101 (B) itself, while presumably drafted in the light of the above policy considerations, does not embody any of them as a test. The issue of fact to be determined in a disciplinary action is whether the

¹⁴ contd/ specialized areas of law requires care not to disqualify needlessly", aff'd. ___ F.2d ___ (2nd Cir. 1975); *United States v. Standard Oil Co.*, 136 F. Supp. 345 (S.D. N.Y. 1955) ("If service with the government will tend to sterilize an attorney in too large an area of law for too long a time, or will prevent him from engaging in practice of the very speciality for which the government sought his service -- and if that sterilization will spread to the firm with which he becomes associated -- the sacrifices of entering government service will be too great for most men to make. As for those men willing to make these sacrifices, not only will they and their firms suffer a restricted practice thereafter, but clients will find it difficult to obtain counsel, particularly in those specialties and suits dealing with the government"); Kaufman, *The Former Government Attorney and the Canons of Professional Ethics*, 70 Harv. L. Rev. 657 (1957) ("The restrictions placed upon [the government attorney's] future career are so unclear and may be so sterilizing that unless he is completely unwary he will hesitate before accepting government employment"); Casenote, 68 Harv. L. Rev. 1094 (1955) (suggesting that a lawyer should not be disqualified in a case involving his specialty unless a hearing, such as an in camera hearing, results in a finding that the information obtained from the client is not available elsewhere by reasonable research); Kaplan, *Forbidden Retainers*, 31 NYU L. Rev. 914 (1956); Casenote, 64 Yale L. J. 917 (1955) ("Furthermore, the attorney's right to develop a special skill free from unwarranted limitations as to employment must be recognized").

^{15/} Cf. *Emle Industries, Inc. v. Patentex, Inc.*, 478 F.2d 562, 574 (2nd Cir. 1973).

^{16/} *Emle Industries, Inc. v. Patentex, Inc.*, 478 F.2d 562, 565 (2nd Cir. 1973); *Laskey Bros. of W. Va., Inc. v. Warner Bros. Pictures*, 224 F.2d 824 (2nd Cir. 1955); *Silver Chrysler Plymouth, Inc. v. Chrysler Motors Corp.*, 370 F. Supp. 581 (E.D. N.Y. 1973), aff'd. ___ F.2d ___ (2nd Cir. 1975); Note, 64 Yale L. J. 917 (1955).

lawyer has accepted "private employment" in a "matter" in which he had "substantial responsibility" while he was a "public employee." Interpretation apparently is needed in regard to each of the quoted words or phrases, and each should be interpreted so as to be consistent, insofar as possible, with the underlying policy considerations discussed above.^{17/}

As used in DR 9-101 (B), "private employment" refers to employment as a private practitioner. If one underlying consideration is to avoid the situation where government lawyers may be tempted to handle assignments so as to encourage their own future employment in regard to those matters, the danger is that a lawyer may attempt to derive undue financial benefit from fees in connection with subsequent employment, and not that he may change from one salaried government position to another. The balancing consideration supporting our construction is that government

^{17/} Perhaps the least helpful of the seven policy considerations mentioned above is that of avoiding the appearance of impropriety. This consideration appears in the heading of Canon 9 and is developed more fully in EC 9-2 and 9-3, thereby giving guidance to lawyers when making decisions of conscience in regard to their professional responsibility. Thus, "avoiding the appearance of evil" is relevant to our task of interpreting DR 9-101 (B), even though it is not relevant when a grievance committee or court is determining whether a violation of the standard of DR 9-101 (B) has in fact occurred. It is fortunate that "avoiding even the appearance of professional impropriety" was not made an element of the disciplinary rule, for it is too vague a phrase to be useful (see McKay, An Administrative Code of Ethics: Principles and Implementation, 47 ABA J. 890, 894 (1961)), and lawyers will differ as to what constitutes the appearance of evil (see *Silver Chrysler Plymouth, Inc., v. Chrysler Motors Corp.*, 370 F. Supp. 581 (E.D. N.Y. 1973), *aff'd*, 500 F.2d (2nd Cir. 1975)). For the same reasons, the concept is of limited assistance as an underlying policy consideration. If "appearance of professional impropriety" had been included as an element in the disciplinary rule, it is likely that the determination of whether particular conduct violated the rule would have degenerated from the determination of the fact issues specified by the rule into a determination on an instinctive, ad hoc or even ad hominem basis; cf. McKay, supra at 893.

agencies should not be unduly hampered in recruiting lawyers presently employed by other government bodies.^{18/}

Although a precise definition of "matter" as used in the Disciplinary Rule is difficult to formulate, the term seems to contemplate a discrete and isolatable transaction or set of transactions between identifiable parties.^{19/} Perhaps the scope of the term "matter" may be indicated by examples. The same lawsuit or litigation is the same matter. The same issue of fact involving the same parties and the same situation or conduct is the same matter.^{20/} By contrast, work as a government employee in drafting, enforcing or interpreting government or agency procedures, regulations, or laws, or in briefing abstract principles of law, does not disqualify the lawyer under DR 9-101 (B) from subsequent private

^{18/} This position is not in conflict with *General Motors Corp. v. City of New York*, 501 F.2d 639 (2nd Cir. 1974). In that case it appears that the lawyer for the municipality was privately retained, and the appellate court held that this employment constituted "private employment" within the meaning of DR 9-101 (B).

^{19/} See Manning, *FEDERAL CONFLICT OF INTEREST LAW* 204 (1964).

^{20/} See *Emle Industries, Inc. v. Patentex, Inc.*, 478 F.2d 562 (2nd Cir. 1973), where an issue of fact regarding Burlington's control of Patentex was an issue of fact in the earlier litigation as well as in the instant litigation. Similarly, in *General Motors Corp. v. City of New York*, 501 F.2d 639 (2nd Cir. 1974), it appeared that many, if not all, of the issues of fact in the two cases involved the same conduct of General Motors that allegedly resulted in monopolizing trade in the manufacture and sale of city buses, and it was held that the same "matter" was involved within the meaning of DR 9-101 (B). In that opinion it was said, at 651: "the district court set forth the proper test (60 F.R.D. at 402): In determining whether this case involves the same matter as the 1956 Bus case, the most important consideration is not whether the two actions rely for their foundation upon the same section of the law, but whether the facts necessary to support the two claims are sufficiently similar."

employment involving the same regulations, procedures, or points of law; the same "matter" is not involved because there is lacking the discrete, identifiable transactions or conduct involving a particular situation and specific parties.^{21/}

The element of DR 9-101 (B) most difficult to interpret in light of the underlying considerations, pro and con, is that of "substantial responsibility." We turn first to the language of the predecessor Canon 36 --- language which was found wanting.

^{21/} "Many a lawyer who has served with the government has an advantage when he enters private practice because he has acquired a working knowledge of the department in which he was employed, has learned the procedures, the governing substantive and statutory law and is to a greater or lesser degree an expert in the field in which he was engaged. Certainly this is perfectly proper and ethical. Were it not so, it would be a distinct deterrent to lawyers ever to accept employment with the government. This is distinguishable, however, from a situation where, in addition, a former government lawyer is employed and is expected to bring with him and into the proceedings a personal knowledge of a particular matter", the latter being thought to be within the proscription of former Canon 36; *Allied Realty of St. Paul v. Exchange National Bank of Chicago*, 283 F. Supp. 464 (D. Minn. 1968), aff'd. 403 F.2d 1099 (8th Cir. 1969). See also B. Manning, *FEDERAL CONFLICT OF INTEREST LAW* 204 (1964).

A contrary interpretation would unduly interfere with the opportunity of a former lawyer to use his expert technical legal skills, and the prospect of such unnecessary limitations on future practice probably would unreasonably hinder the recruiting efforts of various local, state and federal governmental agencies and bodies.

Our interpretation leaves protection of governmental confidences or information largely to the Disciplinary Rules of Canon 4, which apply to governmental lawyers as well as privately employed lawyers; see fn. 4, *supra*. This result is consistent with the trend toward "government in the sunshine" and with such statutes as the Freedom of Information Act; cf. *National Labor Relations Board v. Sears, Roebuck & Co.*, 95 S.Ct. 1504 (1975), which discusses the application of that act and its exceptions to the work of government lawyers and generally protects information held by government lawyers when the information falls within the classifications of attorney work product or executive privilege.

Canon 36, former ABA Canons of Professional Ethics, stated that the former government lawyer should not accept employment in connection with a matter "he has investigated or passed upon" while in government employ. But "passed upon" proved to be too broadly encompassing; for example, it was held under Canon 36 that a lawyer could not accept employment in connection with a land title which he had passed upon in a perfunctory manner, the title having been before him for consideration only because title reports were made in his name as assistant chief title examiner or in the name of the chief title examiner.^{22/} And if disqualifying a lawyer because of a mere "rubber stamp" approval of the work of another was not bad enough, this committee was confronted with the necessity of either disregarding that language of Canon 36 or holding that a lawyer who was a former governor was disqualified from litigation involving any legislation he had passed upon --- perhaps by vetoing, signing, or permitting to become law without signature --- as governor.^{23/} Perhaps an extreme in the interpretation of the language was reached when the government contended in one case that a lawyer was barred under Canon 36 when the lawyer "should have passed," even if he had not passed,

^{22/} Formal Opinion 37 (1931).

^{23/} The committee concluded that the governor was not disqualified. Formal Opinion 26 (1930). In the opinion it was observed that the literal language of former Canon 36 would prevent governors and legislators from ever again dealing with any subject studied while in office. "They illustrate that the canon was not intended to have the effect that its words too literally construed imply."

upon a particular matter.^{24/}

Discussions of former canons 6 (predecessor to Canon 5), 36 (predecessor to the Disciplinary Rule in question), and 37 (predecessor to Canon 5) sometimes are worded in terms of "rebuttable presumptions," "irrebuttable presumptions," "rebuttable inferences," "horizontally imputed knowledge," "vertically imputed knowledge," "charged with knowledge," and other conceptions not found in the language of those prior canons or in the language of the present Disciplinary Rules.^{25/} To an extent the dis-

^{24/} See *United States v. Standard Oil Co.*, 136 F. Supp. 345 (S.D. N.Y. 1955)

As to the applicability or interpretation of the "investigated or passed upon" language of former Canon 35, see also *United States v. Traficante*, 328 F.2d 117 (5th Cir. 1964); *Traylor v. City of Amarillo, Texas*, 335 F.Supp. 423 (N.D. Tex. 1971); *State of Minn. v. United States Steel Corp.*, 44 F.R.D. 559 (D. Minn. 1968); *Hilo Metals Co. v. Learner Co.*, 258 F.Supp. 23 (D. Hawaii 1966); *Kaplan, Forbidden Retainers*, 31 N.Y.U. L. Rev. 914 (1956); *Kaufman, The Former Government Attorney and the Canons of Professional Ethics*, 70 Harv. L. Rev. 657 (1957); *Perkins, The New Federal Conflict-of-Interest Law*, 76 Harv. L. Rev. 1113 (1963); *Casnote*, 69 Harv. L. Rev. 1339 (1956); *B. Manning, FEDERAL CONFLICT OF INTEREST LAW 196 (1964)*.

^{25/} See, e.g., *Silver Chrysler Plymouth, Inc. v. Chrysler Motors Corp.*, ___ F.2d ___ (2nd Cir. 5/2/75); *American Can Co. v. Citrus Feed Co.*, 436 F.2d 1125 (5th Cir. 1971); *Laskey Bros. of W. Va. v. Warner Bros. Pictures*, 224 F.2d 824 (2nd Cir. 1955); *United States v. Standard Oil Co.*, 136 F.Supp. 345 (S.D. N.Y. 1955); *Kaufman, The Former Government Attorney and the Canons of Professional Ethics*, 70 Harv. L. Rev. 657 (1957).

Imputation of knowledge from a lawyer to his firm need not be explored where a lawyer is disqualified by reason of prior representation or employment, for DR 5-105 (D) specifically makes all associated lawyers disqualified and therefore knowledge *vel non* is irrelevant. Imputation of knowledge is likewise irrelevant in considering the fact issue whether the former government lawyer did in fact personally "investigate or pass upon" a matter; knowledge of close associates or subordinates regarding the matter in question may in some instances be logically relevant in determining whether the lawyer did investigate or pass upon the matter, but to work in terms of "imputed knowledge" tends to fictionalize the factfinding process. Yet, in the application of DR 4-101 (A), a lawyer's knowledge of a confidence or secret may be a highly relevant fact. Under DR 9-101 (B) an issue of fact obviously is whether the lawyer had "substantial responsibility" in regard to the matter in question, rather than whether he possessed certain knowledge.

cussions are confusing and seem to constitute a bit of a tour de force. It is not clear, for example, whether the presumptions in question are intended to have the procedural effect of assuring the sufficiency of evidence on a fact issue, or of shifting a burden of going forward with evidence, or of shifting the burden of persuasion, or, in fact, of constituting a new substantive rule different from that stated in the Canon or Disciplinary Rule in question. ²⁶ Neither is it clear why knowledge should be "imputed" or "charged" to a person, nor, indeed, why knowledge itself, rather than "investigated or passed upon," is even relevant in some instances. But after reading such discussions one senses that there is dissatisfaction with having to make findings of certain facts such as, for example, whether the lawyer in question personally did in fact "investigate or pass upon" the matter in question. ^{27/}

Apparently the new language of DR 9-101 (B), "substantial responsibility," was designed to alleviate some of the difficulties discussed above. The new language is, however, not without its own difficulties.

As used in DR 9-101 (B), "substantial responsibility" envisages a much closer and more direct relationship than that of a mere perfunctory

^{26/} Compare with *Silver Chrysler Plymouth, Inc. v. Chrysler Motors Corp.*, 370 F. Supp. 581, 587-8, aff'd, F.2d (2nd Cir. 1975). Generally see McCormick, EVIDENCE 802-6 (2nd Ed. 1972).

^{27/} For example, Judge Kaufman's discussion suggests that the test whether the government lawyer personally investigated or passed upon the matter in question affords inadequate protection. Many responsible supervisory government officials make decisions based on the work of subordinates, and the work and knowledge of the subordinates may or may not be known to or remembered by the official. See Kaufman, *The Former Government Attorney and the Canons of Professional Ethics*, 70 *Harv. L. Rev.* 657, 666 (1957).

28

approval or disapproval of the matter in question. It contemplates a responsibility requiring the official to become personally involved to an important, material degree, in the investigative or deliberative processes regarding the transactions or facts in question. Thus, being the chief official in some vast office or organization does not ipso facto give that government official or employee the "substantial responsibility" contemplated by the rule in regard to all the minutiae of facts lodged within that office.²⁹ Yet it is not necessary that the public employee or official shall have personally and in a substantial manner investigated or passed upon the particular matter, for it is sufficient that he had such a heavy responsibility for the matter in question that it is unlikely he did not become personally and substantially involved in the investigative or deliberative processes regarding that matter.^{30/} With a responsibility so strong and compelling that he probably became involved in the investigative or decisional processes, a lawyer upon leaving the government service should not represent another in regard to that matter. To do so

^{28/} See Informal Opinion 1129 (1969), discussing both DR 9-101 (B) and former Canon 36.

^{29/} If "official responsibility" had been used in lieu of "substantial responsibility," the scope of DR 9-101 (B) would have been enlarged considerably but perhaps to the detriment of governmental recruiting. Compare Buss, *The Massachusetts Conflict-of-Interest Statute: An Analysis*, 45 Boston U. L. Rev. 299, 318 (1969).

^{30/} Compare the views expressed in Kaufman, *The Former Government Attorney and the Canons of Professional Ethics*, 70 Harv. L. Rev. 657, 667 (1957). See also Perkins, *The New Federal Conflict-of-Interest Law*, 76 Harv. L. Rev. 1113, 1127 (1963).

would be akin to switching sides, might jeopardize confidential government information, and gives the appearance of professional impropriety in that accepting subsequent employment regarding that same matter creates a suspicion that the lawyer conducted his governmental work in a way to facilitate his own future employment in that matter.

The element of "substantial responsibility" as so construed should not unduly hinder the government in recruiting lawyers to its ranks nor interfere needlessly with the right of litigants to employ technically skilled and trained former government lawyers to represent them.

The last factual element of DR 9-101 (B) deserving explanation is that of "public employee." It is significant that the word lawyer was not used instead of employee. Accordingly, the intent clearly was for DR 9-101 (B) to be applicable to the lawyer whose former public or governmental employment was in any capacity and without regard to whether it involved work normally handled by lawyers.

The extension by DR 5-105 (D) of disqualification to all affiliated lawyers is to prevent circumvention by a lawyer of the Disciplinary Rules. Past government employment creates an unusual situation in which inflexible application of DR 5-105 (D) would actually thwart the policy considerations underlying DR 9-101 (B). The question of the application of DR 5-105 (D) to the situation in which a former government employee would be in violation of DR 9-101 (B) should be considered in the light of those policy considerations, viz: opportunities for government recruitment and the availability of skilled and trained lawyers for litigants should not be unreasonably limited in order to prevent the appearance of switching sides, yet confidential information should be safeguarded, and government

lawyers should be discouraged from handling particular assignments in such a way as to encourage their own future employment in regard to those particular matters after leaving government service. The desire to avoid the appearance of evil, even though less important, must be considered. A realistic construction of DR 5-105(D) should recognize and give effect to the divergent policy considerations when government employment is involved.

When the Disciplinary Rules of Canons 4 and 5 mandate the disqualification of a government lawyer who has come from private practice, his governmental department or division cannot practicably be rendered incapable of handling even the specific matter. Clearly, if DR 5-105(D) were so construed, the government's ability to function would be unreasonably impaired. Necessity dictates that government action not be hampered by such a construction of DR 5-105(D). The relationships among lawyers within a government agency are different from those among partners and associates of a law firm. The salaried government employee does not have the financial interest in the success of departmental representation that is inherent in private practice. This important difference in the adversary posture of the government lawyer is recognized by Canon 7: the duty of the public prosecutor to seek justice, not merely to convict, and the duty of all government lawyers to seek just results rather than the result desired by a client. The channeling of advocacy toward a just result as opposed to vindication of a particular claim lessens the temptation to circumvent the disciplinary rules through the action of associates. Accordingly, we construe DR 5-105(D) to be inapplicable to other government lawyers associated with a particular government lawyer who is himself disqualified by reason of

DR 4-101, DR 5-105, DR 9-101(B), or similar Disciplinary Rules. Although vicarious disqualification of a government department is not necessary or wise, the individual lawyer should be screened from any direct or indirect participation in the matter, and discussion with his colleagues concerning the relevant transaction or set of transactions is prohibited by those rules.

Likewise, DR 9-101(B)'s command of refusal of employment by an individual lawyer does not necessarily activate DR 5-105(D)'s extension of that disqualification. The purposes of limiting the mandate to matters in which the former public employee had a substantial responsibility are to inhibit government recruitment as little as possible and enhance the opportunity for all litigants to obtain competent counsel of their own choosing, particularly in specialized areas. An inflexible extension of disqualification throughout an entire firm would thwart those purposes. So long as the individual lawyer is held to be disqualified and is screened from any direct or indirect participation in the matter, the problem of his switching sides is not present; by contrast, an inflexible extension of disqualification throughout the firm often would result in real hardship to a client if complete withdrawal of representation was mandated, because substantial work may have been completed regarding specific litigation prior to the time the government employee joined the partnership, or the client may have relied in the past on representation by the firm.

All of the policies underlying DR 9-101(B), including the principles of Canons 4 and 5, can be realized by a less-stringent application of DR 5-105(D). The purposes, as embodied in DR 9-101(B), of discouraging government lawyers

-18-

from handling particular assignments in such a way as to encourage their own future employment in regard to those particular matters after leaving government service, and of avoiding the appearance of impropriety, can be accomplished by holding that DR 5-105(D) applies to the firm and partners and associates of a disqualified lawyer who has not been screened, to the satisfaction of the government agency concerned, from participation in the work and compensation of the firm on any matter over which as a public employee he had substantial responsibility. Applying DR 5-105(D) to this limited extent accomplishes the goal of destroying any incentive of the employee to handle his government work so as to affect his future employment. Only allegiance to form over substance would justify blanket application of DR 5-105(D) in a manner that thwarts and distorts the policy considerations behind DR 9-101(B).

Our conclusion is further supported by the fact that DR 5-105(C) allows the multiple representation that is generally forbidden by DR 5-105(A) and (B), where all clients consent after full disclosure of the possible effect of such representation. DR 5-105(A) and (B) deals, of course, with much more egregious contingencies than those covered by DR 9-101(B). It is unthinkable that the drafters of the Code of Professional Responsibility intended to permit the one afforded protection by DR 5-105(A) and (B) to waive that protection without also permitting the one protected by DR 9-101(B) to waive that less-needed protection. Accordingly, it is our opinion that whenever the government agency is satisfied that the screening measures will effectively isolate the individual lawyer from participating in the particular matter and sharing in the fees attributable to it, and that there is no appearance of significant

impropriety affecting the interests of the government, the government may waive the disqualification of the firm under DR 5-105(D). In the event of such waiver, and provided the firm also makes its own independent determination as to the absence of particular circumstances creating a significant appearance of impropriety, the result will be that the firm is not in violation of DR 5-105(D) by accepting or continuing the representation in question.

Although this opinion has dealt explicitly and at length with the interpretation and application of DR 9-101(B), it is not amiss to point out that, on the ethical rather than the disciplinary level of professional responsibility, each lawyer should advise a potential client of any circumstances that might cause a question to be raised concerning the propriety of his undertaking the employment and should also resolve all doubts against the acceptance of questionable employment. See EC 5-105 and EC 5-16.

* * * * *



DEPARTMENT OF THE NAVY
 NAVAL SEA SYSTEMS COMMAND
 WASHINGTON, D.C. 20362

IN REPLY REFER TO

1 4 FEB 1975

MEMORANDUM FOR THE GENERAL COUNSEL, DEPARTMENT OF THE NAVY

Subj: Disqualification of law firms from representing companies on claims on which their attorneys originally represented the government

Ref: (a) My memorandum dtd 24 Jan 75 for the General Counsel of the Department of Defense
 (b) Ltr dtd 18 Mar 75 from Mr. Niederlehner, OGC, Defense to Committee on Professional Ethics, ABA
 (c) Ltr dtd 18 Mar 75 from Mr. Niederlehner, OGC, Defense to Asst. Attorney General, Justice
 (d) Your ltr dtd 8 Apr 75 to Committee on Professional Ethics, ABA
 (e) My Memo to you dtd 1 Dec 75
 (f) Your Memo to me dtd 3 Dec 75

1. Over a year ago, in reference (a), I wrote the General Counsel of the Department of Defense (DOD) pointing out the law firm of Sellers, Connor and Cuneo had hired a former Office of General Counsel, Navy, attorney who had been the Deputy Counsel in charge of claims for the Naval Ship Systems Command (now the Naval Sea Systems Command). Sellers, Connor and Cuneo is representing shipbuilders in claims against the Navy valued by the contractors in the hundreds of millions of dollars. The former Deputy Counsel for Claims was in charge of the Government's defense of many of these claims. I pointed out that under the American Bar Association's Canons of Ethics, the law firm should withdraw from cases in which the former Deputy Counsel had responsibility on behalf of the Government.

2. Two months later, on 18 March 1975, the DOD General Counsel sought the advice of the American Bar Association (ABA) and the Department of Justice, references (b) and (c). So far as I can learn, the Department of Justice has never replied to reference (c). Moreover, there was apparently some problem with the DOD submission to the ABA because on 8 April 1975, you resubmitted the issue to the ABA's Committee on Professional Ethics and requested the ABA's advice. In that letter, reference (d), you stated that the law firm, "...may be acting in contravention of the standards of professional conduct...".

You also disqualified the Navy's Office of General Counsel from a case where the Navy had hired two lawyers who had formerly worked for the contractor involved. This action was taken after Sellers, Connor and Cuneo pointed out that the Navy had not withdrawn from cases in which their attorneys had been formerly employed by the contractor.

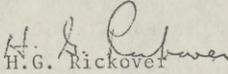
3. Seven months later--after numerous follow-ups, including a letter from me to the President of the ABA--the ABA's Standing Committee on Ethics and Professional Responsibility finally rendered its decision. The decision would require that the law firm be disqualified, unless the government waives the disqualification.

4. In reference (e), I explained to you the reasons why I believe the Government should not grant a waiver to Sellers, Connor and Cuneo. In reference (f), you replied, "I shall carefully consider the views which you have expressed before final disposition of the Cuneo matter."

5. It has been over a year and a half since the former Deputy Counsel for Claims joined the law firm of Sellers, Connor and Cuneo giving rise to the need for that law firm to withdraw from cases in which the former Deputy Counsel was involved. It has been over a year since I learned that the ABA's own Code of Professional Ethics required the firm to withdraw from such cases, and reported that fact to the DOD General Counsel. Two months have elapsed since the ABA rendered its long delayed opinion. Yet the law firm continues to act as though the ABA decision had never been rendered and the Navy continues to do business as usual with the firm.

6. Before the ABA rendered its opinion, you declined to take action on the basis that you had referred the matter to the ABA; you stated "I intend to be guided by the appropriate authorities of my profession on a professional matter." You assured me however, that you were "alive to the vital issues involved." Now that the ABA has issued its formal guidance, the onus is on the Navy to act promptly. It has not done so. Further delay will create the impression that the Navy is stalling until the cases in question have been resolved.

7. I would appreciate being informed when you will decide whether Sellers, Connor and Cunco will be allowed to continue to represent shipbuilders on the claims where one of its members formerly had responsibility for the Government on those same cases.


H.G. Rickover

Copy to:
Assistant Secretary of the Navy
(Installations & Logistics)
Chief of Naval Material
Commander, Naval Sea Systems Command



DEPARTMENT OF THE NAVY
 NAVAL SEA SYSTEMS COMMAND
 WASHINGTON, D. C. 20362

IN REPLY REFER TO
 20 Feb 1976

MEMORANDUM FOR THE GENERAL COUNSEL, DEPARTMENT OF THE NAVY

Subj: Disqualification of law firms from representing companies on claims on which their attorneys originally represented the Government

Ref: (a) My memo to you dtd 14 Feb 1976
 (b) My memo to you dtd 1 Dec 1975

Encl: (1) Copy of Business Week February 23, 1976 story entitled "The Ethics Squeeze on Ex-Government Lawyers"

1. In reference (a) I pointed out the need for you to decide promptly whether Sellers, Connor and Cuneo will be allowed to continue to represent shipbuilders on the claims where one of its members formerly had responsibility for the Government on those same cases. The attached article from the February 23, 1976 issue of Business Week (enclosure (1)) refers to the American Bar Association (ABA) ruling that pertains to this case. I want to be sure you have seen it.

2. The article states that the ABA initially said "no" to continued representation by that law firm. However, according to the article, several prominent Washington law firms and government agencies, including the Department of Justice, joined in protest. As a result, the ABA ruling now includes provisions whereby the Government may elect to waive disqualification of law firms such as Sellers, Connor and Cuneo.

3. As I have already explained in reference (b), it would be inappropriate to waive disqualification in the case of Sellers, Connor and Cuneo. If a firm is not disqualified under these circumstances, then no firm would ever be disqualified and the ABA's Code of Professional Conduct would be meaningless.

4. As requested in reference (a), I would appreciate being informed when you will decide this matter.

H. G. Rickover
 H. G. Rickover

Copy to:
 Assistant Secretary of the Navy
 (Installations and Logistics)
 Chief of Naval Material
 Commander, Naval Sea Systems Command

LEGAL AFFAIRS

The ethics squeeze on ex-government lawyers

Lawyers hold a high proportion of the top jobs in the federal government. And when those lawyers leave government service, a lot of them naturally gravitate to the Washington law firms that specialize in representing clients before their former agencies. The result is a chronic ethical dilemma that has bedeviled generations of Washington attorneys.

Now the new concern for professional ethics may transfer the problem to the law firms themselves, forcing a major change in the relationship between large corporations and their blue-chip counsel. A stringent reading by the District of Columbia Bar of its ethical code could compel law firms to sever relationships with corporate clients—some of long standing—right in the middle of a case. On a complicated matter, such as a major antitrust case, it could take a new firm at least a year to work into the litigation.

The problem arises out of the complicated skein of law, executive orders, and individual agency rules that define just how far former civil servants can go in representing private interests before their former agencies.

The general rule prohibits former federal employees from ever appearing before their former agency in a matter in which they "personally and substantially" participated and requires them to wait one year before appearing in connection with any other matter under their general supervision pending while they were in office. Several federal agencies are even tougher. The Consumer Product Safety Commission, for example, has a flat ban on any former employee going to work in any capacity for any maker of consumer goods for one year. Beyond government rules, courts and agencies usually require lawyers to follow the American Bar Assn.'s code of ethics.

Hard hit. Two years ago the ABA forbade all members of a law firm to handle a matter that any of their colleagues at the firm was ethically prohibited from working on. The bar association had private conflicts of interest in mind and did not give much thought to the impact on former government lawyers.

For a firm such as Covington & Burling in Washington, with a roster that includes former antitrust chief Edwin M. Zimmerman, former Treasury Under Secretary Edwin S. Cohen, and former Food & Drug Administration general counsel Peter B. Hutt, the rule had the potential for disaster. "I guess it's a problem all the time in Washington,"



ETHICS committee Chairman Freedman: The D. C. code will have national impact.

says Lewis Van Dusen, chairman of the ABA ethics committee.

But other firms were also worried. In firms such as New York labor law specialists Vedder, Price, Kaufman, Kamholz & Day, the rule might have jeopardized 200 to 300 matters.

The issue came to a head last year when the Defense Dept. asked Van Dusen's committee whether a firm includ-

The D. C. bar's current draft opinion takes the tough position the ABA rejected

ing a former Navy Dept. official could handle a contract dispute with that service. Interpreting the rule literally at first, the committee said no. But another prominent Washington firm, Wilmer, Cutler & Pickering, joined in protest with Covington & Burling and such government allies as the Internal Revenue Service, the Securities & Exchange Commission, and particularly Antonin Scalia, head of the Justice Dept.'s Office of Legal Counsel. "We, with the support of Mr. Scalia, were able to persuade the committee," says Lloyd N. Cutler orally.

Their argument is that since a party to a lawsuit may always waive other disqualifications of an opposing attorney, the law firm itself ought to be per-

mitted to take a case that it would otherwise be barred from taking as long as the government does not object. Although it has yet to publish its formal opinion on the question, the ABA is going along with this consent concept. However, the individual lawyer must not discuss it with other partners or share in the profits generated.

Just last month the U.S. Court of Appeals in San Francisco went even further than Cutler when opposing attorneys tried to disqualify a lawyer because of his former private law firm work. The lawyer now works for a Salt Lake City firm representing gasoline dealers in a broad-based antitrust class action against major oil companies, Exxon Corp. and Shell Oil Co., two of the defendants, tried to remove the entire firm from the case, arguing that the lawyer had previously performed legal work for each of them. The appeals judges agreed that the individual lawyer could be kept off the case but refused to disqualify the firm.

Another try. The ABA's apparent change of heart does not end the lawyers' problem, however, because the District of Columbia bar is about to publish its own ethical ruling on the same question. In its current draft, it takes the tough position that the ABA rejected. Advocates of a softer position are lobbying the local committee, which will consider the question later this month.

"I don't know how we will come out," says committee chairman Monroe H. Freedman, formerly a law professor at George Washington University and now dean of the Hofstra Law School. But unlike the ABA's original ruling, the current D. C. bar opinion was made intentionally, with the plight of former government lawyers firmly in mind. If the Washington bar does maintain its ground, the rule would have national impact because it might cover appearances by out-of-town lawyers.

Setting the law firms' problems will not help to clarify the currently haphazard federal conflict-of-interest rules. But clearer guidelines may be on the way. The Ford White House may use a Congressional committee's data to revise rules last promulgated by President Johnson. The investigations subcommittee of the House Commerce Committee has asked nine regulatory agencies where their commissioners worked before and after their government jobs and is now compiling results of a survey sent to 590 former high officials. The goal: to pinpoint the extent of the "revolving door" problem. ■



DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND
WASHINGTON, D.C. 20362

IN REPLY REFER TO

20 Feb 1976

Edward H. Levi
Attorney General
Department of Justice
Constitution Avenue and Tenth Street N.W.
Washington, D.C. 20530

Dear Mr. Levi:

During our discussion on November 24, 1975, I explained how a Department of Justice ruling, which reversed a prior interpretation rendered by that Department, has stopped the Navy from hiring outside counsel to assist in handling shipbuilding claims.

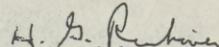
In that same vein, I thought you might be interested in the attached article which appeared in the February 23, 1976 issue of Business Week. The Defense Department case referred to in the article also involves shipbuilding claims. The former Deputy Counsel for Claims in the Naval Sea Systems Command was hired by a Washington claims firm, Sellers, Connor and Cuneo. Yet, contrary to the American Bar Association's (ABA) Code of Professional Ethics, the company is continuing to represent clients in cases for which the former Deputy Counsel was previously responsible.

It took 7 months to obtain a decision from the ABA. Not until I read the Business Week article did I have any inkling that the delay involved behind-the-scenes activity by Washington law firms and Government agencies. Nor, was I aware of the role apparently played by the Justice Department. If the article is correct, it goes a long way toward explaining why the ABA ruling contains provisions which enable Government agencies to waive disqualification.

Nearly 3 months have elapsed since the ABA issued its ruling and the firm continues to represent its clients in the cases in question. No doubt efforts are underway to get the Navy to waive disqualification on the basis of the ABA ruling.

At present the cards are stacked heavily against the Government's ability to defend itself against unwarranted claims. I would appreciate any assistance you could give in these matters.

Respectfully,


H. G. Rickover

Internal Navy Distribution:
Secretary of the Navy
Assistant Secretary of the Navy
(Installations and Logistics)
Chief of Naval Material
Commander, Naval Sea Systems Command



DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND
WASHINGTON, D.C. 20362

IN REPLY REFER TO

26 Feb 1976

Mr. Lawrence E. Walsh, President
American Bar Association
One Chase Manhattan Plaza
New York, New York 10005

Dear Mr. Walsh:

On November 4, 1975, I solicited your help in expediting an American Bar Association (ABA) ruling on a case involving a Washington law firm which continues to represent clients against the Navy in apparent violation of the ABA's Code of Professional Ethics. At that time the ABA had been considering the question for approximately seven months. On November 24, 1975, Mr. Van Dusen, Chairman of the ABA Ethics Committee mailed me a copy of Formal Opinion 342, the ABA ruling on this case.

Instead of being an opinion in the specific case, Formal Opinion 342 is a broad ruling which can be interpreted either as requiring disqualification of this law firm, or as encouraging waiver of the disqualification, depending on your viewpoint. I believe Formal Opinion 342 weakens the disqualification provision of the Code of Professional Ethics. I predict that Government attorneys, concerned about future employment opportunities, will start interpreting Formal Opinion 342 as justifying widespread waivers.

The enclosed article from the February 23, 1976 issue of Business Week entitled "The Ethics Squeeze on Ex-Government Lawyers," discusses the background of Formal Opinion 342. The article states that the ABA initially said "no" to continued representation by the law firm. However, according to the article, several large Washington law firms, Government agencies, and even an Assistant Attorney General protested. The article implies that as a result of this protest the ABA ruling was changed to provide that the Government may waive disqualification in such cases.

The ABA's handling of this case brings into question the operation of its ethics committee. As I am sure you are interested in safeguarding your organization's standing among the public, I suggest that you consider taking the following actions:

a. The ABA should develop the capability to respond promptly to requests for opinions. It took the ABA nearly eight months to issue this opinion, during which time the law firm in question continued to represent clients in cases where the language of the Code of Professional Ethics indicates the firm should have been disqualified. This delay may be enough to render the ABA ruling meaningless in this specific case. The adage "Justice delayed is justice denied" is apropos.

b. When requested, the ABA should render opinions in specific cases, and then supplement these opinions if necessary with general rulings. In my view, the ABA's decision to give the Navy only a general response resulted in no useful guidance in the case in question. After nearly eight months delay, the ABA merely shifted the problem back to the Navy.

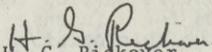
c. When deliberating matters involving the public interest, the ABA should either prohibit involvement by persons outside of the decision-making group altogether, or it should provide a forum whereby all interested parties can be heard. If the Business Week article is correct, it appears that persons with the opposing point of view did not have the same opportunity to influence the final decision as did the law firms and Government agencies mentioned.

I believe that the above suggestions, if adopted, would enhance public confidence in your organization and its Code of Professional Ethics. I would appreciate learning whether or not you plan to adopt them.

In connection with this matter, after reading the Business Week article, I tried to get a copy of ABA Informal Opinion 1336 (referenced in Mr. Van Dusen's November 24, 1975 letter to the Navy General Counsel) so I could compare it with Formal Opinion 342. To date, I have been unsuccessful. The Washington, D.C. office of the ABA said they did not have it and suggested calling the ABA Headquarters staff in Chicago. The ABA staff in Chicago stated that Informal Opinion 1336 is not available; that it is being redrafted into Formal Opinion 342 which will be issued shortly--notwithstanding the fact that I already have in my possession a copy of Formal Opinion 342 marked "FINAL" and dated "11/24/75."

I would appreciate your help in obtaining a copy of Informal Opinion 1336 and in confirming that the 11/24/75 "FINAL" version of Formal Opinion 342 is, in fact, the ABA's final opinion in this matter.

Sincerely,


H. G. Rickover

Encl:
As stated

SENIOR OFFICER MATERIAL READINESS SCHOOL

Mr. P. MURPHY. Discuss with us in more detail the school you indicated earlier you are establishing to train high-ranking naval officers in materials inspection, the purpose of the school, the current expertise in the Navy in this area, why it is required, and so forth.

Admiral RICKOVER. First, with your permission, I would like to include a speech I made 2 years ago about the material condition of the Navy. At that time I stated that, in my opinion, the fleet was in its poorest material condition in 50 years. Since then I have heard lots of words on how to improve material conditions, but I have seen no facts which would change my overall assessment. On the contrary, there are many reports from the Navy's Board of Inspection and Survey which attest to what I have said about the condition of the fleet.

I have heard the Vietnam War and inadequate funding for ship construction and repair put forth as primary causes for the poor material conditions of the fleet. However, in my opinion the basic cause is a lack of ship-engineering knowledge among the officers responsible for operating and maintaining the ships.

This problem is particularly acute among the senior officers—ship commanding officers and above. Currently only about 15 percent of ship commanding officers have had engineering experience. For many years, really since the end of World War II, it has been vogue for a career line officer to avoid shipboard engineering duty.

SENIOR OFFICERS TRAINED IN SOCIAL SCIENCES, NOT ENGINEERING

Ships are truly complex engineering projects, but you will find that nearly all of the graduate work being done is in law. We have enough legally trained officers in the Navy that they would replace all of the lawyers that are needed in Washington, D.C.

Mr. EDWARDS. Why don't you use some of those lawyers to settle your claims?

Admiral RICKOVER. Not those kinds of lawyers, no, sir. I would rather not have a lawyer than have some of those Naval officers who take graduate courses in law. It is wrong to have officers with graduate degrees in law, systems analysis and all sorts of social sciences when they don't even know the fundamentals of how to operate the propulsion plant on the ships they command. Fortunately some of this is being stopped now.

The officers who operate and maintain our ships must be required to have operational engineering experience. As you know, this has always been the case in nuclear ships. On nuclear submarines essentially all the officers on board are nuclear trained. They are required to gain shipboard engineering experience. In nuclear cruisers we are now beginning to move in this direction. Eventually all the line officers on our nuclear cruisers will be nuclear trained. Similarly, they will be required to gain shipboard engineering experience. The same requirement is needed in nonnuclear ships.

I have always required all nuclear ship captains, executive officers, and engineering officers to successfully complete a comprehensive written and oral examination at my headquarters in Washington before being assigned to those billets. These requirements produce line

officers who are familiar with the operating details of their propulsion plants. They know how to train their officers and men, and how to inspect their plants. But of the officers who are coming to the first class of this new course, only 3 out of 25 have ever had any engineering experience. These are senior officers of the Navy. How, then, can you expect a ship's commanding officer or his supervisor to make a critical inspection of his engineering plant, identify deficient conditions, and evaluate recommendations from subordinates? Obviously you can't.

Mr. P. MURPHY. What are their ranks?

Admiral RICKOVER. Admiral and Captain.

Mr. P. MURPHY. How many Admirals?

Admiral RICKOVER. Ten in the first class, also, 15 captains. Admiral Holloway asked me to aid and support this undertaking. I agreed to develop and conduct this course for senior officers until such times as other training components of the Navy could assume this responsibility.

The first class is scheduled to convene in May at the nuclear propulsion training prototype in Idaho. The Idaho facilities will be used because they are immediately available.

PURPOSE AND CONTENT OF COURSE

The purpose of this course will be to provide senior officers with the knowledge and understanding needed to improve the Navy's material readiness through a study of ship engineering fundamentals. Officers completing this course will have improved their ability to inspect, manage, and upgrade ships under their command.

The course will be divided into two parts: a classroom phase and a practical phase. The classroom phase will cover topics ranging from theoretical concepts of shipboard engineering to the study of operation and maintenance of actual ship engineering systems. The practical phase will train the student to apply the knowledge gained in the classroom to a real life situation. The duration of the course will be 17 weeks. It is planned that students will spend short periods of time at the land-based 1,200-pound steam plant in Great Lakes, Ill., and at the Puget Sound Naval Shipyard in Washington State during the practical phases of the course.

Class size will be approximately 25 students. It is anticipated that three classes per year will be convened. The training and teaching staff will consist of a civilian director and five naval officers selected on the basis of prior training, education, experience, and demonstrated proficiency in ship engineering. For example, the senior officer instructor has previously served as an engineer officer, a commanding officer, and as the senior member of a nuclear propulsion examining board.

Although some of the training will be conducted at facilities normally used for nuclear propulsion training, students graduating from the senior material readiness course will not be qualified in any sense of the word for nuclear plant operations.

I want to point out that this course, in itself, will not solve the problems of fleet readiness. Long-term improvement will take time and the dedicated application of the fundamentals taught to these

officers. The time to start is now, if any substantial improvement in fleet readiness is ever hoped to be achieved.

SPEECH ON ENGINEERING IN THE NAVY

Mr. P. MURPHY. We would be happy for you to expand further in the record on this subject, and supply the speech to which you refer. [The information follows:]

THIS SPEECH REFLECTS THE VIEWS
OF THE AUTHOR AND DOES NOT
NECESSARILY REFLECT THE VIEWS
OF THE SECRETARY OF THE NAVY
OR THE DEPARTMENT OF THE NAVY

FOR RELEASE 12:00 NOON (PDT)
FRIDAY, AUGUST 30, 1974

THE ROLE OF ENGINEERING IN THE NAVY

by

Admiral H. G. Rickover, USN

before the

National Society of Former Special Agents
of the Federal Bureau of Investigation

Seattle, Washington

August 30, 1974

In ancient times a philosopher came to a city. He was determined to save its inhabitants from sin and wickedness. Night and day he walked the streets and haunted the marketplaces. He preached against greed and envy, against falsehood and indifference. At first the people listened and smiled. Later they turned away; he no longer amused them. Finally, a child moved by compassion asked: "Why do you go on? Do you not see it is hopeless?" The man answered: "In the beginning, I thought I could change men. If I still shout, it is to prevent men from changing me."

I feel like that man as I talk to you today. I have fought for reform in the Navy for years. If I still shout, it is because I am afraid the Navy will not be able to meet the demands which will be placed upon it in the future. There are two broad reasons for this condition. First, we misread history. Second, we do not ask the root question—What is the Navy's purpose?

Copyright 1974, H. G. Rickover

No permission needed for newspaper or news periodical use

Above copyright notice to be used if most of speech reprinted.

The Navy exists to defend our Nation—it has no other purpose. It serves as a shield in peace as well as in war; for, in final analysis, diplomacy rests upon the deployment and use of military force. We all recognize this truism. What is wrong is that the Navy misreads the lessons of its past wars. It congratulates itself upon the victories and believes that by merely tampering with its organization, it can meet the needs of today. It does not ask the question: How well did we do compared to how well we should have done?

This question demands a fresh look at our naval past. Instead of basking in past glories, we should ask: How well were the ships designed and built; how well were they used in battle? These are matters of engineering. In discussing engineering in the Navy, I am not going to consider the present state of ordnance in the Navy. That area has been run by line officers throughout this century and its failures are well-known. I will leave that subject to another critic who has the time and experience to describe it. Nor will I address aeronautical engineering, which is a field unto itself administered within the naval aviation command.

What I will talk about today is engineering as it deals with warship design, construction, and operation. How did this type of engineering evolve? How did we get to the fix we are in now, where the Navy is dangerously weak in these technical areas? What must we do to get on the road to recovery?

Throughout naval history there have been two important groups of men: the ones who fought the ships, and the ones who designed and constructed them. The ones who issued orders in the face of the enemy were the officers of the line of battle—the line officers. Designers and constructors were considered by line officers to be inferior. Yet success on the day of battle depended upon the skill of all.

The Navy of today is far more complex than it has ever been, but the fundamental distinction still exists between the role of the line officer and that of the officer whose specialty is ship design and construction—the naval engineer. The matter is complicated because there are two types of engineers: those at sea operating the machinery and those ashore who are charged with the responsibility for design and development of new ships and their equipment.

Origins of modern engineering in the Navy go back to 1814 with the first steam-driven warship, the Demologos, designed and built by Robert Fulton. In the following decades, the Navy built few ships with steam engines. The early engines were low-powered, unreliable, inefficient, and were used chiefly as an auxiliary to sail. The Navy could easily recruit engineers from civilian life to operate these engines. Engineers were given no military duties as these were the preserve of the line officer, the aristocrat of the Navy. Therefore, from the beginning there was a gulf between the line officer and the engineer who operated the engines.

The line officer detested the greasy engineer and his smoking boilers that blackened the sails. Not until 1842 did Congress authorize an engineer corps for the Navy. The selection of the first engineer-in-chief was evidence of the low prestige of naval engineering. Gilbert L. Thompson combined the talents of law, scholarship, and diplomacy, but he knew no engineering. He could not speak for the engineers in the Navy, nor could he judge engineering problems.

Engineering, both in operating the shipboard machinery and in the design and construction of ships, became critically important with the outbreak of the Civil War. The Navy had to blockade a coastline stretching over 3,000 miles from the Potomac to the Mexican border. It had to support the Army on the rivers; it had to search out and destroy Confederate raiders. For all these purposes, the steam engine and the engineer were indispensable. On the day of battle, steam engines drove the Monitor and the Merrimack, the Kearsarge and the Alabama, as well as the gunboats which supported Grant before Fort Donelson and Vicksburg. In 1862, Congress recognized the importance of engineering by creating the Bureau of Steam Engineering.

When Lee surrendered, the United States Navy was the most effective sea power in the world. That position depended upon engineering which, in turn, was based on the skill of Benjamin F. Isherwood, first Chief of the Bureau of Steam Engineering. He designed and built engines rugged enough to

withstand the shock of combat, as well as ill-treatment by poorly-trained operating engineers. He also designed and constructed a well-armed cruiser which was faster than any abroad. In addition, American naval leadership rested upon ingenious civilian engineers and inventors such as John Ericsson, who designed and built the Monitor.

From this pinnacle of leadership the Navy fell swiftly. We had not learned the lesson of the need for good engineering and competent engineers. As a nation, we became complacent. We believed the Monitor was the embodiment of sea power, yet the turret and armored hulls had already been developed in Europe. Wrapped in the security of ignorance, we became slave to the Monitor-type. We had faith in them as major combatant ships long after other nations had recognized that they were only a brilliant improvisation to a specific problem. The main line of naval progress remained in Europe. We had misread the naval results of the Civil War.

The Navy forgot the hard-earned lessons and attempted to return to the days of sail. Aboard ship, the position of the engineer deteriorated. The chief engineer and his men were at the beck and call of the line officer. He was denied the living quarters to which he was entitled. He was forced to give way to the most junior line officer. He was not even allowed to eat in the same mess with the line officers. He found his firemen taken from his control and set to work shifting sails. One chief engineer complained

that he could not overhaul and repair the machinery because he did not have use of his men. The captain replied that he needed the engineering force for deck drills; if repairs to the engines were necessary, they could be made at night. Under these conditions the Navy had trouble recruiting and holding engineers, and ships failed to meet their commitments. The Acting Chief of the Bureau of Steam Engineering, William H. H. Smith, officially warned in 1883 that the Navy's standards had dropped below those for merchant ships. If a private shipowner operated with as few engineers, he could not insure his ship, and would be liable to criminal prosecution.

When the United States began to rebuild its Navy in the 1880's, it faced serious difficulties. The Nation had fallen behind in marine engineering, in naval architecture, and in ordnance. Because the Navy had built few ships in the previous decades, there had been no need for men skilled in naval design and construction. The United States did not have the facilities to build modern armored vessels, nor did the Navy or industry have the ability to design them. We had to import the technical knowledge, chiefly from England. In addition, the line officers had lost their professional competence because our naval ships had become obsolete. Therefore, the engineers and the line officers who were engaged in the design of new ships lacked experience.

To coordinate ship design and construction, Secretary of the Navy Benjamin F. Tracy, in 1889, set up the Board on Construction. Its membership varied, but always included the Chief of the Bureau of Construction and Repair, Steam Engineering, Equipment, and Ordnance. The Engineer-in-Chief of the Navy headed the Bureau of Steam Engineering, while the Chief Constructor headed Construction and Repair. They were professional engineers and naval architects. Line officers usually were Chiefs of the Bureau of Equipment and the Bureau of Ordnance.

Under these conditions, mistakes were inevitable. But, by and large, the worst errors were caused by the imposition of the opinions of line officers on technical matters. The result can be seen in the Navy's first three battleships, one of which was the famous Oregon. The Bureau of Ordnance, headed by a line officer, proposed a turret and gun arrangement based on the hoped-for success of technical developments. When these did not materialize, the turrets had to be redesigned. As a result, when any of these ships swung its guns to deliver a broadside, it heeled over to such an extent that the armor belt on the side toward the enemy dipped below the waterline, giving no protection to the ship.

Another example of poor design occurred during the planning of the Kentucky-class battleships, laid down in 1896. The main battery was to be two turrets with a pair of 13-inch guns, and two turrets with a pair of 8-inch guns. The Chief of the Bureau of Ordnance proposed that the

8-inch turrets be placed on top of and integral with the 13-inch turrets. The 8-inch turrets could, therefore, not rotate independently. Whatever the 13-inch guns aimed at, so did the 8-inch guns on the turret above. The Chief of the Bureau of Ordnance—a line officer—got his plan accepted over the strenuous objections of the Chief Constructor. Theodore Roosevelt, as Assistant Secretary of the Navy, was aware of the serious criticism of this design. Yet he also knew that the Chief of the Bureau of Ordnance was a line officer of great prestige among his brother officers. This episode was an instance—not uncommon in the Navy—where officers with a reputation in one field are assumed to be expert in another.

The Battle of Santiago, during the Spanish-American War, revealed that line officers did not know how to use their ships. The military situation was simple. An American squadron, consisting mainly of two armored cruisers and five battleships, had bottled up a Spanish force of four cruisers and two torpedo boats. To save coal while on blockade, captain after captain had cut down on the number of boilers in operation. In the two armored cruisers, half the engines had been uncoupled from the propeller shafts to save coal. When the Spanish came out of the Santiago Channel Sunday morning, July 3, 1898, the Navy was caught by surprise. All the Spanish ships in the battle were sunk or run aground; victory was won. Yet an analysis of the results showed little cause for complacency.

The engines of the entire fleet should have been prepared for battle, but only the Oregon had been ready. She had won her place in American history by her dash from Bremerton, around Cape Horn to Cuba in a voyage which had been an engineering triumph. After the Oregon joined the blockade, her captain sent for his engineer, Robert W. Milligan. He urged Milligan to cut down on the number of boilers. Milligan replied that he would obey such an order—provided it was made in writing, and provided he could submit a written protest. In Milligan's words: "Damn the economy, efficiency is what we want." The captain withdrew his suggestion. Milligan used his coal carefully, but he kept fires lit under all his boilers. When the battle came, the Oregon was one of the few vessels the Spanish could not outrun.

Milligan was one of those old-fashioned engineers who was never far from his engines. He was one of that breed of men taught by experience. These engineers—and I proudly and with no false humility class myself with them—could walk through an engine room and, through the din and uproar, catch the slight sound of a component out of adjustment. They could touch a jacket of metal and feel from the vibrations whether the machinery inside was operating well. They would taste boiler water to see if it were pure, and would dip their fingers into the lubricating oil to find out if a bearing was running hot.

Milligan also gave responsibility to his young subordinates. In the Oregon, during her trip around South America and during the Battle of Santiago, Naval Cadet William D. Leahy served in the engine room. There he stood watches, was in charge of stowing coal, and clambered over boilers and furnaces to inspect and maintain them. Leahy, one of the outstanding naval leaders of World War II, could have received no better example of professional leadership.

It took time to learn the lessons of the Spanish-American War. The shooting at Santiago had been poor. Of all the shots fired, only 1.3 percent hit the target. Fortunately, enough hits were made to set the Spanish cruisers on fire. Three years later—in 1901—the North Atlantic Squadron, consisting of three battleships, fired at a hulk 78 feet long and 30 feet high at ranges of about a mile and a half. Despite ideal weather, only one out of 185 shots hit the target. As the admiral commanding the squadron reported, it was a "percentage of only 54/100 of 1%."

There are several explanations for this bad showing, including poor training and badly designed gun mounts and sights. Perhaps the record wasn't much worse than that of other navies at this general time. But these are excuses. The proper question was then—as it is today—how well did the Navy do compared to what it should have done?

The Spanish-American War temporarily interrupted a move which would have straightened out the place of the engineer aboard ships.

George W. Melville, Chief of the Bureau of Steam Engineering, spoke for the engineers when he complained to Congress: "I have got tired of being the bastard . . . son of the Navy."

Two solutions were possible. One was to strengthen the engineers so that their status and responsibilities were clearly defined and recognized. The second was to merge the engineers into the line. Because of the increasing complexity of ships, the Personnel Act of 1899 followed this second approach. As Assistant Secretary of the Navy, Theodore Roosevelt said: "Every officer on a modern war vessel in reality has to be an engineer whether he wants to or not." But, as Melville pointed out, the Act would only work if the line officers accepted their engineering responsibilities at sea in good faith.

Some did, others did not. In 1905, a boiler explosion aboard the gunboat Bennington, at anchor in San Diego harbor, cost 65 lives. Subsequent investigation revealed that the chief engineer was an ensign who had never stood an engine room watch before being assigned to the billet. He knew nothing of machinery, and he did not have the technical knowledge to stop the chain of events that led to the tragedy. He had never been required, nor given the opportunity, to acquire the necessary knowledge. The Bennington disaster was an extreme example of how far some line officers had yet to go to recognize the need for proficiency in engineering on board ship. The old way was simply not good enough.

Captain Bradley A. Fiske, testifying in 1908 before the Senate Naval Affairs Committee, made a telling point, as true today as it was then: "A navy, after all, is nothing but a collection of machines, operated by men. Men are always men. They do not change very much, but machines change a great deal."

The year in which Fiske spoke was during a period of naval reform. The United States was well on its way to becoming one of the great powers. Yet most of the new naval technology was being copied from abroad. The lead in developing the Dreadnought-type of battleship had been seized by the British; the first marine turbine was of British origin. Admiral William S. Sims, the officer who is credited with teaching our Navy how to shoot, used training procedures he had copied from the British. The Navy could also rely on American industry as another source of technology. Although this was a period of rapid growth, there was a serious weakness. The status of the engineer aboard ship was by now satisfactory, but the importance of the design engineers—those who could design ships and machinery—had been forgotten.

By 1916, the Navy recognized it could no longer neglect the design engineer. That year Congress passed an act which established the engineering duty only officer—usually abbreviated as EDO. The Act reflected the controversy that had troubled the Navy for decades. The EDO's were line officers, but specialized in design engineering. Because

they could not assume military command, they were known as "restricted" line officers.

The Navy learned little from World War I. Even though the Germans had come close to victory with the submarine, we took little heed of that danger after the war. Instead, we held fleet exercises in which battleships steamed in formation and maneuvered, just as they had at the Battle of Jutland in 1916. In these exercises our submarines were used on the surface to protect the battleships. Again, as we later learned at the outset of World War II, the right questions were not being asked.

One reason was, instead of devoting full time to the condition of our ships, top Navy officials also spent time on unimportant matters. As an example, between World Wars I and II the Secretary of the Navy promulgated a General Order—the highest type of official directive that can be issued—concerning the Navy's homing pigeon establishment. This Order divided responsibilities for the care and operation of pigeons among the Bureau of Engineering, the Bureau of Construction and Repair, the Bureau of Navigation, and the Director of Naval Communications. All these organizations were involved in pigeons at one time or another. Their responsibilities included, among other things, pigeon population and banding, transportation, housing and food. There were also plans and literature concerning the pigeon service, miscellaneous equipment, and other pigeon problems.

The pigeon service has now been abandoned by the Navy. That, along with the disbanding of the last detachment of Indian Scouts in 1943, and the requirement for Army aviators to wear spurs in 1938, is one of the rare occasions in U. S. military history where a function has been abolished.

Today—with the inflated rank in the Navy—if we still had the pigeon service—the senior pigeon in the pecking order would, I suppose, be a line admiral. It would be claimed, as the argument so often goes, he needed this rank to deal effectively with his peers in the Army, the Air Force, and the other foreign pigeon services.

Between World Wars I and II, there was a reasonable balance among the line officers and the technical officers responsible for design and construction of ships. Few new ships were built immediately after World War I, so that line officers had a chance to learn how to use battleships, destroyers, submarines, and to experiment with aircraft carriers. The EDO's, in turn, had time to become educated in their profession. They were selected from line officers who, after six or seven years of sea duty following graduation from Annapolis, had been ordered to the Naval Postgraduate School at Annapolis for a course in naval engineering design. The latter part of this course was taken at a first-rate civilian college, such as Columbia or the University of California. After completing their two years of scholastic work, these officers returned to sea duty. Only several years later were a few of them designated EDO's. By that time they had about 15 years of commissioned service. Consequently, when the Navy

began to rebuild in the 1930's, it had a group of able line officers—among them King, Halsey, Leahy, Nimitz, and Spruance—and some able engineers and constructors—among them Bowen, van Keuren, Cochrane, Robinson, and Mills—with the technical competence to meet its needs.

The Navy was at its apogee at the end of World War II. Again we were misled by the magnitude of the victory. The United States could afford to overlook errors of leadership in the line and in engineering because we had the time and resources to outproduce the enemy. Today this is no longer true. We must be ready to defend ourselves with what we have.

Since the end of World War II, I have witnessed the deterioration of the technical competence of the Navy when compared to the job the Navy has to do. One reason is lower personnel standards. Many officers who came into the Navy during the war had reached fairly high rank. They had served their country well, but lacked the qualifications the Navy needed in its officers. The decrease in personnel standards led to a decline in standards of competence. In the non-nuclear surface ships, officers were—and are at this moment—no longer required to qualify as operating engineers.

In the period before World War II, line officers were required to complete a formal qualification in the operation of the engineering department of their ship. Since World War II, the Navy has ignored

the need for line officers to acquire operating experience in engineering. There are now no requirements for the captain of a ship to have served in the engineering department before he takes command. The result is that many captains have little knowledge, respect, or regard for their engineering plants; they do not know how to make a critical inspection of these plants, nor can they even evaluate the recommendations of their people. Is it any wonder that ships—even new ones — are frequently found in poor material condition by outside inspectors?

The emphasis on operational engineering experience is just the opposite in nuclear ships. Since the beginning, I have required all nuclear ship captains, as well as their subordinate officers, to qualify as operators of the propulsion plant before being assigned to a ship. Prior to being assigned as chief engineer, executive officer, or captain of a nuclear ship, the nuclear trained officer must successfully complete a comprehensive eight-hour written examination and a three-hour oral examination at my headquarters in Washington. I personally approve or disapprove all examination results. To be eligible for the examination, he must be recommended by his commanding officer and must first have completed one year of academic and operational training, which includes qualification as a watch officer on a fully operational land prototype nuclear propulsion plant, similar to the ones we have at sea. An engineering department officer, once he has completed his initial training, must qualify

as a watch officer in a nuclear ship and serve in the engineering department for at least one year.

These requirements produce line officers who are familiar with the operating details of their propulsion plants and are not afraid to get their hands dirty. When reports from subordinates conflict, or where they doubt the accuracy, they know enough to look for themselves and to put the weight of their own experience behind the decision. They also know how to train their officers and men and inspect their plant. They possess that essential requisite of leadership— to educate and to train. I would much rather have officers with this sort of experience than those with postgraduate degrees in systems analysis, computer science, management, or business administration—as many of the Navy's line officers now have. The machinery does not respect these irrelevant capabilities.

In the rest of the Navy, engineering at sea has been relegated to a subordinate position. This is a serious mistake. Ships will not be able to fight effectively if they cannot get underway, or otherwise meet their operational requirements.

Despite the vast increase in technology, the Navy, also, has gone downhill in the areas dealing with ship design and construction. The

Bureau of Ships, which inherited these responsibilities when it was established in 1940 by the amalgamation of the Bureau of Construction and Repair and the Bureau of Engineering, failed to take steps to maintain a strong cadre of competent officer and civilian engineers who could control the increasing technical work-load and build a strong engineering organization able to meet the demands of the new technologies.

I cannot overemphasize the importance of the technological factor. For man to take full advantage of modern technology, he must raise his standards of knowledge and performance. The high temperatures, pressures, and speeds needed today require the use of metals close to their ultimate limits. Therefore, the utmost care is needed in the engineering, manufacture, installation, and operation of equipment aboard ship, and in the design and construction of the ship itself. The rising tide of technological complexity has engulfed the design engineer ashore as well as the line officer engineer at sea. In both areas, these men now face demands far beyond those which confronted their predecessors. In the face of these challenges, some of the senior EDO's have seemed to be more concerned with getting the perquisites of military command of Navy yards rather than running the technical aspects of their jobs.

To meet the demands of the technological revolution we had witnessed since World War II, the Navy had two choices. It could make the strenuous effort needed to keep abreast of technology. Or it could let technical competence fall from its grasp; placing its dependence on industry, tinkering with its organization and, through various makeshift arrangements, attempt to keep track of the technical developments upon which its future depended. The decision was to rely on reorganization and management techniques. The result was a flood of studies and an endless series of reorganizations, all of which increased emphasis on "management" and decreased the reliance on technical competence.

A chief characteristic of the reorganizations was the increasing influence of the line officer in technical matters. The line officer does have an important responsibility to think through and set the requirements for ships and weapons. But in the years since World War II, he has become deeply involved in making decisions on technical matters for which his training has not qualified him. Instead of deciding what he needs, he is now often deciding how his needs shall be met.

Up through the Civil War and beyond, there was absolute civilian control in the Navy. The Secretary of the Navy had the responsibility for promoting officers, for assigning them to commands, and for directing ship movements. Bit by bit the line officers managed to

obtain some authority in these areas. A Secretary of the Navy in the time of Theodore Roosevelt complained: "My duties consist of waiting for the Chief of the Bureau of Navigation to come in with a paper, put it down before me with his finger on a dotted line and say to me, 'Sign your name here.' It is all any Secretary of the Navy does." This powerful bureau chief was a line officer. Finally, in 1915, the line officers achieved their goal of controlling the military operation of the Navy through the establishment of the Office of the Chief of Naval Operations.

When Congress established that position, it was clearly understood that the Chief of Naval Operations—the Navy's highest ranking military officer—was subordinate to the Secretary of the Navy, and that his job was to prepare the Fleet and keep it ready for war. He could give recommendations on the shipbuilding program, but not make the decisions. He did not control the technical bureaus which were concerned with ship design and construction; the chiefs of these bureaus reported directly to the Secretary. The Navy was divided into what was called a bilinear organization. One line of authority and responsibility, that for operational matters, extended from the Secretary to the Chief of Naval Operations. The other line extended from the Secretary to the chiefs of the bureaus. Ship design and construction were handled by the Chief of the Bureau of Ships who

reported directly to the Secretary. Occasionally a Chief of Naval Operations attempted to expand his power over the bureaus. Admiral King tried to do so during World War II. President Franklin D. Roosevelt at once saw the issue. Roosevelt was no novice in naval affairs. He had been Assistant Secretary of the Navy from 1913 to 1920 — not only a long period of time, but also during the years of World War I. The President gave as his reason for opposing King that:

"We ought not to have all the administrative problems of personnel and material, shore establishments, production, etc., go up through the Chief of Naval Operations. When you come down to it, the real function of the Chief of Naval Operations is primarily naval operations—no human being can take on all the responsibilities of getting the Navy ready to fight. He should know all about the state of that readiness, and direct the efforts of it, . . . If they are not ready to fight, or are slow in getting ready, it is his function to raise hell about it. Details of getting ready to fight ought not to bother him."

And, mind you, this was said when the Navy had not yet reached a fraction of the technical complexity it has today.

Roosevelt clearly understood the distinction between the role of the line officer and that of the technical officer. Unfortunately, some of the policy makers who came later did not.

At the time Secretary McNamara took over the Defense Department in 1961, there was a dire need to reform the Navy's method of handling development, procurement, and maintenance of warships. The basic need

was to establish groups of technically competent people with clear authority and responsibility for executing the various Navy programs, similar to the strong technical management approach that prevailed in the nuclear propulsion program and later in the Polaris missile program. There was also a need for strong technical groups in the shipyards and industrial contractor organizations to carry out the technical development work, under close technical direction from the Government headquarters organization. These needs were not being met.

The Navy, obviously, had not done a good job, so when Secretary McNamara took office, the Navy was, quite properly, investigated and much was found in need of improvement. Unfortunately, the changes he made were in the wrong direction. He took the advice of analysts and management experts rather than seeking the advice of people with technical expertise. He changed the administration of the Navy's technical work to coincide with the Air Force organizational method; he established the Naval Material Command—a Command to be responsible for the design, development, and procurement of all naval equipment and the supporting shore establishment—to be similar to the Air Force Material Command. He did not recognize that procurement of warships is a far different matter than procurement of aircraft. He appointed a line officer as the Chief of Naval Material. He eliminated

the technical bureaus and assigned their functions to new "Systems Commands" under the Chief of Naval Material. Most of the technical people in the Bureau of Ships—other than in my nuclear propulsion organization—were removed to a new Naval Ship Engineering Center located in an outlying area, which was established as a field activity of the Naval Ship Systems Command. They are now merely consultants and are no longer responsible for what happens.

This reorganization created a new bureaucracy—the Office of the Chief of Naval Material—which has now grown to 800 people, thus adding another huge layer of management between the technical people who have to deal with the engineering details if they are to get the job done, and the people in charge whose approval must be obtained to proceed. They are empowered to ask any and all questions and to stop the work from proceeding. Their endorsement must be obtained prior to forwarding a recommendation to higher authority in the chain of command. But there is no one that I can find in the Naval Material Command who has the authority to approve proceeding with programs.

Subsequently, the organization was again changed to have the Chief of Naval Material report to the Chief of Naval Operations rather than directly to the Secretary of the Navy, thus ending the bilinear organization of the Navy.

That change, which President Roosevelt had prevented in 1942, was supposed to keep the Chief of Naval Operations in the responsible chain of command. However, the net effect on the technical people was to add still another layer of management through which to fight proposals before they could get approval. To understand the overwhelming and detrimental effect of these changes, it must be realized that every officer and civilian in the Offices of the Chief of Naval Material and the Chief of Naval Operations regards himself as senior to the Commanders of the technical Systems Commands, and feels free to introduce his thoughts, questions, and desires into any technical matter coming through his office. These people involve themselves in every aspect of ship design, construction, and procurement, including the construction of shore facilities and settlement of contract claims.

Recently, serious consideration was even given to placing a line officer in charge of the Systems Command which is responsible for the design and construction of all warships. If that move had been carried out, it would have marked the final takeover by the line officers of every aspect of naval technical work. At the last moment, that proposal was fortunately abandoned.

The staff of the Chief of Naval Operations has grown in recent years, until it now includes 65 admirals. This is about twice as many as were assigned to Fleet Admiral King's staff at the height of World War II.

In addition, the staff of the Chief of Naval Operations has more than 300 captains in comparison to only 187 billets for captains to command all ships and squadrons at sea. There are also over 320 commanders on this staff, as well as many senior civilians and lower-ranking officers. These staff officers get involved in technical matters for which they have no qualifications. Recently, I attended a Chief of Naval Operations meeting at which the only subject discussed was technical ship characteristics. In addition to the large number of line admirals present, there was also a Marine general—although the meeting had nothing to do with the Marine Corps. He volunteered no comments; how could he?

The purpose of the Navy has become lost in its organizational complexity. New layers of administrators and managers, civilian and naval, are interposed between the high echelons of the Navy and the people who are doing the actual work—the hewers of wood and drawers of water. The Navy no longer has adequate in-house technical capability. There was far greater technical competence in the Bureau of Ships in 1939 for the job it had to do to prepare for World War II, than there exists now to meet the needs of today.

The growing dependence upon management systems has been another characteristic which has evolved in the years since World War II. Secretary McNamara, instead of requiring the Navy to build up its in-house technical capability, decreed that it should depend on industry. The Navy could "manage" the projects which it assigned to industry. His successors have followed the same path. I have learned from many years of bitter experience that we cannot depend on industry to develop, maintain, and

have available a technical organization capable of handling the design of complex ships and their equipment without the Navy, itself, having a strong technical organization to oversee the work in detail.

Management systems are as endemic to the Government as the Black Plague was in Medieval Europe. Brochure after brochure crosses my desk offering seminars and courses in management. Usually these are aimed at Government officials. Details vary, but the substance is the same. For a substantial fee, paid by the Government, and for a few days spent in pleasant surroundings, those attending the seminars will be taught management. Usually the agenda contains numbers: seven trends of management, five differences between a leader and a manager, four functions of a leader, five ideas for improving human relations, and three basic situations. There are gimmicks. I have a pocket-sized plastic card, complete with different colored eggs and long-sweeping arrows and fine print. Problems go one way, decisions another, and plans in yet a third direction. Presumably a person, faced with a decision, has only to pull out this card and follow the arrows. That is if he has the time and the patience, and can comprehend it. I can't.

A management system is broad and sweeping in its generalities. But technical problems are a matter of detail. The devil is in the details. Management systems cannot help when the difficulties are technical. A badly designed machine on which the safety of the ship and its crew may depend, is impervious to the blandishments of a management system.

But a badly designed machine will yield to an exhaustive analysis by a technically trained man.

What if Columbus had applied modern management systems to his proposed voyage? He would have attended management seminars. He would have studied tables with brightly colored squares and broad arrows to show which way plans, decisions, and problems were to go. He would not have bothered with details such as navigation and seamanship. These were technical matters. He would simply have "managed" the voyage. He would have used a colored-plastic decision-making card. Further, his analyst—I mean systems analyst—would have presented him with several volumes proving that the venture was not cost-effective. America would never have been discovered. We would all be Indians.

It is hard to describe how pervasive management systems are; how they have dulled the sharp edge of purpose and competence. Nor are line officers the only ones to depend on the teachings of modern management. A recent Chief of the Bureau of Ships told his engineers that their key role was management in a technological revolution. He did not deny the need for technically trained people, but stated that management was the job of engineering officers in Washington. Moreover, he noted approvingly that engineers, more used to dealing with verifiable facts, had participated in courses to enable them to deal efficiently with unpredictable human beings. In my experience, there are not many facts in a rapidly advancing field. Finding out what they are consumes all the time of a good engineer.

It is upon knowing these technical facts that the Navy depends—not upon people taken from their jobs to become skilled at human relations.

Management systems have a vogue. Not too long ago the PERT system had a great vogue in government and industry. PERT is an acronym for Program Evaluation and Review Technique and was developed within the Polaris missile program. Several business journals hailed the system as a totally new management tool. It was even welcomed by some engineers. Nothing is heard of it today. A political scientist analyzing the Polaris program concluded after several interviews that PERT was a sham. It was simply used to get political and financial support. Why was it welcomed so loudly and accepted so widely? How was it that so many business and industrial leaders adopted a system they later found worthless? Recently, I proposed to the editor of a leading business journal that this question was well worth his study. My suggestion was serious. For, although a system may wither away, it leaves a residue. And another system comes along.

Management is taught at Annapolis. This has done serious harm to its young graduates. My people and I interview midshipmen before they enter the nuclear program. We do this because it takes time, effort, and expense to train an officer to operate nuclear ships. We cannot afford to penalize men who are working hard to learn atomic power plant technology by wasting our resources on individuals who have been taught the easy social science courses, or who cannot or will not make demands upon themselves.

We must also select men who will seek facts and face them. Officers in nuclear ships cannot rely on theory alone. One midshipman, who had taken management courses, told me that he was able to learn my job in six months; he could run General Electric in a year.

It was not his fault. It was no crime for him to give this answer. He had been taught by his supposedly responsible and knowledgeable professors that his job was to "manage." It will take some of these men years to unlearn the Annapolis social science propaganda, and some never will. What is tragic is that often these young men have good potential as naval officers. They report to the Academy expecting to be taught the elements of the naval profession and have no reason to expect otherwise. Instead, they learn that a naval officer shouldn't bother with technical details. All he needs to know are broad concepts on how to manage. Someone else will do the work. There will always be available to him a sufficient number of cheerful, willing, competent, hard-working "serfs" to do the technical work, as well as the money to do the job. He will be the leader, the aristocrat.

There exists a great temptation in a man's life to commit himself to the dogma of his youth, and to base his entire life's work on that dogmatic foundation. This temptation is fostered by the cult of management, and this is why management studies should be banned from the Naval Academy. Many of its graduates, leading the sheltered naval life, never reexamine this doctrine; never afterward do they fully experience the world of reality.

They would be totally lost if suddenly the dogma handed down should prove to be fallacious.

Though we may stop asking questions the day we obtain our diplomas, the Navy we are committed to serve and enhance will not. It keeps asking us whether we know what we are doing; it keeps asking us why the Navy we have desired and built over the past 50 years is in its present state.

The service academies once gave professional education in engineering. Early graduates of West Point did much to develop our waterways and our railroads. In fact, for many years West Point was the only school that taught civil engineering. After some uncertain beginnings, Annapolis, too, gave good engineering and professional courses. The curricula of the academies was based on the assumption that the military service was a profession, but since the end of World War II, Annapolis, at least, has changed. It has added more and more social science courses so that it now produces men more fitted for civilian life—if even for that—than for a career in the Navy. Even rewards for scholastic ability do not lead midshipmen further toward their careers. I recently learned of a midshipman who will spend his senior year studying "The Effects of Low Frequency Electromagnetic Fields on the Circadian Biorhythms of Common Mice." We are raising a generation of naval officers who are ill-equipped to carry out their jobs in peace or war. Again, it is a question of purpose. What is Annapolis for? Does a naval officer need to know the rhythms of mice?

Nor are engineering and science adequately stressed as undergraduate requirements for many other young officers entering the Navy today. The Naval Reserve Officers Training Corps (NROTC) which annually supplies more new officers for the Navy than the Naval Academy, is a case in point. Over the years officers commissioned through this program have been allowed to pursue practically any undergraduate major they desire. The Navy therefore finds itself subsidizing prospective anthropologists, foresters, sociologists, or perhaps even landscape architects—skills not needed by the Navy. To pay for this training is a waste of Navy funds.

Young officers today must be able to understand the technical details of their equipment and they cannot do this without learning the fundamentals of engineering and science. I have been recommending for years that, as a minimum, all NROTC students be required to take mathematics through integral calculus and at least one year of college physics. Despite these efforts, I have only been partially successful in convincing those responsible that this should be done.

There are also signs that the Naval War College has lost its sense of purpose. That college was founded in 1884 to give a few naval officers a chance to think about strategy. But today strategy is one among other themes. For example, in the Naval War College Review of January, 1972, the lead article was entitled "A Revolution in Organization Concepts." A single sentence sums up the author's philosophy: "A person's ability to manage his own affairs or those of any public or private organization

or institution depends less on the methods, techniques, and tools he employs than on his understanding of, and attitudes toward, the world that contains him and the groups of which he is a part." Put another way, he is saying that an attitude is more important than knowing the details of a job. The article's author has taught in several colleges here and abroad, and at one point was a professor of city planning and a co-author of a book on management. But would you go to a doctor who believes his "world outlook" is more important than his medical knowledge?

Contrast this philosophy with that of another article in the same issue of the Review. It describes how Admiral Joseph Mason Reeves, who was Commander of the United States Fleet in 1934, gathered officers of all ranks for a lecture at the War College. He told them: "In everything we do, we must ask ourselves: does this directly advance preparation for war? If war comes, this Fleet must fight 'as is.' You must fight at sea and not on paper." These two examples from the Review go to the heart of the matter—one is professional advice from an experienced naval officer; the other is not.

The Navy is raising a generation of officers who believe that technical training is not essential and that they can rely on management techniques to make decisions. For these officers, the road to advancement in many cases leads through the non-professional areas of the Navy, such as political-military affairs, foreign sales, planning and budgeting, human relations. Further, they want subordinates with whom they can be comfortable rather

than those who are qualified. On the other hand, the Russians do not put management experts into highly technical positions. A recent Soviet listing indicates that the head of the Russian space program is a design engineer who has been associated with Soviet rocket development since World War II.

The dependence on management systems has been an important factor in the loss of technical competence in ship design and construction. For example, over the years, with monotonous regularity, representatives from large and well-known companies propose to undertake—at Government expense—studies of small, high-speed ships propelled by small, cheap, light-weight nuclear power plants. These proposals are enticing to officer managers who do not understand the technical flaws, and are swayed by the miraculous achievements promised by these representatives—with their high-sounding management titles—who seek Government contracts. The officers are dazzled by titles because they have been accustomed throughout their career to regard rank and title as the measure of competence.

My people and I find that the technical bases for these proposals are unsound. When we object to these schemes on scientific and engineering grounds, we are told that we are unimaginative and stubbornly conservative, that we could make these systems work if we really tried and wanted to do so. Such an argument reduces all engineering to the simple matter of personal will. We are constantly faced with people who believe in the idea of overcoming existing difficulties by trying something even bolder and more difficult. Like all exaggerated gallantry, such a course is attractive but unrewarding.

Senior line officers have lived most of their lives in an operating environment where they issue orders to which they obtain immediate execution by their subordinates. When they assume command of a technical organization, they become frustrated when the response to their directives is inadequate or delayed.

I well remember when, many years ago, a senior line admiral issued a directive which said "There will be no more rust." They do not understand that technical directives are not self-executory, because they involve far more than compliance with the type of order required to change ship course or speed. Such a directive may require a large amount of engineering work and take much time and the work of many engineers; it may not even be possible of achievement. Nor do they understand that a complex engineering directive requires more than a management decision; it requires also a strong technical organization to carry it out.

The most important job of the man in charge of a technical organization is to select and train the technical people working for him—not to issue orders and directives. But to do so he, himself, must be technically competent. No one, no matter how high his position, can accomplish a technical aim by simply ordering it. Nature knows no rank.

The loss of professionalism among the engineers, and the interference of line officers in technical matters, has resulted in naval ships of questionable design. I do not include our nuclear ships in this category—but only because of my ability to insist upon the contrary.

If the acceptance of unsound proposals illustrates the technical poverty of those officers and civilians in the Navy who are managing technical projects, the 1, 200 pound boiler is an example of incompetence on board ship. The Navy has had difficulty with these boilers, which deliver steam at a pressure of 1, 200 pounds per square inch. They have been hard to operate, and men have lost their lives in accidents with them. These boilers are important because well over one hundred of our escort ships and seven of our thirteen aircraft carriers are fitted with these boilers. Consequently, when the Navy had trouble with them, a significant number of important ships were involved.

My organization discovered that at the basic school ashore, the sailors were being trained to stand watches on, and record the water level of a boiler that had no water in it. This is the equivalent of teaching your sons and daughters to drive by letting them sit in the garage behind the wheel, but never turning on the engine or putting the car in motion. And then sending them out on the highways to earn their living as truckdrivers. On board escort ships, we found commanding officers who had never given the boilers priority. I talked to admirals who were responsible for the care of these ships, yet had never seen the boilers which were giving them so much trouble—and a number of these ships could not operate.

What is the condition of the ships in our Fleet? In my opinion, there has been no period in the past 50 years where the Fleet has been in as poor condition as it is today. This is often excused because of the Vietnam War

and the inadequate appropriations for shipbuilding and ship repair. It appears to me that the prime reason for the inability of the officers of the Fleet to supervise their equipment is their lack of training. The poor condition of the Fleet is well-documented in official reports of the Board of Inspection and Survey of the last few years.

I have gone into the historical background to show that the problems the Navy is facing today are not new. More often than not, the line officers and the engineers, aboard ship or ashore, have been in conflict. Nothing I have said is intended to give the impression that engineers do not make mistakes. But engineers are less likely to make mistakes in engineering than line officers who make engineering decisions. The pendulum has swung too far in the direction of the line officer. I would be just as disturbed if the balance favored the engineer. The issue is not whether one group is exalted over the other; the issue is the very purpose of the Navy. On October 15, 1912, President Taft said: "A navy is for fighting, and if its management is not efficiently directed to that end the people of the country have a right to complain."

What Taft said in 1912 applies today. So does Roosevelt's statement made fifteen years earlier: "Every officer on a modern war vessel . . . has to be an engineer . . ." Defining purposes is deceptively easy. Setting standards is not hard. What is difficult is to keep them firm—to prevent them from being eroded by people more interested in their careers and their status than in the organization. This is a hard lesson to learn.

Those who ask again and again the simple question: "Does this make sense?" are accused of disloyalty. We should not be loyal to the idea of loyalty. We should be loyal to the purpose of the organization.

What should be done? Here I can only draw upon my own experience. When I came to Washington at the beginning of World War II, my job was to run the electrical section of the Bureau of Ships. Our object was to develop and supply electrical equipment for the Fleet. I found that one man was in charge of design, another took care of production, a third handled maintenance, while a fourth dealt with fiscal matters. This was the way the entire Bureau operated. But it didn't make sense to me. Design problems showed up in production, production errors showed up in maintenance, and financial matters reached into all areas. I changed the system. I made one man responsible for his piece of equipment—for design, production, maintenance, and contracts. If anything went wrong, I knew exactly where to look. I run my organization today upon the same principle. Our nuclear ships have to work. We have developed the technical knowledge to see that they do. We know that our responsibility extends for the life of the ship—from womb to tomb.

Reform of an institution rarely comes from within. Inertia and resistance are too strong from those who shelter behind the ramparts of custom or find comfort from the soothing narcotic of ritual. Occasionally the defense against new ideas takes strange forms. In 1897, Theodore Roosevelt was chairman of a board set up to reduce the number of senior

line officers—a problem that is with us today, too. Promotion had been so slow that the upper ranks were filled with men who arrived too late in their life to learn how to exercise responsibility. A few officers on the board seriously proposed that the reduction be made by a system of chance—a sort of lottery—so that the choice of officers to be retired would be made "without the intervention of human intelligence."

Roosevelt tossed the suggestion aside, for he and others saw that in this method the good officer was as liable to retirement as the poor one. He observed that intelligent men can make mistakes, but surely intelligence is better than blind chance.

Nearly all decisions in the Navy today deal with engineering problems. Technology will not stand still. The penalty for technological surprise can be enormous, even fatal. To avoid getting caught, we must know where the responsibility lies for the quality of our ships and the readiness of our Navy for war. We should return to the bilinear system, in which the technical bureaus reported directly to the Secretary of the Navy. They should no longer report through the Chief of Naval Material to the Chief of Naval Operations. The entire office of the Chief of Naval Material with its huge staff should be recognized as the huge burden it is, and disbanded. Not only would this step relieve those engaged in technical work from unnecessary meetings and paperwork, it would allow the Chief of Naval Operations to cut back on the size of his office. He could then face his primary job: seeing to it that the Navy is ready for war.

The principle behind these actions is that line officers must be taken out of technical positions they are not qualified to hold. The line officer has become an aristocrat. If an aristocracy fills a need in society, it has a valid place. But if it arrogates to itself privileges without responsibilities; if it assumes responsibilities without the necessary qualifications; then an aristocracy is dangerous, not just to itself, but to the society of which it is a part. The aimless way in which the line officers have taken over engineering in the Navy in the last ten years has just about destroyed the engineering capacity of the Navy.

Members of the inner circle of the naval aristocracy have often been rewarded by receiving choice assignments no matter what their experience, or lack of it. The situation is similar to placing favorites and members of the nobility in command of armies, or to Pope Alexander VI making his son Caesar Borgia a Cardinal at seventeen.

Today, many of our naval leaders are actually "cheerleaders," making heroic attempts to keep the Navy together with endless exhortations and lectures on the value of leadership. Yet they, themselves, are not knowledgeable enough to instruct or to see that the work has been done properly. What we must recognize is that the purpose of the Navy is to defend the country, not to provide a place for comfortable careers. Because our officers are the cutting edge of our military strength, we can make no compromise with their ability.

After Pearl Harbor, President Roosevelt sent for Admiral King. Supposedly King remarked: "When they get into a war, they send for the sons of bitches." Whether King used these exact words or not, it is their spirit—the determination to cut through difficulties to get the job done—that is important.

The line officer has a professional responsibility to learn how to operate his ship and his fleet. From his experience, he should be able to say what kinds of ships the Navy needs to meet its obligations.

Translating those requirements into operational hardware is the job of the engineering officers and the civilian engineers. These men must be forced to learn their job and assume responsibility for their work. To do this requires long-term assignments. We can no longer permit officers to hold their position for a short time before moving on to their next job. The headquarters organization responsible for the design and construction of ships should be reestablished as a technical organization with its engineers returned to positions requiring them to be responsible for the technical state of affairs instead of being field consultants. As the Navy gains technical competence, it can build up its in-house technical capability, and demand high quality work at reasonable cost from the industrial contractors.

I do not underestimate the difficulties. It demands a clear recognition of purpose. It demands a leadership that knows that its main job is to train and educate officers and men to meet the highest standards at sea and ashore.

To a large extent, the Navy reflects the Department of Defense. Here, too, we are overwhelmed with a suffocating organization. In 1969, the Secretary of Defense asked a leading executive from private industry to serve as chairman of a committee to investigate the Department. Based on the work of his committee, the chairman wrote: "The Defense Department is the single most wasteful, incompetent, overstaffed department in the Government. It consists largely of paper-shufflers and memo-writers." He was right. As was to be expected, the recommendations of this board—like its innumerable predecessors—were not taken seriously. Boards and commissions are useless because they can only suggest. Frequently they are set up just to quiet criticism by showing that "action" is being taken. The government is littered with reports of boards and committees which have never been acted on.

Changes can only be made by those who are responsible and act responsibly. To cut through the thick underbrush of the paper jungle, the Defense Department in the 1960's tried systems analysis, program management, and cost effectiveness. McNamara and his "whiz kids," with their cost analyses and computer methods, "managed" us into the situation where we lost the lead we had in nuclear submarines. Had not Congress intervened at the last moment, we would have stopped

nuclear submarine construction almost entirely. Even worse, these systems analysts recommended that we sink ten of our Polaris submarines as a cost-saving measure.

If at times the Navy Department has difficulty in fending off such proposals, one reason is that the Secretary of the Navy does not hold the position of esteem and importance he once possessed. No longer a member of the President's Cabinet, he is merely one of three service Secretaries who report to the Secretary of Defense.

Today we have new leadership in the Navy and the Department of Defense. I hope these men will give serious thought to reestablishing engineering competence in the Navy. I spoke earlier that we had misread our naval past. I study naval history from the perspective of an officer who is interested in the development of his profession. To me, most of these histories are seriously flawed. With a few notable exceptions, they are written by the victors to hail their own achievements. It is true in any walk of life that past success can engender a dangerous confidence and complacency that can lead to future defeat. In the glow of victory, all error is forgotten.

Recognizing the uncertainty of tomorrow is an important attribute of leadership. But a leader is acting in his highest capacity when he recognizes that his primary function is to train and educate. Naval officers cannot exercise true leadership if they lack the sense of purpose that comes from competence. No classroom courses and no books on leadership can take

its place. There is no broad and easy highway to leadership, but only the long road of experience gained through hard and unremitting work at one's career.

When I am told that I should not attack any of the policies of the Navy Department, it is the same as saying that a son should not warn his mother of a cliff until she has fallen over it. Perhaps, in the end, the facts of life, like a sheepdog with an awkward flock, will finally nudge the Navy toward common sense. But I doubt it. Had I refrained from attacking the policies of the Navy Department over the past 25 years and not gone to Congress and the Atomic Energy Commission, we probably would not now have our nuclear Navy which is a prime factor in keeping war from this country.

Like the philosopher who came to the ancient city, I know that reform means progress, and progress means strife. Where there is no friction, there is no motion. It has always been this way. We must ever seek the purpose of our lives. We must not give in to despair over the state of our technological competence as it is today. The danger lies in the future; it can be averted if we will but act.

It is not the duty of the critic to become responsible for correcting the deficiency he has found. This argument is frequently used to prevent the critic from pointing out what is wrong. When Eurystheus discovered that the Augean stables were dirty, was he then obligated to clean them? Has not the cruiser on the scouting line performed its duty when it reports the presence of the enemy fleet?

Unpleasant facts are unwelcome and no one builds statues to critics. But today we are not quite as impatient of a critic as the ancient Locrians. These people gave freedom of speech to all citizens. At public meetings anyone could stand up and argue for changes in law or custom, on one condition. A rope was placed around his neck before he began to speak and, if what he said did not meet with public approval, he was forthwith hanged. That, no doubt, prevented disturbing the even tenor of familiar customs and ways of life. I have encountered some in the Navy who look with nostalgia on this ancient custom.

But we must face the stark fact that an uncriticized society cannot long endure.

LONG LIFE CORES

Mr. MAHON. Admiral, your statement explains that new reactor designs now under development will last 15 years. Are you referring to the core of the _____ nuclear propulsion reactor?

Admiral RICKOVER. Yes, sir. The core of the _____ nuclear propulsion reactor is expected to operate for 15 years without refueling. Further, much of the development work on fuel materials, components, and design methods is aimed at providing the capability to incorporate similar long life into other new cores.

Mr. MAHON. What is the status of development of the 15-year life core of the _____ reactor?

Admiral RICKOVER. A _____ prototype core has been _____ operated successfully. We are now doing extensive tests to verify its performance. We are also initiating procurement of the first ship-board cores for installation in ships to be authorized in fiscal year 1978.

Mr. MAHON. A total of \$9,919,000 is requested for continued development of the _____ reactor. A total of 28 SSN-688 submarines have been funded in procurement, yet \$9.9 million is requested for continued development of this reactor. Why is this funding required? How much has ERDA requested for the _____ in fiscal year 1977?

Admiral RICKOVER. The 28 SSN-688 submarines as well as the three submarines in fiscal year 1977 will be built using the _____.

The _____ reactor will be installed during new construction on _____.

The funding for _____ is required to perform extensive testing and evaluation of the reactor and associated equipment to confirm design assumptions and performance expectations of propulsion plant components and systems. It also helps support design and mockup work and development of detailed testing and operating procedures for use of the improved _____ core _____.

In addition, the analysis of _____ fabrication, installation and operational data will enable technological advances developed and tested in _____ to be extended to general nuclear propulsion plant applicability.

ERDA does not have a separate project for the development of the _____ reactor core. However, it is estimated that \$6.3 million of ERDA operating funds are required in fiscal year 1977 for the continued development of this core. These funds will support the operation and testing of the _____ core _____.

ADVANCE DESIGN NUCLEAR PROPULSION PLANT

Mr. MAHON. A total of \$12,581,000 is requested for continued development of the _____ shaft horsepower advanced design submarine nuclear propulsion plant. Your statement explains that it is not being developed exclusively for use in a specified submarine or ship program. It is an option. This R. & D. program started in 1969. From 1972 through the transition period, a total of \$60.9 million has been appropriated. The budget shows that \$12.6 million is requested for fiscal year 1977, \$15.2 million will be requested for fiscal year 1978, and the amounts required after fiscal year 1978 are not shown. Admiral, what is the total R. & D. cost to complete this program?

Admiral RICKOVER. Navy research and development funding for the advanced design submarine nuclear propulsion plant included in the remaining 3 years of the current 5-year defense plan is \$18.5, \$24.2, and \$24.9 million for fiscal years 1979, 1980, and 1981, respectively. Funding requirements beyond the current 5-year defense plan have not yet been established. Future requirements will depend on the results of ongoing work. However, it is anticipated that development costs beyond the current 5-year defense plan will not exceed \$100 million to complete the development.

Mr. MAHON. What are the milestones for development of this plant? When will a submarine or ship construction effort be initiated?

Admiral RICKOVER. Important milestones for the plant development include completion of the ———.

The Navy has not yet selected a specific ship or submarine that will utilize this plant. Therefore the schedule for initiating a submarine or ship construction effort cannot be determined at this time.

Mr. MAHON. What is the status of this development effort? In other words, what hardware has been purchased, what hardware is to be purchased, and what will the \$12.6 million be used for in fiscal year 1977?

Admiral RICKOVER. Research and development efforts have established the feasibility of providing a ——— shaft horsepower nuclear propulsion plant using ———. Preliminary design of the overall plant has been completed. Design of the reactor is nearing completion and manufacture of ———.

In fiscal year 1977 detailed design and development of propulsion plant systems and components will continue. Design of major plant components such as the ——— will proceed in parallel with detailed system design. In the future, lead units of these developmental components will be purchased.

ONLY OPTION FOR GREATER PERFORMANCE

Mr. MAHON. Your statement explains that the ——— shaft horsepower plant is the only plant under development which will provide the option of constructing submarines with higher speed and greater performance capabilities. The fiscal year 1977 budget also requests funds to initiate development of a high performance underwater vehicle. ——— that could result in numerous benefits such as ———. Would you describe this technique and other R. & D. projects to ———?

Admiral RICKOVER. The high performance underwater vehicle development program will determine ———.

Mr. MAHON. The high performance underwater vehicle program will cost \$24.8 million, with \$3.0 million being requested in fiscal year 1977. If a new propulsion plant is to be developed for increased speed, why should this program be supported?

Admiral RICKOVER. As I mentioned, the high performance underwater vehicle program is being conducted to determine ———.

In summary, the high performance underwater vehicle development program has as its goal the development of technologies, that if successful, may be applied to future submarine development programs. In contrast to the high risks associated with the development and application of ———, there are no feasibility questions in development of

the new ——— shaft horsepower propulsion plant. The program involves development of a ——— propulsion plant which uses existing, proven technology.

Mr. MAHON. Admiral, how will the Navy acquire targets 300 miles away, the range of *Tomahawk*, particularly when the *Strike Cruiser* is operating independently?

Admiral RICKOVER. The details of the operation of missile targeting is not under my technical cognizance, sir. I will obtain an answer from the responsible Navy officials.

[The following answer was provided for the record by the Deputy Chief of Naval Operations for Surface Warfare:]

Based on presently established programs we will have a capability from a strike cruiser operating independently to engage a target with *Tomahawk* to a range of 150 miles. This engagement range is based on employing broad ocean area surveillance data for targeting alerts and subsequent launch platform organic sensor localization to the accuracy necessary to support *Tomahawk* launch. Should the tactical situation permit a better launch platform localization capability by additional localization assets ——— ranges of engagement can be increased.

We are currently developing the capability through the Navy Command and Control System for collecting and correlating surveillance data on large ocean areas and providing this information to on scene tactical commanders. We have demonstrated a developing capability to do this to a range of about ——— from a surface task group. This system employs information from sources external as well as internal to the task group. The accuracy of these data is not sufficient to permit direct *Tomahawk* targeting. However, they can permit target cueing, weapon platform engagement assignment, and a basis to assist in *Tomahawk* launch platform localization. Localization must be carried out at the launch platform by either on board or off board sensors reporting directly to the launch platform. The tactical situation can permit the gamut of localization assets ranging from on board sensors only to various aircraft search and localization platforms such as LAMPS, patrol aircraft and AEW aircraft. An individual platform employing ——— localization techniques supplemented by Lamps can localize a target to sufficient accuracy to permit engagement to approximately ———. Given the tactical use of more capable on board sensors ——— this range can be extended. At present the ability to provide targeting for the independently operating cruiser to the full range of *Tomahawk* appears to be critically dependent upon the development of large area surveillance systems capable of providing information in real time to ships carrying *Tomahawk* ———.

Mr. MAHON. The expected range of Lamps MK-III helicopters will provide targeting data for Harpoon missiles but not for *Tomahawk*. In addition, no long range high endurance VTOL aircraft are in development. What aircraft or helicopter development programs are planned?

Admiral RICKOVER. I will obtain an answer for you from those who are technically responsible for these aircraft systems, sir.

[The following answer was provided for the record by the Deputy Chief of naval operations for surface warfare:]

The Lamps MK III is a viable targeting platform for *Tomahawk* as well as Harpoon.

The design goal for Lamps MK III is ——— hours on station, at ——— NM with two torpedoes. Its radar will have the capability to detect a ——— target at ranges greater than ——— and the raw video can be relayed back to the control ship via its data link. In addition, if necessary, the aircraft mission time can be extended by replacing the torpedoes with auxiliary fuel tanks.

A Navy VSTOL study group is now studying the full spectrum of VSTOL technology to construct a development plan for the introduction of a long range, high endurance VSTOL into the fleet in the mid-to-late 1980's. The strike cruiser has been sized to accommodate either two Lamps MK III or two VSTOL aircraft.

Mr. MAHON. What is the expected probability of kill with a tactical SLCM using SOSUS and surveillance towed arrays for target acquisition at 300 nautical mile range?

Admiral RICKOVER. Studies of missile performances are not under my technical cognizance, sir. I will obtain the answer to your question from those responsible.

[The following answer was provided for the record by the Deputy Chief of Naval Operations for Surface Warfare:]

_____ given localization sufficient for launch, current Tomahawk program probability goals for missile reliability, acquisition, and hit accumulate to approximately _____ at about 300 miles. Probability of kill with a _____ warhead is affected greatly by the size of the target and type of kill (mission or sink). Extrapolating the probability of sink of a _____, results in a range of PK's between _____. We feel these PK's are conservative particularly in view of the demonstrated damage effect of the Harpoon 500 pound warhead on surface targets; however, using these conservative PK's the range of probability of kill for the proposed engagement is approximately _____.

With the target at 300 miles its ability to escape the seeker sweep width because of target movement during time of flight has _____. Therefore, at ranges of _____ and less the probability of hit according to program goals accumulates to _____ and the resulting range of kill probabilities is approximately _____ using the conservative PK's developed from _____ damage assessment.

NUCLEAR TRAINED OFFICER RETENTION

Mr. MAHON. Admiral Rickover, in your statement you devote a section to the subject of retention of nuclear trained officers. In this section you discuss the very unsatisfactory manning levels which the Navy is facing with respect to officers capable of overseeing operations of nuclear-powered ships. What is the current status of H.R. 10451 which is the bill you mentioned to reinstate the nuclear officer bonus program?

Admiral RICKOVER. H.R. 10451 is currently under consideration by the House Armed Services Committee. On November 5, 1975, Mr. Stratton's Subcommittee on Military Compensation held hearings, with the Chief of Naval Personnel the principal witness. In addition, this subcommittee held hearings in Rota, Spain; Holy Loch, Scotland, and Norfolk, Va., and heard testimony from about 160 nuclear trained officers. On March 25, the subcommittee voted 11-0 to forward the bill to the full committee recommending approval. It is my understanding that this bill will go before the full committee during the week of April 5, 1976. Rapid and clearly supported passage of this bill by the House is needed in order to have the bill favorably acted upon by the Senate during this session of Congress.

NAVY TRAINING AIDS COMMERCIAL NUCLEAR INDUSTRY

Mr. MAHON. During the years of rapid growth in commercial aviation, the military services provided a significant portion of the pilot requirements of the commercial airlines. This occurred all during the 1950's and 1960's, but began a rapid slowdown about 1970 as airline industry growth also slowed. In effect, the Department of Defense simply established pilot training programs which were large enough to support both requirements despite a heavy loss of first term pilots to the airline industry. Is a similar approach feasible for nuclear trained officers? In other words, should we greatly enlarge our nuclear train-

ing program knowing that private industry will probably always be in a position to pay more regardless of the salary or bonus level provided by the Department of Defense. This approach would have the effect over the long run of eventually saturating the market for nuclear trained personnel and at the same time assisting in the expansion of nuclear energy sources for our economy. What are your thoughts on this matter?

Admiral RICKOVER. As part of the naval nuclear propulsion training program, we operate nuclear prototype reactor plants that are built exactly like those onboard ships. I have always believed in actually training the people on the kinds of equipment they will operate aboard ship. Prototype operations are funded from the R. & D. moneys. For the entire history of the naval nuclear propulsion program, we have received about \$4 billion in R. & D. funds including money for equipment and facilities from the Navy, ERDA, and its predecessor agency, the AEC.

NAVY PEOPLE SAVE INDUSTRY MONEY

Dr. Schlesinger, when he was chairman of the Atomic Energy Commission—August 1971 to December 1972—stated that the training people get in the nuclear Navy has been worth somewhere between \$2 and \$3 billion to the national economy. It costs civilian companies a lot of money to train a man to operate a commercial nuclear powerplant, but when the man has had naval nuclear training the cost is considerably reduced. And it is a fact that a large percentage of our people who get out of the Navy go to work for the power companies that are operating nuclear power stations. I would estimate that more than half of all of the nuclear trained officers who left the Navy in the past 3 years are now employed somewhere in the civilian nuclear industry. So from a national standpoint, we have refunded a sum of money to the country which is almost equal to all the research and development money given to us over a period of a quarter of a century—since the naval nuclear propulsion program began. The Navy's nuclear training program is large enough to train sufficient personnel to man the ships, recognizing that trained personnel will be lost after they serve out their minimum obligation. Therefore, the Navy has trained large numbers of personnel for jobs in the commercial nuclear power industry.

FEDERAL TRAINING OF CIVILIAN REACTOR OPERATORS

I was asked in December 1974 for my thoughts on establishing an ERDA—formerly AEC—sponsored national training program for civilian reactor operators so as to relieve the pressure on our Navy people. There has always been concern over the ability of the nuclear utility industry to acquire and train sufficient numbers of operators and supervisors. In 1967 and again in 1973 the AEC—now ERDA—performed extensive studies in cooperation with the nuclear industry covering that industry's personnel and training needs. These studies came to several conclusions. First, although there would be a dramatic increase in the demand for reactor operators over the next 10 years, the utility companies felt they could handle the situation given the design and construction leadtime that each plant inherently has.

Second, although the Federal Government could assist industry in solving the problem of nuclear operator training, the responsibility clearly rests with the utility companies.

Based on these studies it does not appear practical, necessary or desirable to rely on the Federal Government to establish and subsidize civilian nuclear operator training.

MANNING LEVELS ON NUCLEAR SHIPS

Mr. MAHON. At what point in time will manning levels for nuclear trained officers reach such a low state that Polaris/Poseidon boats will be unable to meet their time on-station requirements or you will not be able to adequately man the nuclear ships the Navy already operates to say nothing of the increased requirement resulting from construction of new ships.

Admiral RICKOVER. I do not expect that to occur, sir. As I indicated in answering Mr. Murphy's question earlier, 20 years ago when the Navy had only two nuclear submarines with several others under construction, similar arguments were offered stating that additional nuclear ships should not be built because they could not be manned. Today with 106 nuclear submarines in operation—41 of which have two crews—and seven nuclear surface ships in operation, the same concerns over the building of additional nuclear powered ships continue to be raised. It has not been an easy task to keep the nuclear ships manned, but it has been done and it is expected that it can continue into the future. The proposed special pay for nuclear officers before Congress, H.R. 10451, is intended to improve retention.

Mr. MAHON. How is the Navy allocating the shortage of nuclear trained officers? For example, are shortages first assigned against surface ships then attack submarines, and then the ballistic missile submarines?

Admiral RICKOVER. The current shortages of nuclear trained officers are compensated by increasing sea tour lengths and restricting shore and staff assignments for nuclear trained officers. All nuclear ships are manned at 100 percent of allowance; this now requires that 88 percent of the nuclear trained officer inventory be assigned to nuclear ships. Such compensation will continue to provide adequate manning of nuclear powered ships.

EXCESSIVE DOD BUREAUCRACY

Mr. ADDABBO. One general question, Admiral.

In the past you felt there would be greater efficiency in the Pentagon if the top three floors were chopped off.

Admiral RICKOVER. That is because there are only five floors.

Mr. ADDABBO. With the realignment and consolidations that we have heard about and cutbacks, has part of that three floors been eliminated, or are you still running into the same type of bureaucracy?

Admiral RICKOVER. I have seen basically no change. I am sad to say. The bureaucracy in the Department of Defense is still too large and unproductive. Like all bureaucracies, it is a machine of set routines and procedures, designed more for continuity than for flexibility. The need for internal compromises between offices, groups and factions

often prevents taking the bold initiatives needed to correct problem situations. Layer upon layer of staff administrators daily prove Lord Acton's statement, "There is no worse heresy than that the office sanctifies the man."

Part of the problem stems from poor leadership. Some administrators are not technically qualified to make decisions in their areas of responsibility. Nevertheless, they proclaim their own abilities as problem-solvers. Unable to come to terms with actual problems, they disassociate themselves from realities. When decisions can no longer be postponed, they want their subordinates to make recommendations which will confirm the easy course of action which they have already promised is possible.

As you said, there have been recent announcements that the Office of the Secretary of Defense is taking some small steps to cut the number of people working at that level. The more extensive the cuts and the simpler the subsequent organization, the better it will be for all levels within the individual services.

Unfortunately the way reorganizations are generally conducted, they end up requiring more people and introducing more layers of management. Every one of the layers has to show that he is doing his job and so they require reports and in general make work to justify their existence. The poor people on the bottom of the totem pole get forced further from the top where decisions are made and become so overwhelmed with administrative excess that less and less real work is done. Essentially all that these reorganizations do is not to decrease the number of people, but to change their telephone numbers.

GROWTH OF ALL GOVERNMENT

The Defense bureaucracy is not unique in its growth over the years. The bureaucracy of all levels of government, in Max Weber's famous words, grips us in its "iron cage." According to an estimate made by the Tax Foundation, the total cost of national and local government in the United States exceeded half a trillion dollars in 1975. That means that about one-third of this country's gross national product is accounted for by government expenditures.

While the growth of the Federal budget has been rapid, the cost of State and local government has risen even faster. Between 1950 and 1973, total State and local government expenditures increased from \$23 billion to \$180 billion. During that same period, the State and local bureaucracy swelled almost three-fold to 11.5 million workers.

New York City's experience is illustrative. From 1964 to 1974 the budget and total debt tripled, each to over \$12 billion. In 1974, there were 163,000 applicants for a few hundred jobs in the New York City Sanitation Department. The reason was a salary including fringe benefits of nearly \$20,000 a year, and retirement at half pay after 20 years.

The increase in the number of Federal agencies in the last 10 years has contributed to growth in government. But, the inexorable proliferation of organizations is not confined to our country alone. It has become an international phenomenon.

Consider, for example, the number of international economic organizations active in the world today: The International Monetary Fund,

the World Bank, the General Agreement on Tariffs and Trade, the Organization for Economic Cooperation and Development, the Bank for International Settlements, the Conference on International Economic Cooperation, the International Energy Agency. This list does not include the economic arms of such organizations as the Organization of Petroleum Exporting Countries and the European Common Market. Nor does it include the many organizations operating under the United Nations and other organizations. Each of these groups has its own acronyms, plenary sessions, commissions, working parties and staffs, each involved in conducting endless studies which often have little more impact than to keep the staffs employed.

The consequences of this organizational proliferation need to be examined. What is really achieved by the spread of bureaucratic power? Have economic cooperation and well-being improved so much as to justify the growing number of organizations founded to promote these goals? As with the growth in our domestic bureaucracy, the answer is often no.

I do not question the need for government or bureaucracies. In today's complex world, government is not likely to wither away or even to diminish. But in my experience, the growth of bureaucracy is seldom the answer to society's problems. This is certainly true within the Defense Department. A lean, streamlined organization is more capable than an overgrown bureaucracy of determining the Nation's long term defense needs, and it can do so at considerably less expense. I have just not seen much real evidence of a streamlined defense bureaucracy, sir.

Mr. ADDABBO. Thank you, Admiral.

LAWYERS SWITCH SIDES

Mr. FLYNT. Admiral, I was interested in your statement about lawyers switching sides. Can you give us any idea why the Navy General Counsel waives the disqualification of a former Naval Sea Systems Command Deputy Counsel who went to work for a Washington-based law firm and prosecutes a claim against the Navy?

Admiral RICKOVER. Mr. Flynt, I am unable to explain why the Navy General Counsel took the action he did. From the history of this case, however, it did not surprise me very much.

In July 1974, a Washington law firm that specializes in prosecuting claims against the Government hired the Naval Sea Systems Command's Deputy Counsel in charge of shipbuilding claims. This lawyer was generally knowledgeable of the entire shipbuilding claims situation in the Navy. Moreover, the firm represented shipbuilders on many claims for which the former Deputy Counsel had responsibility for the Navy.

According to the American Bar Association's Code of Professional Responsibility, the law firm should have immediately disqualified itself and withdrawn from those cases where the former deputy counsel had had responsibility. I pointed this out to the Navy's senior civilian lawyer—the General Counsel. He raised the issue with the law firm, but the law firm refused to withdraw. Given the firm's position, the General Counsel raised the issue with the ABA and asked for an opinion. After over 7 months of deliberating on the case, the ABA finally issued its opinion on November 24, 1975. The opinion does

not answer the question directly. It implies that while the law firm should be disqualified from continued representation in these claims, the Government may waive this disqualification.

LOBBYING BEHIND-THE-SCENES

Apparently behind-the-scenes lobbying influenced the outcome. The February 23 issue of Business Week carried an article entitled "The Ethics Squeeze on Ex-Government Lawyers." It points out that several prominent law firms as well as several Government agencies joined together to get the ABA's opinion watered down. The article identified Assistant Attorney General Scalia as one of those in the Government who lobbied against a strong ABA decision. As I mentioned earlier, he was the Justice Department official who wrote the opinion that told the Navy it could not hire outside counsel for claims.

At any rate, the Navy General Counsel reviewed the ABA ruling and finally, 3 months later, produced a legal opinion that there is no longer a conflict requiring disqualification of the firm.

Mr. FLYNT. That is my point. I can understand why other people might intervene to say it was all right, but I can't understand why the senior Navy lawyer would take an action which had every prospect of prejudicing the Navy's legal position.

Admiral RICKOVER. Sir, I can't understand it either. But I would not be surprised if there had also been outside influences placed on the Navy that led the Navy General Counsel to conclude that there was no violation of the ABA Code of Professional Responsibility.

Are you a lawyer, sir?

Mr. FLYNT. I used to be.

Admiral RICKOVER. Then you understand the problem we face. We cannot get any real help within the Navy because the Navy lawyers are either inexperienced or overburdened. Yet are not allowed to hire outside lawyers to help. We are up against large claims prosecuted by Washington law firms specializing in claims against the Government. And these same law firms are hiring away some of the few experienced lawyers we have. And the top Navy lawyer simply does not desire to hire outside legal counsel for reasons not entirely clear to me. He apparently has become the decisionmaker in this area, and not the legal adviser.

I am currently at a loss as to what more I can do in this matter without assistance from Congress. And even if Congress does give us authority to hire outside legal counsel, I doubt the Navy General Counsel will permit us to do so.

Mr. MAHON. Are there further questions?

RETIREMENT MODERNIZATION ACT

Mr. BURLISON. Last year, you made a strong representation against the present pension and disability provisions available to military retirees. In your estimation, does the Retirement Modernization Act now being considered adequately cover the problem?

Admiral RICKOVER. No, sir, I do not believe that proposed act covers my concern. What I object to is the way the disability benefit system has been run. Disability benefits include tax breaks on retirement in-

come, sick pay exclusion and, occasionally special Veterans' Administration benefits. It is senior officers who appear to benefit the most from this system. There have been reports of high ranking officers receiving flight pay up until their day of retirement, and then being judged partially disabled at retirement. I think this is a terrible abuse of a system which is supposed to benefit only those service people permanently disabled from war wounds or job-related injuries.

As I understand it, the Retirement Modernization Act does not deal with disability retirements; it only affects the nondisability retirement system. Beyond that, I am really not familiar with the act.

RATE OF SUBMARINE PROCUREMENT

Mr. BURLISON. Does the current rate of submarine procurement—three SSBN every 2 years and 3 SSN's each year—provide "rough equivalence" with the Soviet Union's underwater fleet?

Admiral RICKOVER. No, sir. Let me first point out that while the current plan for Trident acquisition is three every 2 years, the program has been stretched out again this year. Only one Trident submarine is in the proposed Defense Department fiscal year 1977. As I previously mentioned the Soviets already have 75 ballistic missile submarines, 55 of which are nuclear powered. This compares to 41 Polaris and Poseidon SSBN's for the United States. Of the 55 nuclear powered ballistic missile submarines, 34 are *Yankee* class which are the equivalent of our Polaris and Poseidon submarines except that they are all newer than ours. They have 11 new Delta class submarines that can fire a 4,200-mile missile and which are equivalent in many respects to our Trident submarines. While we have not commissioned any SSBN's since 1967, and won't until 1979, the Soviets have been building six to eight a year for a number of years.

In attack submarines the Soviets have a total of 255 if you include those units that fire cruise missiles. Of the nuclear powered units, Russia has 40 that fire torpedoes and 40 that fire torpedoes and cruise missiles for a total of 80. This compares to 75 attack submarines for the United States, 65 of which are nuclear powered and none of which fire cruise missiles.

As I indicated in my opening statement there are three SSN-688 class submarines in the fiscal year 1977 budget submitted to the Congress. But that budget also shows a recent decision by the Department of Defense to delete one SSN from each of the fiscal year 1979 and fiscal year 1981 budgets. Thus the projected procurement rate after 1977 will be at a reduced level of two SSN's per year at least through 1981. Previously the SSN building rate had been reduced from five per year to five every 2 years.

Because of fiscal constraints, the Navy and the Joint Chiefs of Staff sometime ago settled on a force level of _____ as a prudent risk in face of the Fleet Commanders' estimated requirement of _____. With a building rate of five per year, we could have achieved _____ SSN's by 1985; however, at that time, the pre-*Skipjack* class submarines will be 25-30 years old and continued construction will be necessary to replace them. The force level of _____ was reduced to 90 in 1973 by the Chief of Naval Operations. The currently proposed building rate of 2 SSN's per year will not sustain a force level of 90. Replacement of the pre-

Skipjack class submarines will require building rates in the 1980's on the order of 5 to 6 SSN's per year just to maintain the force level of 90.

In summary, the current proposed submarine building rates will allow the Soviets to continue to increase their numerical advantage in nuclear powered submarines while maintaining overall a fleet three times larger than ours.

Mr. BURLISON. How about the rate provided in the authorization bill?

Admiral RICKOVER. The authorization bill as reported out of the House Armed Services Committee added a fourth SSN-688 class nuclear-powered attack submarine and restored the second Trident as planned last year. This certainly improves the situation but does not achieve equivalence with what the Soviets are doing. With the Soviets building about 10 submarines a year, you would need to almost double the building rate of 6 submarines in the House bill and do that every year for a number of years to equal their rate. To catch up with them in total numbers you would need to authorize even more.

FREEDOM OF INFORMATION ACT EXEMPTION

Mr. BURLISON. The bill introduced by Congressman Clair Burgener to exempt our naval nuclear propulsion technology from the Freedom of Information Act is still in the Government Operations Subcommittee on Government Information with no hearings scheduled. Does the administration support this bill? If so why don't we see some active signs of this support?

Admiral RICKOVER. I cannot speak for the administration, but I certainly support Mr. Burgener's bill and I wrote a letter to him saying so. I think one of the reasons why there is reluctance to take a position on this bill is that it amends the Freedom of Information Act which everyone knows is difficult to do, particularly when you are considering restricting release of information. I might point out that there is an alternate way to achieve the same goal that does not require amending the Freedom of Information Act. Congress need only pass a separate statute requiring protection of this sensitive area of military information. The Freedom of Information Act already recognizes that one of the categories of information exempt from release under the act is any protected by separate Federal statute. However the Congress deals with it, I believe the national interest will be served by protecting our valuable naval nuclear propulsion technology from release in a way which provides an assurance that it will not fall into the hands of our potential adversaries.

Mr. BURLISON. In your support of the strike cruiser, one strong argument that you make is that it will be designed to carry a long range cruise missile. We hear much testimony about the development of the SLCM—surface launched cruise missile—and its involvement in the SALT negotiations. Could this affect the design and construction of the ship?

Admiral RICKOVER. I am not involved in the SALT negotiations. Therefore, I have no knowledge as to whether or not the SALT negotiations could result in causing a limitation on the tactical application of the Tomahawk cruise missile on the strike cruiser. However, even if the negotiations were to result in eliminating the system from the ship, the effect of not installing the Tomahawk would not signifi-

cantly after the design or construction of the ship. The Navy's experience with ships is that deletions can be made far more easily than additions, either during construction or in-service modernization.

NAVY'S DECLINE IN TECHNICAL COMPETENCE

Mr. BURLISON. In past testimony, you have taken the Navy to task for its declining technical competence. Do you see any signs of improvement in this area by top Navy management and its technical bureaus?

Admiral RICKOVER. Overall I would have to say no. I have mentioned the material readiness course to be taught to senior officers. That is one small bright light, but as far as the Navy is concerned as a whole the decline in technical competence continues unabated. In the Navy there is the problem that those who are running the projects are around for only 2 to 3 years. The Navy looks for quick solutions to solve all its management problems. They designate technically inexperienced persons as "project managers." The problem is then considered solved and at once forgotten. But these managers do not have the technical skill to see to it that their project is properly conceived and carried out. Most have only the shallowest knowledge of the theory of the techniques they must deal with and little experience with the practical problems involved. Under our rotation system, they are never kept long enough on the job to acquire such skill and knowledge.

As if this did not make their task difficult enough, they are subject to constant interference from upper echelon bureaucrats pushing their personal proposals, seeking to have their "advanced" concepts put into effect. With all of these pressures upon him, the neophyte manager, during his brief tour of duty will barely learn to understand these proposals, still less to weigh them and arrive at a judgment he can forcefully defend. Nevertheless, he must make decisions vitally affecting his project, decisions which may be technically unsound but will satisfy his superiors and so will take effect. This is how a project becomes irrevocably set.

Before the results of the decisions are in, the manager will have moved and a new manager, equally unqualified technically, will take his place. Naturally the new manager will feel no responsibility for prior decisions and actions; his primary ambition will be to keep the project moving in the hope that it will not fail during his own tour. Thus responsibility cannot be fixed and there is bound to be little continuity in technical direction for most of the defense developments underway today.

The Navy's assumption is that a good military man, without prior experience or technical expertise, can run a weapons project.

That notion works havoc in technical work. There is a difference between the managing function and the technical or engineering function. Both ought to be combined in the direction of any technically complex project.

MANAGING BY THE LAW OF AVERAGES

Management, as it is presently taught in business schools and elsewhere, operates with the law of averages. A purely managerial deci-

sion will be based on how people will act "on the average" in any specific instance. In a technical project, handling people is, however, only one part of the job. Handling the technology involved requires a different expertise—that of the engineer. The result of his decisions must be that every single item works accurately, not just "on the average." A single apparently minor detail can wreck a major project, even though all the other parts work.

What the engineer produces either works or it is junk. It will work only if given constant attention to detail, day after day. No one can make it work who lacks the basic technical knowledge and practical experience. It is a serious defect in our procurement system that those who have these capacities are at the bottom of a very long chart—a chart which it ought to be remembered deals with an organization whose function is to produce military weapons, not paperwork, studies, or systems analyses.

Most major project decisions are made at the top levels of the Department of Defense or the Navy. Now, at these levels the understanding of the technical complexities of weapons development is understandably weak. The judgment on engineering details is supposed to have been exercised somewhere down the line. Today that responsibility is often ill defined, but it usually rests with technically ignorant project managers. You would be amazed at the proposals and justifications some of these "managers" prepare. These are often simplistic, inaccurate, and in many cases just plain wrong. When questions arise, these people become mere mouthpieces for the very contractors who are pushing the project. I need not recount the major projects which have floundered on technical problems, all to the benefit of the contractors whose original distortions and promises directly contributed to the overly ambitious nature of the project.

ADMINISTRATIVE, NOT TECHNICAL MANAGEMENT

It has been official policy to try to handle the acquisition of major defense systems by concentrating on administrative procedures rather than concentrating on the technical problems.

For example, until several years ago we had a Bureau of Ships in the Navy. This was basically a technical organization and its chief reported directly to the Secretary of the Navy. Many people were dissatisfied with the products coming from the Bureau of Ships, and properly so. However, the "corrective" action taken was an administrative solution. Most of the technical people were stripped out of the Bureau of Ships and placed in a field command. We were told to go down the road of establishing managers to administer the work based on the idea that industry would supply the necessary technical expertise.

The policy which has been followed for years has been to turn the technical work over to industry, and train the Government people as administrators. We were told that it was our job to specify the performance needed and let industry decide how to design the product. Reams of management procedures were then promulgated to tell us how to administer the work.

This is exactly opposite from the direction that should have been taken. We were in trouble in the Bureau of Ships because the organi-

zation was not technically adequate to keep up with what was happening in the technological revolution. There were administrative problems, but the most significant weakness was on the technical side. What we needed was a vast strengthening of the technical organization—both officer and civilian—of the selection and training of technical people, and bringing them up to take technical control and responsibility for their work. Exactly the opposite has happened.

Today the headquarters organization of the old Bureau of Ships, which is now called the Naval Sea Systems Command, reports to the Chief of Naval Materiel who reports to the Chief of Naval Operations, who reports to the Secretary of the Navy—all of them non-technical people. Every one of these organizations has set up management organizations under line officers; so the technical work has been degraded to the lowest item on the totem pole.

This is but one example of the serious situation we face. I wish I could be hopeful but I do not see it getting any better. I consider it essential to the future welfare of the Navy that top Navy and Department of Defense attention be placed on increasing the competence, stature and authority of the technical groups charged with responsibility for executing the Navy's technical work. Unfortunately I do not think reform will come from within. The only way it will happen is if Congress steps in and demands that this situation be changed.

NUCLEAR SHIPS ENTRY INTO FOREIGN PORTS

Mr. BURLISON. Would you give us a rundown on where we stand on the matter of nuclear powered warship entry into foreign ports?

Admiral RICKOVER. Yes, sir. Presently 42 countries and dependencies welcome visits by U.S. nuclear powered warships. Among these are a number of countries with whom we have a defense agreement such as the United Kingdom, Japan, the Philippines, Germany, Canada, and others. These countries are certainly meeting their responsibility insofar as accepting our nuclear warships into their ports.

SITUATION IN MEDITERRANEAN

But there are notable exceptions which are cause for concern. The most serious situation exists in the Mediterranean where several of our allies presently deny entry to our nuclear warships. Specifically, France, Turkey, Greece, and Spain have withdrawn visit approval, each for its own reason.

France has internal government regulations which establish conditions we cannot agree to without surrendering the traditional concept of sovereign immunity for warships.

Turkey has not permitted visits since 1969 owing to unwillingness of the Government to accept our unilateral assurances on safety and accident liability. The recent turmoil over suspension of U.S. military aid and the extensive renegotiations now going on does not lend much hope that nuclear warship visits are likely to be allowed soon.

The situation in Greece is somewhat similar to that in Turkey. In Greece also, our defense relationship is being re-evaluated, with visits by our nuclear powered warships not even being considered by the Greek Government.

I will discuss Spain later, but you can see the difficult position we are in when most of our Allies in the Mediterranean do not allow U.S. nuclear-powered warships operating in that area to use their ports. This is difficult to understand, particularly since their presence is in support of the defense of the Western nations of which these countries are a part. The morale of the men on these ships and the purpose and commitment of our entire naval forces can only suffer by such actions from countries they are helping to defend.

SITUATION IN PACIFIC

A similar situation obtains in the Pacific where Australia and New Zealand presently do not allow our nuclear warships to enter. For nearly 5 years these two partners of the three nation ANZUS defense alliance have refused to accept U.S. nuclear-powered warships, the very ones most suited for operations in the far reaches of the Pacific.

Numerous reasons have been offered for their position but the real reason is political. Unfortunately, and to my mind irresponsibly, we have allowed this discrimination to continue. Liken this situation to a marriage where both parties are pledged to love, honor, and obey yet one refuses to let the other in the front door at night. I dare say this would hardly be judged a proper exercise of the duties and commitments of a marital covenant.

I have discussed this matter with a number of Australian and New Zealand representatives over the past several years. They all agree the problem is not one of safety or environmental concerns. When I question them they usually acknowledge that if a war started tomorrow it would be the United States to whom they would look for help. They recognize that, in a major conflict the U.S. Navy would have to help them defend their territorial waters since their own navies are small. They are quick to state that in such a war there would be no question of permitting our nuclear powered warships to enter their ports. I point out that if this is the case, their actions in denying us port entry when we are not at war, helping them, is a shameful way for one ally to treat another.

One bright hope in this situation is that new governments have recently been elected in both Australia and New Zealand. The new governments in both countries have made positive statements regarding the acceptance of U.S. nuclear-powered warships into their ports. Hopefully we will shortly see this long overdue problem resolved.

SITUATION IN SPAIN

I will now discuss the situation in Spain. Until 1971 U.S. nuclear-powered warships were permitted entry into Spanish ports. In that year, even though the United States and Spain had a defense relationship as a result of the 1970 Agreement of Friendship and Cooperation, the Spanish refused entry of U.S. nuclear-powered warships into any Spanish port other than Rota in order "to study" the matter. Subsequently the Spanish demanded that a separate port entry agreement be negotiated before they would allow such ships to visit Spanish ports.

Although the United States considered ways to satisfy the Spanish demands, it quickly became clear that Spain desired unusual and unacceptable conditions which the United States could not agree to. Among the conditions which could not be met in 1972 was that the United States settle damages from a nuclear incident involving the reactor of a nuclear-powered warship on the basis of absolute liability.

As a result of not meeting the Spanish demand for a separate agreement, Spain in June 1973 prohibited U.S. nuclear-powered warship visits to all Spanish ports including Rota. Only the *Polaris/Poseidon* submarine squadron was allowed to continue operating from Rota because this military operation was specifically included in the Rota base provisions of the 1970 agreement.

Although the U.S. negotiators made a limited attempt to get the Spanish to consider nuclear-powered warship port entry during the recent treaty negotiations, the Spanish refused to consider it and instead achieved agreement for the withdrawal of the *Polaris/Poseidon* submarines by 1979.

UNITED STATES ACCEPTS LIABILITY FOR NUCLEAR INCIDENTS

Thus the new agreement, which for the first time is to be in the form of a treaty, does not resolve the longstanding impasse on nuclear-powered warship visits into Spanish ports. The issue over liability in the event of a nuclear reactor incident has been resolved owing to the passage in December 1974 of Public Law 93-513, a joint House-Senate resolution sponsored by the Joint Committee on Atomic Energy. This law provides that the United States will settle claims resulting from a nuclear incident involving the nuclear reactor of a U.S. warship on the basis of absolute liability. This guarantee has satisfied the Spanish concern in this area as evidenced by their agreement to the continued operation of the *Polaris/Poseidon* submarine squadron from Rota for 3 more years. It should also satisfy every other country that has expressed concern over liability resulting from a nuclear-powered warship reactor incident.

Resolution of the liability issue does not alter the fact that the problem of routine nuclear-powered warship port entry has not been eliminated in the process of negotiating the new treaty. Thus the Spanish will be allowed to continue to ignore a basic principle of any defense alliance, namely, that one country's warships can visit the ports of the other. The United States has acquiesced to the continuation of this situation even though these ships serve in the Atlantic and the Mediterranean in support of the security posture sought by Spain. It is my opinion that resolution of this issue should be a prerequisite to congressional ratification of any defense treaty with Spain.

I also believe that because of the growing importance of nuclear-powered warships to the U.S. naval strength, any defense treaty or agreement to which this Nation is a party should be enacted or continued only when there is a specific understanding that visits by U.S. nuclear powered warships into the Nation's ports will be accepted. If we are to have a mutual defense agreement, a defense ally can not deny us the use of its ports for the very ships that will be instrumental in achieving the security objectives of the alliance. This condition

needs to be insisted on by the Congress so that the executive branch will place a much higher priority on it than it has so far been willing to.

Mr. MAHON. Admiral, it is always helpful to us to have you before us. We have great respect and admiration for you. We are pleased that you have been able to be with us. Thank you very much.

Admiral RICKOVER. I appreciate very much your permitting me to come here and talk as frankly as I do. As you know, I feel at home here.

Mr. MAHON. We feel at home with you.

If there are no further questions, we will adjourn until 2 o'clock.

INDEX

	Page
Acheson, Dean-----	73
Acton, Lord-----	292
Adam, Smith-----	75
Aegis:	
Basis of opposition to nuclear Aegis ships-----	76
Converting U.S.S. <i>Long Beach</i> to Aegis-----	125
History of program-----	75
House Armed Services Committee action-----	76, 79
Nuclear Aegis ship compared to conventional-----	78
Presidential determination-----	76
Alaric the Goth; sacks Rome in 410 A.D.-----	73
American Bar Association-----	293
Armed Services Board of Contract Appeals-----	107, 109
Bernardo, the Florentine-----	133
Bureaucracy:	
DOD bureaucracy excessive-----	291
Growth of all government-----	292
Like an iron cage-----	292
"Office sanctifies the man"-----	292
Organizational proliferation-----	293
Business and profit-----	105-106
Charlemagne; Saxons beheaded by-----	100
Claims on defense contracts:	
Certification of claims-----	104, 135
Considerations in settling claims-----	102
Outside counsel-----	107, 136
Navy needs help with claims-----	108
Pressures to settle claims-----	103
Public Law 85-804-----	103, 109, 135
Recommendations on shipbuilding claims-----	111
Requests for equitable adjustment-----	102, 135
Shipbuilding claims statistics-----	102, 135
Switching sides by claims lawyer-----	293
Congress:	
Congress must help Navy get outside counsel-----	294
Hears testimony by servants, not masters-----	122
Must decide how much to spend on ships-----	75, 76
Must help reform Navy-----	88
Renegotiation board requires constant congressional surveillance-----	113
Title VIII-----	82
Cost estimating-----	132
Defense procurement:	
ASBCA <i>see</i> Armed Services Board of Contract Appeals-----	
Claims, <i>see</i> Claims on defense contracts-----	
Cost accounting standards-----	114
Defense Production Act-----	115
Independent research and development-----	112
Lawyers switch sides-----	293
Renegotiation-----	113
Shipbuilder dealings with senior defense officials-----	103
Truth-in-negotiations-----	114
<i>United States Steel</i> case-----	114
Fisher, John A., first sea lord-----	86
Freedom of Information Act; Burgener bill-----	296
Germany; war experience of-----	92, 100
Gorshkov, Admiral-----	74, 86
Hannibal-----	4

	Page
Introduction	1
Johnson, Samuel	86
Kennan, George	73
Lawyers :	
Behind-the-scenes lobbying by Justice Department official	294
Naval officers take law courses	239
Outside counsel	107, 136
Switching sides by claims lawyers	293
Lenin	106
Military leadership :	
Administrative not technical management	298
Decline in technical competence	297
Management in military	297
Naval officers lack engineering background	239
Poor leadership	292
Reforming the Navy	87, 299
Shipbuilder dealings with senior defense officials	103
"Team players"	104
U.S. Navy appears complacent	87
National defense and foreign policy and aircraft carriers	96
Conventional weapons	3
Defense spending	72
Design to cost	120
Entry of nuclear ships into foreign ports	299
Feast or famine shipbuilding program	115, 129, 131
Need for nuclear powered strike force ships	95
Need for strong military	3, 4, 73
Need for strong Navy	86
Policy on types of ships	91
Quality versus quantity	93
U.S. Navy appears complacent	87
U.S. Navy compared to Soviet Navy	71, 72, 88, 90
World War II experience	92
Nuclear powered aircraft carriers and foreign policy	96
CVN 71	120, 130
Delays in carrier construction	120
Design to cost	120
Possible to build CVN 71 at Puget Sound	130
Size of aircraft carriers	96-98
Start and stop building plans	131
Nuclear powered ships :	
Advanced reactors and cores	286
Aegis ships	75
Basis of opposition to nuclear Aegis ships	76
Cost of	76, 79
DLGN building program	131
Entry of nuclear ships into foreign ports	299
Life cycle cost of nuclear task force	80
Need for nuclear powered strike force ships	95
Oilers should not be nuclear	125
Position of Admiral Moorer	95
Shipyard capacity for building	126
Title VIII	82, 95, 121
Opening statement	6
Personnel : training, retention, rotation :	
Built-in system for failure	87
National training program for reactor operators	290
Nuclear trained officers ; manning levels	134, 291
NUPOC	134
Retention of nuclear trained officers	289
Retirement Modernization Act	294
Senior officers' material readiness course	85, 239
Soviets are flexible in billet assignments	87
Training programs for officers save industry money	290
Turnover of senior defense officials	86
Pius II, experience with cost estimating	133

	Page
Procurement deficiencies, <i>see</i> Defense procurement	
Rome	4, 73, 100
Shipyards:	
Firm shipbuilding program needed	123
Ingalls wants to build submarines	132
Navy shipyards	126, 123
Nuclear capable private shipyards	126
Quincy yard	131
Shipbuilding backlog	127
Soviet Union:	
Conventional weapons spending	3
Flexibility in billet assignments	87
Foreign policy	3, 73
Lenin on capitalism	106
Naval strength	74, 92
Soviet carrier	90
Soviet surface ship construction	88
Soviet Trident equivalent	117
Submarines	74, 91, 117
Turnover of senior officers	86
Spain; refuses entry to United States nuclear powered ships	117, 300
Strike cruiser (CSGN):	
Building CSGN's	123, 129
Initial procurement cost	80
Nuclear CSGN compared with conventional Aegis ship	78, 123
Strike cruiser building plans	130
Systems analysts' attempts to eliminate CSGN's	124
Submarines:	
Advanced design submarine nuclear propulsion plant	286
Advanced reactors and cores	286
Attack submarines	295
Building rate of submarines; adequacy of	295
Comparison of United States and Soviet submarine forces	71, 91
In World War I	93
In World War II	74, 93
Ingalls wants to build submarines	132
Nuclear versus conventional	74
Soviet submarine building program	91, 117, 295
SSN 688 class submarine program	115, 117, 295
Trident	116, 119, 295
Value of nuclear submarines not fully realized	93
Surface effects ships	84
Systems analyst:	
Against nuclear Aegis ships	76
Analysts' position on strike cruiser	124
Application of systems analysis	124
Delay funds for CVN 71	121
Delay nuclear ships	129
Nuclear weapons strategy	94
Systems analysis now a dogma	124
"Untrained, unpracticed, ignorant"	125
Treaty of Westphalia	100
War:	
Attempts to do away with war	100
Conventional war	4
Historical perspective	4
Nuclear war	3, 94
Peace through treaties and law	73
Religious wars	100
The will to fight	4
Thirty Years War	100
View of future naval war	84, 94
War of attrition at sea	95
Weber, Max	292
Wilson, Woodrow	4

