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HEARINGS

BEFORE THE

JOINT COMMITTEE ON DEFENSE PRODUCTION

CONGRESS OF THE UNITED STATES

NINETY-FIFTH CONGRESS

FIRST SESSION

SEPTEMBER 29 AND 30, 1977

PART IV

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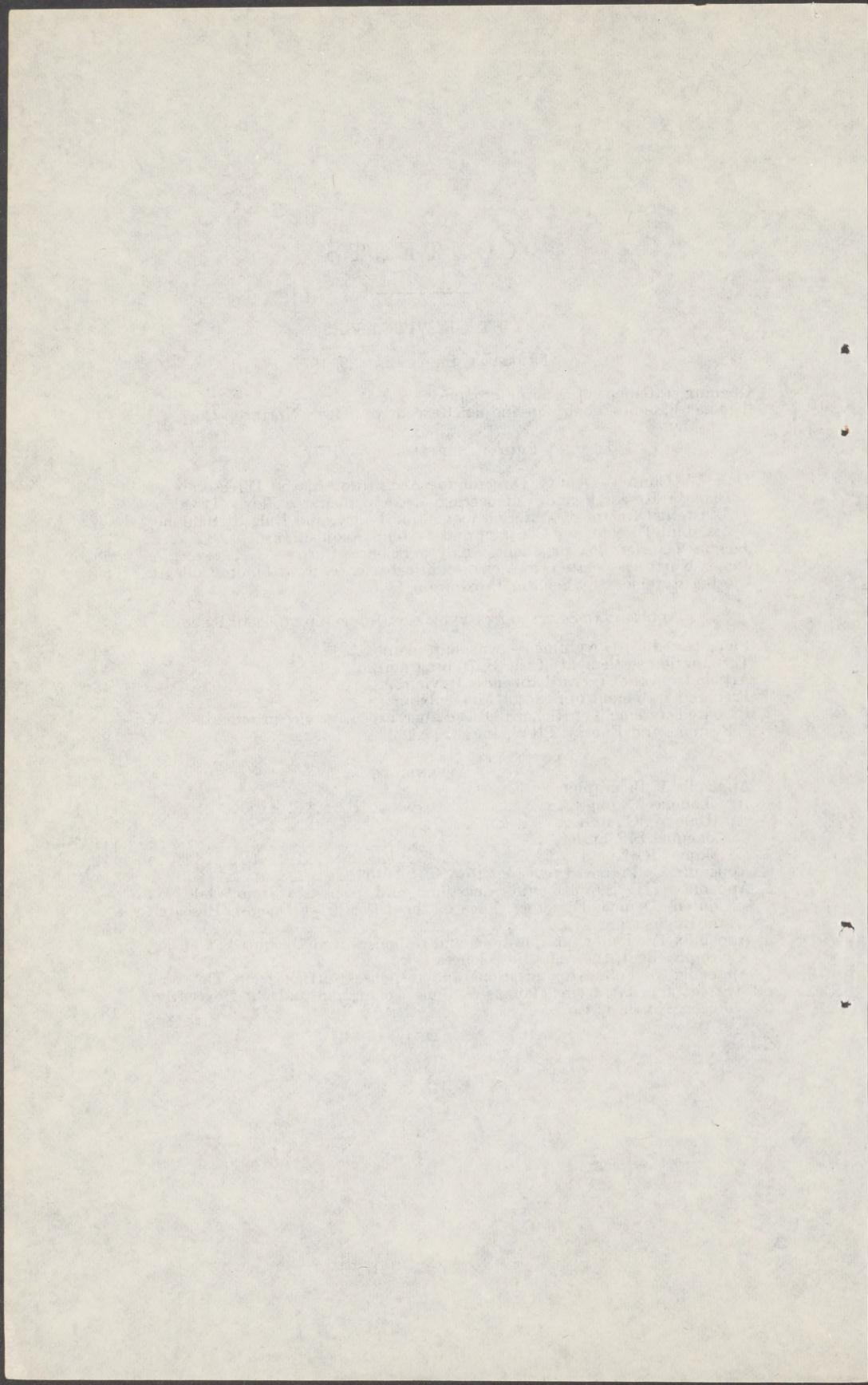
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DOD PROCUREMENT PRACTICES

THURSDAY, SEPTEMBER 29, 1977

U.S. CONGRESS,
JOINT COMMITTEE ON DEFENSE PRODUCTION,
Washington, D.C.

The Joint Committee met at 10 a.m., pursuant to call, in room 5302, Dirksen Senate Office Building, Senator William Proxmire (chairman of the Joint Committee) presiding.

Present: Senator Proxmire and Representative Evans.

OPENING STATEMENT BY SENATOR PROXMIRE

The CHAIRMAN. The committee will come to order.

Today we begin 2 days of hearings on Department of Defense procurement policies and how these policies can affect the ability of American industry to produce vitally needed defense products in a timely and efficient manner.

Within the past year there has been a great deal of concern expressed about this problem, both within the Government and outside the Government. We have heard that there may be substantial erosion of our industrial capacity and that the ability of the Government to obtain what it needs may have suffered.

At the same time, some Government officials have stated that, in some sectors at least, we may have a costly excess capacity of suppliers and that this excess capacity may be costing the taxpayer nearly a half-billion dollars each year.

There have been proposals to increase competition for defense procurement, while other proposals, such as the recent DOD report on capacity utilization in the aircraft industry, might result in less competition.

Some people have stated that foreign military sales improve the condition of the U.S. industrial base by lengthening production runs and assuring the availability of industrial production sources that might otherwise be forced to shut down. Others have said that foreign military sales can hurt the production base and the readiness of the American military by diverting needed productive capacity and by encouraging possibly unneeded expansion.

There has also been criticism of defense decisions about the types of weapons that will be bought. Many have contended that the Department is buying too many overly sophisticated weapons in view of budget constraints.

The condition of the industrial base and the DOD policies to utilize its capabilities are crucial to our defense posture. If the Department

is unable to obtain what it needs or if it cannot afford what it is getting, then it cannot support our military objectives.

The two issues are closely related and cannot be considered separately. The condition of the defense industrial base and the availability of suppliers to meet defense needs can have a great effect on defense policies. On the other hand, it is no less true that defense procurement policies can have a significant impact on the ability of industry to meet defense needs.

The Banking Committee will take over this committee's jurisdiction next month. I happen to be chairman of both. The Banking Committee will absorb the jurisdiction of the Joint Committee on Defense Production. I should make it clear to everyone that we are sensitive to our jurisdiction. The Armed Services Committee clearly has jurisdiction over specific procurement: should we buy the B-1, should we buy a particular kind of tank, and so forth.

Our committee's jurisdiction is one that pertains to the economy as a whole and the capability of the economy to meet our military needs as well as our industrial needs.

I might point out that many people feel that the reason the North won the War Between the States is because they had the industrial base. They didn't have the same kind of military competence of the South but they had the military base. In World War I—and in World War II especially—the tremendous superiority of the American economic system, many people feel, was the decisive factor.

Our economic capability and industrial base is fundamental to our success, every bit as fundamental as any tactical advantage we might have at the moment through particular weapons.

So the committee is not undertaking these hearings simply for the sake of analyzing defense policies. The condition and capabilities of the industrial base is basic to Defense Production Act review. The Defense Production Act provides the general framework for both day-to-day procurement of defense needs and for wartime mobilization planning.

If the industrial base, for whatever the reason, cannot provide the support for foreign and military policies or if it can meet these needs only through the most extreme actions, legislative action may be necessary.

At today's session we will hear from Mr. Thomas V. Jones, chairman of the board and chief executive officer of the Northrop Corp. Two other witnesses who were initially scheduled to appear today were regrettably forced to cancel their scheduled appearances at the last minute.

Mr. Jones has been with the Northrop Corp. since 1953, when he began employment as assistant chief engineer. He was named president of the company in 1959 and chairman of the board in 1963. Prior to his employment with Northrop Mr. Jones was a staff member of the Rand Corp. and a technical adviser to the Brazilian Air Ministry and, I guess, since 1963 has had every top title within the Northrop Corp.

We are delighted to have you here as our witness, Mr. Jones. Go right ahead.

**STATEMENT OF THOMAS V. JONES, CHAIRMAN AND CHIEF
EXECUTIVE OFFICER, NORTHROP CORP.**

Mr. JONES. Thank you. Mr. Chairman and members of the committee, I appreciate this opportunity to present my views on defense procurement policies and the condition of the industrial base.

It is becoming increasingly clear that the next decade is going to place a very great burden and responsibility on the Congress, our Armed Forces and on the defense industry. The Soviet Union has been moving ahead in military strength and is challenging our technological supremacy, while we face unprecedented social and economic demands at home. Meeting these challenges simultaneously will take creative, innovative and dedicated performance on the part of all of us.

The Congress faces a major task in insuring maximum defense within the available budget on a long-term and continuing basis. If this is to be accomplished, it is absolutely essential that we have budgetary integrity and a sound, disciplined system of defense procurement. When this occurs, I believe that the private sector will be able to bring all of its strengths to bear and major improvements will result.

Clearly the defense procurement system is not working as well for our Nation as it should. Widespread cost growth is preventing the military services from procuring weapon systems in the quantities deemed necessary by our defense planners; contractual disputes exist between Government and various segments of the defense industry; capital investment in modernizing plant and equipment is inadequate; there is concern that the industrial base is not structured to meet the new kinds of threats envisioned by our military analysts and there is concern as to the nature and level of U.S. foreign military sales.

Admittedly these are complex problems and their solution must be dealt with against the backdrop of competing claims on the Nation's resources. But one thing is clear: For weapon systems planned for inclusion in the force structure, solutions will require more accurate planning, more accurate prediction of budgetary requirements and more clear-cut assignment of the responsibility for implementation, with all participants in the process held accountable for the results. That means we must focus on integrity in planning, in budgeting and in implementation.

Great progress has been made recently in establishing mechanisms to carry out these goals. The defense budget process now requires the Defense Department to prepare a complete plan covering total research and development, procurement and maintenance and operating costs for weapon systems going into force structure. Such plans are presented to the Congress in seeking authorization and appropriation to initiate programs.

Nevertheless the fundamental problem remains that, even though a plan has been made and agreed upon, there is still a record of cost overruns, reprogramings, and changes that have a cascading effect on national security.

Reports to Congress on the status of the country's major weapon system procurement programs continue to reveal excessive cost growth

in these programs over and above the impact of inflation. Even with reprogramming, the number of units of these major weapon systems being delivered is significantly less than was originally planned, while the reprogramming actions taken to cover overruns frequently disrupt well-run programs.

Moreover, with the defense program as a whole keyed to the full number of units originally planned, manning, basing, and other supporting programs are often started and then rescheduled or stopped. Industrial facilities planned for large quantity production are utilized at a fraction of capacity or put on a standby basis.

Hence the reduction in defense capability which results from the failure to deliver the number of units planned at the projected cost is further amplified, since the rest of the defense establishment is keyed to the original force structure plan. This disruption is perhaps the largest single cause of waste in the Defense Department.

This record has become so repetitive that there seems to be a tendency to consider cost overruns, schedule delays, and technical disappointment part of the price we must pay for national security.

This is simply not the case. There is no fundamental reason why defense procurement cannot be as efficient as any element of the private sector. The Government, the public, the investment community, and the defense industry itself must abandon the notion that defense is somehow different, that it cannot be confined within the same standards of performance by which we measure the rest of our market economy.

The sound practices of the competitive environment that have worked so well to achieve the social and economic standards that we enjoy today can and must be used to contribute to meeting our defense requirements efficiently.

What is missing is enforced discipline in the budgetary process. For example, budgeting often is based on planning estimates supplied by industry; but, in the absence of binding contracts, industry is not held accountable for the accuracy of those estimates.

Unless the procurement plans submitted to Congress for inclusion in the force structure budget are based on firm, accurate, and binding cost quotations, they carry little validity and cannot contribute to budgetary integrity.

Decisions to purchase hardware for force structure should be made in the presence of competing alternatives and only if each competing company has made a firm and binding contractual commitment it is prepared to meet.

I do not mean merely that these choices must be made between companies competing to build the same system. Defense procurement decisions must continue to consider alternative ways to accomplish the military task—different types of weapon systems with different capabilities and characteristics that would be produced by different companies. But to qualify for force structure procurements, a defense contractor should have demonstrated capability in plant, equipment, organization, and experience and must have the financial strength to accept responsibility for any risks inherent in its bid. This is analogous to requiring a bond of a building contractor.

Adherence to this sound procurement practice requires that military needs be sufficiently defined so that a binding fixed-price-type con-

tract can be written with an industrial supplier. If either party is unwilling to undertake such a commitment, it is clear evidence that not enough is known to procure for force structure.

When this situation occurs and the particular system is considered of importance to national defense, then a program should be formulated for gaining the necessary knowledge through research and development or prototyping contracts.

Such efforts should use whatever contracting form is most efficient to provide all parties with the knowledge and confidence to enter into a firm contract for force structure hardware. Proceeding on a major system acquisition program with the hope of gaining knowledge along the way has proved to be a very costly approach.

It is now practical to expect such commitments of both Government and industry because of this country's current acceptance of the need to provide for national defense on a long-term, continuing basis. This was not always so. Throughout most of our history, defense was provided in response to a national emergency without question and without regard to cost. When the crisis passed, our defense forces and the defense industry were cut back rapidly.

Such an environment did not permit sound planning by Government or industry, and industry was not held to the same standards of sound planning, performance, financial strength, and efficiency that were expected of other businesses.

Now, however, the environment is quite different. After the experience of the Berlin blockade, the invasion of South Korea, and the advent of the intercontinental ballistic missile, it is clearly imprudent to wait for a crisis before building up our defense capability.

Today we include defense as a basic element of our national planning and provide for it together with economic and social progress—not one instead of the other. This new relationship calls for us to meet all of our national objectives together while maintaining the integrity of the national budget as a whole. Thus it provides a means for long-term stability in defense procurement within defense budgets that are reasonably predictable. Where once we mobilized for defense, we now budget for it, and there is a profound difference between the two.

Unfortunately, the significance of this change and the accompanying opportunity to improve effectiveness in the budgetary and procurement process have been largely overlooked. With budgetary stability and the opportunity for long-range planning, the military services can better foresee their long-term requirements.

Hence contractors can plan in advance for the kind of plant and equipment that will be needed to do the job and can finance that plant and equipment out of their own resources. Companies will be willing to undertake these risks in force structure contracts since, with binding commitments, they can have confidence in the potential return on the investments they may choose to make.

To demonstrate the point let me cite Northrop's experience on both military and commercial programs. In 1957 Northrop undertook the T-38 supersonic military trainer development with the force structure production under a fixed-price-type contract. All 1,189 T-38 aircraft were delivered on time, within contract cost and met or exceeded promised performance.

The F-5A fighter development and production program was under the same kind of fixed-price contracting. As a result we were able to undertake the necessary planning, engineering, and investment in plant and equipment through which we reduced the price of the F-5A by 15 percent over a 6-year period in the face of a 25-percent inflation factor in the same period.

In 1970 Northrop's F-5E won the international fighter competition in which firm and binding fixed-price-type contracts were negotiated with all competitors prior to source selection. To date, some 2,000 F-5's in 27 versions have been delivered to 22 countries, including four coproduction programs. All have been on schedule, within contract cost and have met the reliability, maintainability, and performance standards established by the users. In the hands of the users the F-5's have achieved outstanding records in operability, military effectiveness, and safety.

All of these elements came together because we had a firm plan at the outset based upon realistic objectives and binding contracts. This enabled a potentially difficult program, which included coproduction and deliveries to many foreign users, to meet all of its commitments.

On the commercial side, we received from The Boeing Co., a contract to engineer and build the main fuselage of the 747 airliner. Our initial 747 order was for 200 fuselages with a contract value of over \$600 million. We invested over \$60 million—10 percent of the contract value—in new plant and equipment. As a result, the total cost of the 200-fuselage order was considerably less than it would have been had we not made that expenditure.

Today our costs in that plant are less than 1 man-hour per pound of airframe produced, which is lower than for any other aircraft that preceded it. I can assure you that, if we had been dependent on governmental facilities under those circumstances, we would have had to force that production into an existing plant with existing equipment and it would have been more expensive.

A key element in the success of these programs was that the program requirements and contractual terms were firmly pinned down before work was begun. The original planning was sufficiently thorough that constant changes were unnecessary. Then we were able to make an investment in high productivity facilities since we could determine what our return on investment was going to be. This is the way to harness the private sector to meet national defense objectives.

Under this approach, the procurement system must select companies on the basis of their experience, capability, technical and management strength and financial ability to stand behind their commitments.

In this regard, there has been a tendency in defense procurements to consider all major defense companies as though they were pretty much alike. This is a fundamentally unsound way of approaching a procurement evaluation. Bankers, investors, and employees, among others, have no trouble recognizing distinctions between companies. Government, in the discharge of its responsibilities for weapon system procurement, should be no less discriminating.

There are distinctions and it is important that they be recognized. The purpose of source selection is to understand the differences between contractors as well as their proposals. In fact, on major procure-

ments the critical factor is to make sound judgments regarding the differences between contractors, their background, experience, and capability to stand behind their commitments, because the outcome of the program will be largely determined by these factors.

Once a commitment is made, then industry has to be held to those commitments. To do otherwise is to undermine the validity of the entire budgetary process.

A question has been raised about productivity and capacity in the defense industrial base. Productivity is a product of the private sector that actually performs the work. It is achieved through the efforts of innovative and experienced people operating modern and efficient plants and equipment. As such, it is one of the elements that the Government must buy from the private sector.

It is important to recognize the differences between the ways Government and industry approach decisions on investing in plant and equipment. When the Defense Department invests in equipment, it generally makes its decision only on the basis of a particular program.

In industry, the decision to invest is made on the basis of all the programs a company has which would benefit from the equipment. By forcing industry to make its own investments, the Defense Department would realize the advantages of wider application of more productive equipment for which the capital investment might be hard to justify on a single contract or program.

It must be kept in mind that it is price to the Government, not some particular elements of cost, that counts. Cost elements are inputs. Efforts to create incentives by allowing cost recovery for certain elements of cost will tend to increase those costs, while the price the Government pays may be unchanged or even increased. Contractor incentives should be based on quality, schedule, and price.

If programs were awarded solely on this basis, then inefficient plants and equipment would soon be phased out by industry itself. The industrial capacity is made up of all types of plants and equipment, much of it inefficient. What is important to the United States is not the capacity of the industry but its capability. And that is best measured by quality, schedule, and price, not by the mere existence of equipment and plant space.

The question is asked about what to do with the present Government defense plants and equipment. It should be put up for sale. If it is efficient, industry will buy it. If it is not, it should be dismantled as an unnecessary burden on defense production.

Whatever type of threat is envisioned—a long war like the Vietnam conflict or a brief, intense struggle like the Mideast war—efficient producers will be indispensable if our forces are to get the quantities of defense equipment and supplies they need within the budget available. Surge capacity to meet emergencies is best achieved by multiple shift operations of an efficiently operating facility, not reactivation of an old and inefficient plant.

The disciplined and businesslike approach that I have described can control overruns, waste of defense funds, and the resulting loss in force effectiveness. But bringing this type of business discipline to the procurement system will not be easy. It is in the nature of institutions to avoid commitment. Bureaucrats tend to want to retain direction

of a project by keeping its requirements incompletely defined and subject to change. Many companies prefer to go along with them since loose arrangements present less business risk than a well-defined commitment. Only strong and uncompromising direction from the top will change this situation.

Some businessmen and investors have tended to regard defense business as risky. Properly disciplined, it represents a potentially stable marketplace, with no greater risks than many other industries experience. Defense business can and ought to be attractive to large and small companies. It is the inconsistencies and arbitrariness of the defense procurement process that make it risky.

But when it is understood that the Government stands behind its commitments and insists that industry do the same, a profound change will occur in the attitude toward defense procurement. When defense procurement is conducted according to sound business practices, the business and financial community will not be hesitant to make long-term investments.

The Nation's industrial base will recognize that serving the country's defense requirements is sound business. Boards of directors will become vitally concerned with such matters as technical risk and the resulting effect on performance, schedule, and cost commitments. Their decisions on modernizing plant and equipment will now be driven by the need to compete in terms of productivity, combined with the real discipline of having to deliver under the terms of the contract. It will be clear that they are making binding commitments in which the future of the corporation is at stake.

In international arms sales, assuring the contractual responsibility of the manufacturer is doubly important. It is necessary to avoid risks to the American taxpayer and also to avoid harming our relationship with those friendly countries that are depending upon us for their defense system.

In his arms export policy statement, the President has correctly recognized that arms advocacy is not a proper role for Government. Foreign governments should not be influenced by our Government to buy or accept a particular ship or aircraft because that particular ship or aircraft program would be benefited. Too often in the past the United States has exported its overrun programs rather than programs that might better serve the security interests of the recipient country and hence the security interests of the United States.

Military exports demand strong policy control by the Government to assure that a potential sale serves the broad foreign policy and security interests of the United States and not merely some secondary or short-term advantage.

In those cases where it is determined to be in our national interest to permit another country to purchase a category of weapon systems here, then the policy should be strictly and evenhandedly implemented. The foreign government should be allowed to choose among various appropriate systems produced by individual manufacturers.

It has clearly been the intent of Congress that financial responsibility for contractual arrangements regarding foreign military sales should be borne by the exporter and not by the Government. While the foreign military sales system of the Department of Defense may

be utilized as an administrator of contracts between foreign purchasers and industry, the Government should not be placed in the role of a negotiator of the business arrangements.

When the Government enters into such negotiations, the business agreements it makes with foreign governments take on the character of de facto treaties superseding the body of international commercial law. Such action can impose unnecessary obligations on the American Government and the taxpayers and can harm the very international relationships they were intended to strengthen.

The interests of the purchasing nation and the United States should be protected under United States and international law, not by any financial or other commitment made by the U.S. Government.

Procurement decisions, therefore, should be made by the foreign government from among various competitive alternatives on the basis of technical quality, management experience and the ability and willingness of the company to make financial commitments and stand behind them. A manufacturer that is unable to stand behind financial commitments inherent in its proposal should not be granted an export license.

Adherence to the sound business practices which have served our private sector so effectively over the years can strengthen the defense industry, increase the effectiveness of our forces and eliminate the waste of past procurement practices.

The alternative to this course of action is to face the reality that it is the taxpayer, not the private sector, that is taking the risk for production commitments. We will have lost a real opportunity for the private sector to make a major contribution to the budgetary integrity and security of our country. Thank you, Mr. Chairman.

[Prepared statement of Mr. Thomas V. Jones follows:]

PREPARED STATEMENT OF THOMAS V. JONES

Mr. Chairman and Members of the Committee: I appreciate this opportunity to present my views on defense procurement policies and the condition of the industrial base.

I have provided the Committee with a more complete statement which I would like to summarize for you this morning.

The next decade is going to place a very great burden and responsibility on the Congress, our armed forces, and on the defense industry to insure that we have maximum defense capability within the available budget, on a long term and continuing basis. If this is to be accomplished, it is absolutely essential that we have budgetary integrity and a sound, disciplined system of defense procurement. When this occurs, I believe that the private sector will be able to bring all of its strengths to bear and major improvements will result.

Clearly the defense procurement system is not working as well for our nation as it should.

The problems are complex and their solution must be dealt with against a backdrop of competing claims on the nation's resources. But one thing is clear: for weapons systems planned for inclusion in the force structure, solutions will require more accurate planning, more accurate prediction of budgetary requirements, and more clear-cut assignment of the responsibility for implementation, with all participants in the process held accountable for the results. This means we must focus on integrity in planning, in budgeting, and in implementation.

The defense budget process now requires that the Defense Department in seeking funds from Congress prepare a complete plan covering total costs for weapon systems going into force structure. Nevertheless, the fundamental problem remains that even though a plan has been made and agreed upon, there is still a record of cost overruns, reprogrammings, and changes that have a

cascading effect on national security. Excessive cost growth in the country's major weapon system procurement programs is reducing the number of units of these systems being delivered well below the number originally planned, and the reprogramming actions taken to cover these overruns frequently disrupt well run programs. Moreover, since the defense program as a whole is keyed to the number of units originally planned, reduction of that number disrupts supporting programs all down the line. This disruption is perhaps the largest single cause of waste in the Defense Department.

What is missing is enforced discipline in the procurement and budgetary process and in implementation. For example, budgeting is often based on planning estimates supplied by industry, but in the absence of binding contracts, industry is not held accountable for the accuracy of those estimates. Unless the procurement plans submitted to Congress for inclusion in the force structure budget are based on firm, accurate, and binding cost quotations, they carry little validity, and cannot contribute to budgetary integrity.

Decisions to purchase hardware for force structure should be made in the presence of competing alternatives, and only if each competing company has made a firm and binding contractual commitment that it is prepared to meet. Adherence to this sound procurement practice requires that military needs be sufficiently defined so that a binding fixed price type contract can be written with a qualified industrial supplier. If either party is unwilling to undertake such a commitment it is clear evidence that not enough is known to procure for force structure, and we should use whatever contracting form is most efficient to develop the knowledge and confidence necessary to enter into a firm contract. When a particular system is considered of importance to national defense, then a program should be formulated for gaining the necessary knowledge through research and development or prototyping contracts. Proceeding on a major system acquisition program with the hope of gaining knowledge along the way has proved to be a very costly approach. To qualify for force structure procurements, a defense contractor should have demonstrated capability in plant, equipment, organization, and experience, and must have the financial strength to accept responsibility for any risks inherent in its bid.

There has been a tendency in defense procurements to consider all major defense companies as though they were pretty much alike. This is a fundamentally unsound way of approaching a procurement evaluation. The purpose of source selection is to understand the differences between contractors as well as their proposals. Bankers, investors, and employees, among others, have no trouble recognizing distinctions between companies. Government, in the discharge of its responsibilities for weapon system procurement, should be no less discerning.

It is now practical to expect firm commitments of both government and industry because of this country's current acceptance of the need to provide for national defense on a long term, continuing basis. This was not always so. Throughout most of our history, defense was provided in response to a national emergency without question and without regard to cost. Now, however, the environment is quite different.

Today, we include defense as a continuing element of our national planning, and provide for it together with economic and social progress—not one instead of the other. Thus we have the basis for long-term stability in defense procurement, within defense budgets that are reasonably predictable. Where once we mobilized for defense, we now budget for it, and there is a profound difference between the two.

Unfortunately, the significance of this change and the accompanying opportunity to improve effectiveness in the budgetary and procurement process have been largely overlooked. There seems to be a tendency to consider cost overruns, schedule delays, and technical disappointments part of the price we must pay for national security. Nothing could be further from the truth. If Government, the public, the investment community, and the defense industry itself abandon the notion that defense is somehow different, then it can be confined within the same standards of performance by which we measure the rest of our market economy.

The sound practices of the competitive environment that have worked so well to achieve the social and economic standards that we enjoy today can then be used to contribute to meeting our defense requirements efficiently.

With budgetary stability and the opportunity for long range planning, the military services can better foresee their long term requirements. Hence, contrac-

tors can plan in advance for the kind of plant and equipment that will be needed to do the job, and can finance that plant and equipment out of their own resources. Companies will be willing to undertake these risks in force structure contracts since with binding commitments they can have confidence in the potential return on the investments they may choose to make.

A question has been raised about productivity and capacity in the defense industrial base. Productivity is a product of the private sector that actually performs the work. It is achieved through the efforts of innovative and experienced people operating modern and efficient plants and equipment.

As such, it is one of the resources that private industry should supply and the Government should buy.

The industrial capacity is made up of all types of plant and equipment, much of it inefficient. What is important to the U.S. is not the capacity of the industry, but its capability. And that is best measured by product performance, schedule and price—not by the mere existence of equipment and plant space. The question is asked about what to do with the present Government defense plant and equipment. It should be put up for sale. If it is efficient, industry will buy it. If it is not, it should be dismantled as an unnecessary burden on defense production.

Whatever type of threat to national security is envisioned, efficient producers will be indispensable if our armed forces are to get the quantities of defense equipment and supplies they need within the budget available. Surge capacity to meet emergencies is best achieved by multiple shift operations in an efficiently operating facility, not by reactivation of an old and inefficient plant.

It is important to recognize the differences between the ways government and industry approach decisions on investing in plant and equipment. When the Defense Department invests in equipment, it generally makes its decision to do so on the basis of only one particular program. In industry, the decision to invest is made on the basis of all the programs a company has which would benefit from the use of the equipment. By forcing industry to make its own investments, the Defense Department would realize the advantages of wider application of more productive equipment whose expense might be hard to justify on a single contract or program.

It must be kept in mind that it is price to the government, not some particular element of cost, that counts. Cost elements are inputs to price. Efforts to create incentives by allowing cost recovery for certain elements of cost will tend to increase those costs, while the price the government pays may be unchanged or even increased.

Contractor incentives should be based on product performance, schedule, and price. If programs were awarded solely on this basis, then inefficient plant and equipment would soon be phased out by industry itself.

The disciplined and businesslike approach that I have described can control overruns, waste of defense funds, and the resulting loss in force effectiveness. But it will take strong and uncompromising direction from the top to change the situation. It is in the nature of institutions to avoid such commitments. But when it is understood that the government stands behind its commitments and insists that industry do the same, a profound change will occur in the attitude toward defense procurement. When defense procurement is conducted according to sound business practices, the business and financial community will not be hesitant to make long term investments.

Some businessmen and investors have tended to regard defense business as risky. Properly disciplined, it represents a potentially stable marketplace with no greater risks than many other industries experience.

It is the inconsistencies and arbitrariness of the defense procurement process that make it risky. In international defense sales, assuring the contractual responsibility of the manufacturer is doubly important; it is necessary to avoid risks to the American taxpayer and it is also necessary to avoid harming our relationships with those friendly countries that are depending on us for their defense systems. It has clearly been the intent of Congress that financial responsibility for contractual arrangements regarding foreign military sales should be borne by the exporter, and not by the Government. When the Government does enter into such arrangements, the business agreements it makes with foreign governments take on the character of de facto treaties superseding the body of international commercial law. The interests of the purchasing nation and the United States should be protected under U.S. and international law, not by any financial or other commitment made by the U.S. Government.

Military exports demand strong policy control by the Government to assure that a potential sale serves the broad foreign policy and security interests of the United States and not merely some secondary or short-term advantage. In those cases where it is determined to be in our national interest to permit another country to purchase a category of weapon systems here, then the policy should be strictly and even-handedly implemented. The foreign government should be allowed to choose from among various appropriate systems produced by individual manufacturers on the basis of product performance, management experience, and the ability and willingness of the company to make financial commitments and stand behind them.

A manufacturer that is unable to stand behind financial commitments inherent in its proposal should not be granted an export license. Too often in the past the United States has exported its overrun programs rather than the programs that might better serve the security interests of the recipient country and hence the security interests of the United States.

Adherence to the sound business practices which have served our private sector so effectively can strengthen the defense industry, can increase the effectiveness of our armed forces, and in so doing, will eliminate the waste of past procurement practices.

I compliment the Committee for addressing these vital issues.

I would be happy to answer any questions you may have.

The CHAIRMAN. Thank you very much, Mr. Jones. I want to thank you for a most refreshing and impressive statement and analysis; especially it is helpful coming from a man with your demonstrated record of success.

You were very modest in your overall presentation. You did not tell us about the success stories of Northrop, which, I think, would have been helpful to give us an insight as to how we can succeed, where you were on time, under cost, and produced excellent weapons—the T-38's, F-5E's, the 747 fuselage and so forth. Will you take a minute or two to put that in the record orally? We would like to have it.

Mr. JONES. Yes. I think the credit for those successes must be given both to the customers who did the buying as well as to the company producing. Both faced the problem of defining what was intended and then didn't proceed until they were put into the form of a binding relationship in the contract. When that happened we knew what we had to do and the customer, the Government and, in some cases, governments of other countries knew exactly what they were buying and what to expect.

The CHAIRMAN. You say that is so important that whenever you have that, you are able to do a successful job, that whenever you have a clear, specific notion of exactly what is wanted and when the schedule is realistic, you can produce? Is that the core of the problem or just one of the problems?

Mr. JONES. It is one of the reasons. It is the beginning. Without that sound beginning, even a good organization has a hard time bringing to bear its talents to serve the needs of the customer in the absence of a clearly defined statement of need in terms of numbers, dates, schedules, and costs.

It is very difficult for us to bring all of our complex resources to bear on that one objective. When it is done we can act as good managers—which includes modernizing our own plant and equipment. We can do that only when we have control of that plant and equipment. We cannot modernize it if it belongs to the Government. That is another important component of this program.

The CHAIRMAN. Mr. Jones, you emphasize a very interesting distinction between the defense capability we have now and that which we

have had throughout most of our history. As you point out, we have viewed defense as something we mobilized for. I recall very well, when I went in the military in early 1941 before Pearl Harbor, we had no equipment of any kind to speak of. Then there was a colossal, immensely successful mobilization.

Now, you say we have a continuing need for a very large defense establishment, compared to what we have had in the past certainly. You also say we need a surge capability. By that I take it you mean that we should have the capacity to expand that large production greatly in the event of hostilities. Is that correct?

Mr. JONES. Yes.

The CHAIRMAN. So you are really asking for both; you want a large defense establishment—you don't want it but you say the Nation calls for it and I should say the military situation calls for it, the kind of world we live in calls for it, with the threat of nuclear war, which could happen in a matter of minutes and hours at the most, not in a matter of months or years. So you are saying that we have to be prepared with a very large defense establishment and then have the capability of expanding it rapidly. Is that right?

Mr. JONES. Yes; we need the capability of expanding the production of items rapidly. I have stated that that can best be done by having an efficient, steady-state industry on a single-shift basis, which is usually what comes out as being the most economic in the first place. Then you have really automatically built in the kind of machine tools, the kind of organization you would need.

The CHAIRMAN. Looking at it from your standpoint as a contractor, I can understand why you would want a stable defense demand, military demand, but at the same time, I think, whether we do that or not depends on how international conditions change. Of course, we cannot predict that any more than we can predict most of what can happen a year, 2 years, or 10 years from now.

So it seems to me that we have to temper that desire that would give us a greater degree of efficiency with a realistic understanding that we should be flexible enough to adapt our military establishment not to the needs of contractors but to the realities of the world. Isn't that right?

Mr. JONES. Yes.

The CHAIRMAN. You would not expect, for instance, if we somehow should have a more stable, peaceful international situation, that we would necessarily have to maintain the same size of defense establishment; would you?

Mr. JONES. There obviously is a relation between the perceived threat and the size of our defense capability. But because of the long-term nature of defense requirements, the long leadtime between conceiving and developing weapons systems, I do believe that the Nation has learned that it can no longer dismantle its efforts in apparent peace and then suddenly create a massive defense effort.

The CHAIRMAN. That is right. If we dismantle, we have to be sure that whatever potential adversary we face also does not have an instant capability.

Mr. JONES. That is right. Because of that long-term nature, there will be modulations. But there is a fundamental national resolve not to get into the no-defense effort and maximum defense effort without

regard to cost that we have had for so many years, which led to the dismantling of the huge effort that we had mounted during World War II.

The CHAIRMAN. Whatever we do we have to do with our eyes wide open. We have to understand if we do cut down our military production and military efforts, that we should recognize that we can do that only in the event we perceive a great diminution in the potential threat.

Mr. JONES. Exactly. We cannot respond in short periods of time now in a meaningful way. It is a long-term proposition.

The CHAIRMAN. One of the most controversial aspects—there are very deep emotional feelings about this—is the foreign military sale approach. As I said in my remarks and as you indicated, of course, there is an element of efficiency and advantage in being able to have large military sales and continuing military sales.

At the same time, here again you have a very strong feeling on the part of the American people and people throughout the world that military sales are mischievous, that the presence of military power in many parts of the world is destabilizing, enormously burdensome and we should do everything we can not to export it. We exported more arms in 1974, 1975, and 1976 than all of the other nations combined. We dwarfed the rest of the free world and we exported twice as much as the Soviet Union.

Under the circumstances, it seems to me another part we should not overlook is the desirability of doing all we can to reduce international arms sales as much as we can. President Carter came to office professing he would do this to the best of his ability and do it promptly. He has not been able to succeed in that regard.

Again I just want to put this in an overall perspective so that we don't get tunnel vision here. While, of course, it is desirable to follow foreign policy objectives of our country that would give us stability, yet we have to recognize that those foreign policy objectives take paramount precedence.

That is not inconsistent with the drive to try to create an international situation where we can sharply reduce military sales, although that would be painful for defense contractors and would mean sacrifice on the part of this country's military capability. Is that fair?

Mr. JONES. Absolutely. As a matter of fact, we all serve the national interest as is stated under law and reflected in the budgets. What I am addressing here is how we efficiently serve that stated requirement. It is not up to us to say whether we should or should not have foreign sales or at what level they should be. But the question I am addressing is, How do you efficiently respond?

As far as military sales, I think they can be helpful to the industrial base if they are properly managed. I will say, on the other side, if they are not properly managed, they could end up not helping our industrial base. In that respect, the industry must accept responsibility for contractual performance. The U.S. Government should not. The discipline of that alone will insure a reduction of what might be called programs that could negatively affect our defense establishment.

But on the question of the level of foreign military sales, I have stated several times publicly I endorse the President's efforts to reduce

them, but whatever is considered in the national interest should be provided, adhering to the business practices I have enumerated.

The CHAIRMAN. Does the U.S. Government currently recover all costs related to foreign military sales?

Mr. JONES. That is quite a question to ask. It would take a detailed investigation of all programs.

The CHAIRMAN. What is your impression?

Mr. JONES. In our case, because we have had fixed-price-type contracts on every one of our sales overseas, there has been no adverse feedback; it has always been positive. I think sometimes when you have a mixture, an undefined mixture, of obligations to deliver to the United States and to the foreign government, and they are not separated and defined distinctly, there is a possibility of concern that promises made to the foreign government could have a negative repercussion.

I am saying only, as a business person, it is especially important in foreign military sales that the responsibilities of the contractor to honor those foreign commitments without negative effect should be pinned down.

The CHAIRMAN. You cannot tell us whether currently the U.S. Government recovers all costs on foreign military sales or not?

Mr. JONES. I cannot.

The CHAIRMAN. Can you suggest how we could develop that information accurately and fairly?

Mr. JONES. That, of course, would be in the area of the Comptroller of the Defense Department, where costs are accumulated. I say the mixing of obligations to the U.S. Government and to foreign governments within programs should be clarified. That is my main point. The contractor should be responsible for fulfilling his obligations to both parties; let him accept that. Let him also certify that he will not allow any effect of the foreign sales to have negative repercussions on the United States. This is how we had to certify when we had the F-5 plane in the same plant as the Boeing 747. If Boeing happens to be short, the costs don't go in that direction; the company has to make sure the costs of Boeing don't have negative repercussions on the United States.

The CHAIRMAN. What additional Government controls would you suggest over military sales?

Mr. JONES. I think one of the missing ingredients in a long list of new items outlining the safeguards that the President has come up with, correctly so, requiring that, before an offering is made, the contractor certify that he stands fully behind the contractual commitment made to that foreign country, and he also certifies, with the approval of the Defense Department, that there will be no negative effect on schedule or costs or performance of items that might be ordered by our own Government. I think that should be a useful statement.

The CHAIRMAN. Do you think that some contractors may have expanded to the point where they might face serious problems if there were a sudden drop-off in foreign military sales?

Mr. JONES. No; I could not comment on that, Mr. Chairman. I think when we know what the Government wants and we know it far enough in advance, we have an industry that can accommodate itself to the intent of the Congress and the people and the President. I don't know of

a contractor that is dangerously dependent on foreign military sales.

The CHAIRMAN. You said something about your feeling that the Government should dispose of its defense plants. For instance, do you think the Government should put up the Marietta Lockheed plant for sale, sell it or tear it down and sell parts of it if it can't sell it all and that would be the test of its efficiency and whether or not it is worth maintaining?

Mr. JONES. I don't want to comment on any particular contractor.

The CHAIRMAN. I don't want to get you into a discussion about Lockheed, of course. I am trying to think of an example. That is the first one that popped into my head. Maybe you can give me another one.

Mr. JONES. The principle I tried to establish is that the investment—and wise investment—in plant and equipment is tremendously powerful in reducing cost. Only the manufacturer who is responsible for using the tools can really make that judgment. The workman has to be responsible for his tools. If he does not own it, there is no way he can keep it modern and keep it in tune with his particular workload.

The CHAIRMAN. You say "keep it modern and keep it in tune with his particular work requirement"?

Mr. JONES. Right.

The CHAIRMAN. At the same time, his particular work requirement might be quite different from what is the national need for defending the country. At any rate, suppose the Government were to decide not to dispose of Government-owned plants. Would you favor periodic competition for the right to operate those facilities?

Mr. JONES. I think that would be a grave mistake.

The CHAIRMAN. Grave mistake to have competition as to who would operate the facilities?

Mr. JONES. I think that tooling and modern equipment, is so much a part of productivity which everyone is trying to get. Only by ownership can a producer really assure that he is buying the plant and equipment that will best do the job.

Now, if a contractor is currently occupying a plant and using it, clearly he should not have to bid on the open market; he should negotiate, like we did.

The CHAIRMAN. I say: Periodically you negotiate. You lease it for 5, 10, 15 years, whatever is appropriate, as limited a period as possible and practical, and then have an opportunity for others to bid for it.

I am looking for some pragmatic way we can solve the problem because I don't think the Government is likely to put all of these plants up for sale soon. Maybe it should. You make a strong case for it. That appeals to me very much. People always operate more efficiently when they use their own equipment.

You and I and everybody else who has a house know that if you own a house, you are a lot more concerned with how it operates, how to keep that house up and maintain it than you are if you are renting somebody else's house.

Mr. JONES. That is right. The Government did have practices—or I guess you could call it directives—that asked for divestiture of Government-owned equipment. This happened in plants when there was a lot of purchasing done. Our company now owns 97 percent of the plant and equipment we use. Other companies do own a large share.

We did buy from the Government after negotiating 10 or 15 years ago. I think it should be negotiated and maybe even at a discount. I am not proposing that you put an unfair burden on the contractor. But the fact that he owns it, I think, will insure that improvement of productive capacity takes place. It can take place only in the hands of the one who does the work.

The CHAIRMAN. You might be right. Even though it might represent a substantial book loss to the Government, the fact that it was being operated more efficiently might be in the national interest.

Mr. JONES. Precisely; that is what I am saying.

The CHAIRMAN. Would the industry have the financial capacity in most cases to absorb these plants?

Mr. JONES. If that plant can contribute to a better product at lower price, its financial posture will be improved by the ownership, not reduced. Capital managers tend to look at the effectiveness of management and their ability to get a return on investment. I think that money would be available because management would then make a decision as to how important a plant is. If it is not important to them, they will say, "All right, Government; we are not interested."

The CHAIRMAN. If you are going to do this you would have to do it over a period of years because there would obviously be many firms that just don't have the financial capability of being able to do this and others that do. Certainly it is a move in the right direction at least.

Now, you say that contractors should have the financial strength to meet firm commitments. You also say, though, that contractors have grown used to not meeting these commitments. Does the industry have the financial strength and management ability to meet the promises, in your view, generally?

Mr. JONES. Absolutely.

The CHAIRMAN. Why haven't they done it in some cases?

Mr. JONES. I don't think it has been demanded of them by the Government. The tendency is to procure small things very well but great things tend to get mixed up in other considerations. This is what I am really addressing.

The CHAIRMAN. I am not sure I understand this. We have had so many disappointments in failure to meet commitments in terms of time. Would you, then, say the Government ought to act like most private contractors act—"Now, look, buddy; we have you on the dotted line; you meet that commitment or we will go to court"?

Mr. JONES. That is right. The contractor won't sign until he has pinned the Government down—"Wait a minute; you have not said what you want." When one side says, "I mean business," the other side will then protect its interests and insure that the Government pins down what it wants.

Right now you have a situation where, in many cases, the bureaucracy or any institution does not like to commit because if you commit you lose control. On the other hand, the contractor says, "Well, I go along with that because an undefined commitment is usually one that cannot be enforced."

The CHAIRMAN. You want a firm, positive, clear, explicit commitment in advance and then you want the Government to get tough and show it means it and does not make exceptions so that the contractor

will feel: "Well, if worse comes to worse, I can always get off the hook; this guy will be a patsy when the chips are down"?

Mr. JONES. Right. Also it means that when the Government budgets for something, you stick to that budget. You can't constantly be juggling.

The CHAIRMAN. That requires a long-term appropriation by the Congress. Otherwise you are going to have your appropriations reduced.

Mr. JONES. It means tending in that direction. There can be options. In the case of the F-5E, we gave the Government options to buy for 5 years in the future. We were pinned down. The Government then stated, "If we buy more of your airplanes, this is what it will cost." In that way, if there were a budgetary reduction, you had already accounted for that in the contractual arrangement.

The CHAIRMAN. What stops the Government from getting tough with the contractors? Is it the fact that they have their old friends from the Pentagon on their payrolls and they have that kind of easy relationship, they know each other, they like each other, and maybe the Government people who are negotiating look forward to going to work with the company? What makes for this permissive and soft attitude? Or is it the fact that Congress changes its mind all the time? What are the elements?

Mr. JONES. I don't think it is the former you stated. I think the real problem comes from—if you want to call it that—the boom-or-bust environment of defense through this Nation's history where they say, "Look, fellows; we don't need you any more. Close your doors." Then they say, "We need everything you have; forget the cost."

There is a recognition that you can't ask the contractors to really be financially responsible and take these big risks in that kind of environment. That is the reason why these habits developed.

Now that we are asking for longer-term commitments from the Defense Department in their plans and the whole budget cycle in the Congress is asking for forward planning in more detail, you now have a basis for asking and demanding the same of the contractor.

What I am really saying is: You now have a basis for pinning the contractor down where you didn't have a basis previously.

The CHAIRMAN. So this is something that becomes practical to the extent that we have a long-term commitment to a stable demand for military production?

Mr. JONES. By "stable" I mean relatively stable.

The CHAIRMAN. Compared to what we have had in the past, it won't go up and down and fluctuate all over the place?

Mr. JONES. That is right.

The CHAIRMAN. We expect, because of the nature of the operation, technology will lead us in different directions, will stop some programs cold, and move into other programs. You want a long-term commitment so that when you do stop a program, you don't have a contractor that, in effect, goes bankrupt because there is no way that it can operate if its suppliers are going to disappear all of a sudden?

If you had people all buying Chevrolets and suddenly for some weird reason they decided all they wanted were Chryslers, then General Motors would be in dire trouble.

What you are saying is that you want a long-term commitment with the understanding, however, that there will be shifts but the shifts should be gradual enough so that the contractor can accommodate, is that right?

Mr. JONES. They should be controlled by specific contract terms. For instance, if the Government wants to change a contract, it should sit down and negotiate that change before it implements it. When changes are made now by both parties and followed up later with negotiated cost effects, that is wrong.

I am saying: A firm contractual basis does not mean the United States loses control. It means it has more positive control.

The CHAIRMAN. One of the reasons why we have an efficient economic system is because, by and large, when individual private contractors deal with each other they deal on the basis of fixed price. Do you advocate fixed-price contracts for all major procurement?

Mr. JONES. For force structure procurement, Mr. Chairman. That means: When the Nation is counting on that number of units to defend this country, at that point information should be available, knowledge put in the hands of the user who knows what he wants and the contractor who knows what it takes to build it.

Up until force structure, you have a different environment. You are trying to gain knowledge. There you should permit creativity. Those should be level of effort contracts, but that is another form of control. Force structure commitments that should be binding—that is what I am saying.

The CHAIRMAN. How do you break a pattern of buying fewer planes at a higher price?

Mr. JONES. I am sorry.

The CHAIRMAN. How do you break the pattern in which we have fewer and fewer planes bought at a much higher price? We have to buy fewer planes because the price of each plane is so high. When my brother was in the Army Air Corps, before the Air Force was created, back in the late thirties, they had planes that we thought were pretty dandy. They would go 300 miles an hour and were terrific. They cost only between \$50,000 and \$100,000. Today a fighter plane costs \$15 million. The price seems to be going way out of line.

I understand that if we were to spend the same for the Air Force now that we spent in World War II we would literally buy less than 1 percent of the planes we bought then because the costs have just exploded. How do we cope with that?

Mr. JONES. That is exactly why you need budgetary integrity, so when those decisions are made you know precisely how many units you will buy of the stated required device. If the units are too few the Government will go back to the contractor and say: "Wait a minute. What we have asked for is too complex. It is too expensive."

The CHAIRMAN. Too sophisticated?

Mr. JONES. Too sophisticated. The only way there can be a meaningful interchange of knowledge is when they know they are going to firmly commit. When that happens they will say: "Well, at \$20 million each I can buy only 200. I would rather reduce my demand and buy 600 for the same amount of money." Without budgetary integrity you can't make those calculations until too late.

The CHAIRMAN. What do you do if the contractor says, "I can buy them at a certain price," like the F-14, and years later he says, "No, I can't"?

Mr. JONES. If he has the right contract in the beginning—

The CHAIRMAN. You make him come through at the price he established to begin with?

Mr. JONES. Surely.

The CHAIRMAN. Supposing you have a situation in which a company could not meet the price stipulated in a fixed-price contract and did not have the ability to absorb the loss. Would you advocate that he be allowed to go into bankruptcy?

Mr. JONES. As you know, this is a subject of concern to everyone. I happen to think of the bankruptcy laws where the key wording really is "reorganization." If a customer wants a product and if a company can build it but does not have the financial structure to support it, the company should be reorganized.

The CHAIRMAN. I agree; "bankruptcy" is not such a bad word. That is the price you pay for our system. Some people succeed and do well; others go under. The average small business retailer lasts 6 months and then he goes under. It is a tough situation for that average small businessman but that is the reason why we have an efficient system by and large.

Do you believe there is any realistic political chance this will be permitted or do you think there will be another bailout by the Department of Defense? Or where there is a State involved which has members of the Appropriations Committee or has people in the administration, they have their friends here, that is a big part of the problem?

Mr. JONES. I think it is. I think the so-called secondary concerns—which are important; I am not minimizing them—many times govern the primary concern, which is national security. What I am suggesting is that national security should come first and that secondary concerns should be dealt with afterward. I don't mean they should not be. Employment is important.

Many times when you are talking in these terms, you are talking about financial restructuring; you are not talking about moving plant and equipment or affecting employment. What you are really talking about is that you have a mismatch between the financial strength of the company and its commitment to the Government.

Like in any reorganization, the Government may have to negotiate with the creditors to pay a higher price but it is done in the context of a reorganization. So what comes out is a better match of financial responsibility and commitment.

The CHAIRMAN. That is where you have to be careful. You deal with the contractor at a higher price but you make sure, as you say, it is done in the context of reorganization, which means either you are dealing with a new firm because they have defaulted and have gone into bankruptcy or you are dealing with new management they have reorganized.

Mr. JONES. The banker may have taken a little bit of a reduction, too.

The CHAIRMAN. That is right. Do you think it is common for contractors to knowingly make unrealistic low estimates, knowing the contract will have readjustment—in other words, buy-in?

Mr. JONES. I prefer to use the word "optimism." A buy-in can be an investment if it says: "Look; it really costs us \$40; we will sell it to you for \$30 and we are going to pay the difference." That means I am going to invest.

The CHAIRMAN. That is why the fixed price is so fundamental. If you are going to buy under a fixed price and produce, that is great.

Mr. JONES. Make sure he buys.

The CHAIRMAN. They may take a licking on the first one, as you say. They may come through later on. That may be an element of optimism. I am talking of a situation where you buy in with a contract that can be adjusted or a weak-kneed negotiator on the part of the Defense Department will say: "We see that you can't do that; we will put the price up." The contractor knows that and therefore makes a bid that is lower than his competition.

Mr. JONES. Yes.

The CHAIRMAN. That is not uncommon, is it?

Mr. JONES. No. The form of contract speaks more loudly than words.

The CHAIRMAN. The way you do that is to insist on meeting the contract terms and to have fixed-price contracts, is that right?

Mr. JONES. Right. When that happens, everyone is serious about the contract. It is the degradation of respect for the contract on both the part of the Government and the contractor that causes overruns. I don't blame industry alone; if both Government and contractor respect the terms of the contract at the outset things will be pinned down and things will work out as planned.

The CHAIRMAN. In your prepared statement, you refer to competing alternative solutions to defense needs. By this are you suggesting that the military should get away from detailing rigid specifications, rely more on contractor solutions for a general statement of needs?

Mr. JONES. That is a factor. When a commercial airline buys an airplane, it really gives requirements in terms of the end result they want. They don't spell out all the details of how they get that. That is not so much what I had in mind. What I had in mind was that in the force structure you should always have in mind competing alternatives. It does not mean a different manufacturer building the same airplane. Alternative solutions are important to budgetary integrity, and that is really what I meant.

The CHAIRMAN. I have been concerned about the haste of the military to put systems into production before development and operational testing have been completed. Do you agree that that pressure to push a system along can lead to some of the problems you have identified such as reprogramming, overruns, program modification?

Mr. JONES. Yes.

The CHAIRMAN. Do you believe these negative effects would outweigh the benefits in making a smooth transition to production?

Mr. JONES. It is improper to answer that as a general response. If sufficient knowledge is in hand technically, knowledge sufficient for both parties to be willing to commit, that usually is a good sign that the

more efficient program is the one to follow. If they are unwilling to commit, certainly you should not push it ahead. Once again the contract is a discipline provider there.

Our T-38 is a good example, or our F-5E program. We accepted a fixed-price development and a fixed-price production with five options before we started the development contract. We ended up with that program 18 months ahead of schedule. Why? Because we had the knowledge in hand and the Government was convinced we did. In that case, we would not say: "Wait until the development is finished and then see if it works."

The key was our ability to commit and the Government's ability to recognize we could commit. If you generalize, in an advanced program there is a lot of risk in it; you might say: "We are not willing to commit at this time but we will commit at this date." The Government will say: "You are right; we will do it."

But you should not make it a generalized rule. It depends on the particular program and the willingness of both the customer and the company to commit; that is the discipline.

The CHAIRMAN. Last year the Defense Department announced a new profit policy, that they would recognize capital investment in profit rates. Many of your suggestions have to do with increasing investment of Government contractors and lessening of reliance on Government-furnished equipment.

Do you think that the new profit policy has been or is likely to be successful in its stated purpose of encouraging contractor investment in productivity and enhancing equipment?

Mr. JONES. Yes. I think anything like quick writeoffs and these things do encourage expenditures for plant and equipment. I think from that point of view we will see that result. I think the most direct way to do—and, Mr. Chairman, I admired your letter to the Wall Street Journal that made the point—the best way is to reduce the overall tax so the contractor has the ability to balance between labor costs, shall we say, and plant and equipment cost.

When you itemize the expenditure for plant and equipment it will allow you to buy more plant and equipment. That is good. It would be preferable if the overall tax burden, as you suggested, were reduced; then you could put demand on the lowest price.

The CHAIRMAN. We are making progress, incidentally, on that. You notice the New York Times came out in favor of repealing the corporate income tax.

Mr. JONES. It is the most direct way to handle it because it is up to the company.

The CHAIRMAN. It is a way to eliminate corporate featherbedding, too. After all, the reason you have all kinds of perks and people are so wasteful in hiring people they don't need and so forth is that the Government pays the bill. You also have the fact that a vigorous new growing company cannot now compete to a point where it is an important factor.

If we had the same corporate tax rates we have now in effect at the turn of the century, none of the corporations that are really big now could have grown to their present size. They grew under those circumstances of lower taxation.

Mr. JONES. If we did what you suggest, we would not need to make an incentive on the elements of cost because the corporation would decide: How can we produce a better product at a lower price? By putting money in research and development? By reducing expenses? By new plant and equipment? Then you get best use of the private sector.

The CHAIRMAN. I have one final question before I yield to Congressman Evans. I spoke in the beginning about the jurisdiction of this committee being one that was concerned with the capability of our economy as a whole to support a defense effort, a military effort. How do you view our overall economic capabilities—that is, our capacity, the capacity of our factories to produce what we need, our technology, the level of our technology to meet the challenge of potential adversaries, our productivity, the efficiency of our labor force?

Do you think we have a sufficient capability of meeting whatever threat might develop or do you think we ought to be more concerned with that and be working to change and improve it?

Mr. JONES. Mr. Chairman, I think inherent in our system, we have the capability, but to harness that capability we need to go to the sound practices that I am talking about, make the defense industry more like the rest of our industrial capacity. When that happens, I believe, we can tap the broad base of industrial capacity we have. If we trust it as a special item I don't think we can take advantage of the strength of our overall system.

I think it is important to tighten up our procurement practices and our budgetary integrity through the ability of the Government to say what it wants, demand from the industry that it give it to them, and then both sides act firmly in delivering the promise.

On the Government side, don't move programs around as much. I understand that you have to modulate. But try to establish firm plans, pin the contractor down as well as the Government.

The CHAIRMAN. So you feel we have economic potential, we have economic capability, we have the work force, we have the technology, we have the productive capability; what we need to do is to organize these to use them in a much more efficient way than we have in the past and your suggestion would meet that objective?

Mr. JONES. Exactly.

The CHAIRMAN. Congressman Evans.

Representative EVANS. Thank you, Mr. Chairman. I apologize to Mr. Jones for not being able to be here for his opening statement.

I have not had a chance to study thoroughly all of your testimony. This is a very important issue. I would like to ask you a few questions before I have to leave again. Do you think there has been recent improvement in the Department of Defense's contracting methods? Do you personally see any improvement in that regard?

Mr. JONES. Absolutely. I think one area where there has been a gradual and important improvement is in personnel. The military personnel has done a first-class job in identifying individuals that will be good in procurement and sending them to school. You have a very well trained, capable body of procurement officers in all three military services. That has been a very major improvement in the last 20 years.

Representative EVANS. Do you see any other improvements of that magnitude or is that really the only one that really stands out?

Mr. JONES. I think we are all concerned when things don't improve as fast as we know they can and should. My remarks have to do with the fact that I think we can be much better than we are. There have been real improvements. There has been recognition that some of the past practices have not been good. We are no more tied to the old boom-and-bust concept of defense. But I think we have a long way to go.

Representative EVANS. Would you say that there is strong enforcement of these contracts today or is there hope for stronger enforcement of these contracts?

Mr. JONES. Yes, but I would not put it all on the Defense Department. I think the whole Government, including the administration at all levels and the Congress as well as industry should say: "Look; we have a long pull; efficiency is going to be very important; let each of us be willing to commit more firmly than in the past."

Budgetary integrity is not impossible, because the budget procedure of the Congress is an important tool in the respect that the Congress will share with the President the responsibility for the overall budget. No longer can it say, "Well, put this one up and this one down," without considering the side effects.

What I am saying is that because of the tools in Government, the industry now should be charged more specifically and directly as to schedules, costs, quality and performance at the time the system goes into the force structure. We definitely can improve in that department. That is the greatest weakness I identify, in my judgment.

Representative EVANS. I was especially interested in an excellent point in your testimony where you mentioned private enterprise investors and so forth have no trouble recognizing distinctions between companies, that the Government should be no less discriminating. A lot does need to be improved in that regard.

As you know, the C-5A contract was supposed to be a fixed-price contract and it did not turn out that way. How do you recommend that the Defense Department persuade industry that it means business better than it has in the past?

Mr. JONES. By sticking with the terms of the contract. When a Government buyer starts changing it and maybe doesn't insist on negotiating the cost of the changes and getting them approved, that is a lack of respect for the contract.

On the other hand, if the company says, "Well, if I deliver a good product I will be paid"—that used to be the idea; there was never any lack of determination to build a good product. It used to be that if it was a good product, useful, we would be paid. Now you are adding something to it: "You will be paid exactly what we agreed you should be paid when you accepted responsibility." It takes both sides to respect that contract—the Government and the contractor.

Representative EVANS. And perhaps a return to some of the basics involved here?

Mr. JONES. Precisely.

The CHAIRMAN. Thank you for your testimony, Mr. Jones. You have been a most persuasive witness, and the committee appreciates your appearance. I agree with much of what you say. This concludes our first day of hearings into the defense industrial base.

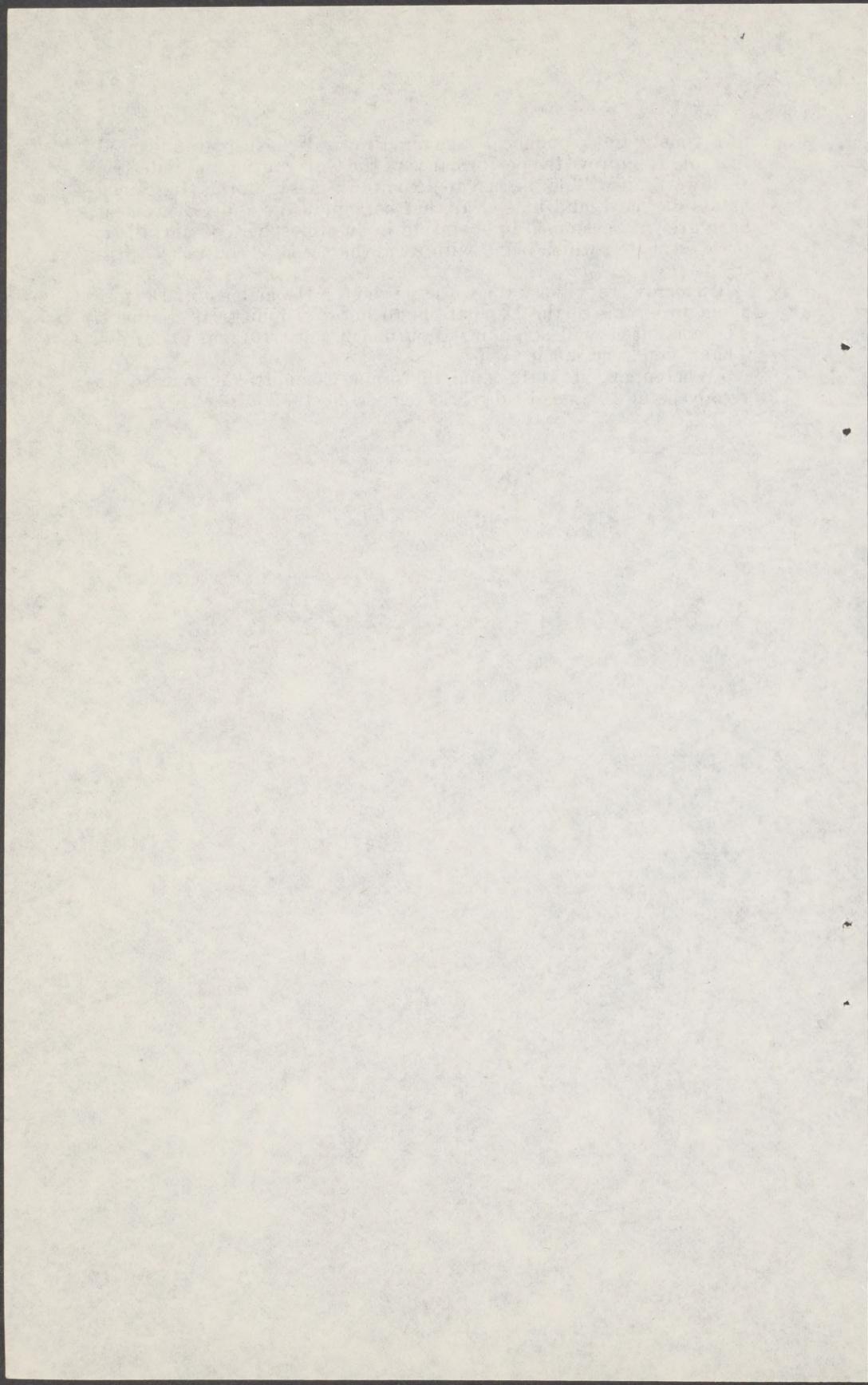
What has been said here today indicates that defense industry may be unready to provide the support needed for the defense establishment

in a timely and economical fashion. Proposals have been advanced that might improve the performance of the Government and industry.

However, it will not be easy to accomplish these reforms. Ingrained habits die hard, and it is clear that both industry and Government have grown accustomed to operating in an atmosphere of unrealistic price estimates, which bring with them the need for contract adjustments.

Tomorrow we will ask the witness from the Department of Defense about programs of the Department to improve industrial readiness. The committee will stand in adjournment until 10 a.m. tomorrow. Thank you very much.

[Whereupon, at 11:15 a.m., the Joint Committee adjourned, to reconvene at 10 a.m., Friday, September 30, 1977.]



DOD PROCUREMENT PRACTICES

FRIDAY, SEPTEMBER 30, 1977

U.S. CONGRESS,
JOINT COMMITTEE ON DEFENSE PRODUCTION,
Washington, D.C.

The Joint Committee met at 10:05 a.m., in room 5302, Dirksen Senate Office Building, Senator William Proxmire (chairman of the Joint Committee) presiding.

Senator PROXMIRE. The committee will come to order.

This begins the second day of the committee's 2 days of hearings into the condition of the defense industrial base, and how defense policies can affect the ability of industry to produce needed goods and services.

Yesterday we heard testimony from one of the most respected aerospace industry officials, Thomas V. Jones, chairman of the Northrop Corp. Mr. Jones suggested that industrial production efforts have been handicapped by inefficiencies that are built into the system. Contractors and Government officials expect contract cost estimates to be underestimated; they expect production contracts to be let before design work has been completed.

Consequently, cost overruns, design and contract change actions, and reprogramings are almost inevitable. This results in program delays, lower production runs, and dislocations in force structure planning. This coming from a distinguished and successful defense contractor, I think, made the point particularly telling. It didn't come from an outside academician, or Senator or Congressman.

Mr. Jones also suggested that contractors and Government alike often attempt to accomplish too much. Efforts are made to procure overly sophisticated weapons systems, which can also contribute to increased costs, delays, and lower production runs.

Mr. Jones indicated that we have to have a tougher attitude on the part of the Pentagon. That was an interesting suggestion on his part, that we ought to have in advance a notion of just exactly what the Government expected, that we ought to establish a realistic price, and we ought to have the Government insisting that the contractor live up to that price. If the contractor couldn't live up to that price or didn't he would have to take the consequences.

His proposed solution is fairly simple. He suggests that Government should make the maximum use of fixed price contracting, and that both industry and Government should be responsible for their final negotiated agreements. He also suggests that the Government should get out of the landlord business, turning over as much plant and equipment as possible to industry. He suggested that industry efficiency

would be improved if costly, inefficient equipment is retired from the marketplace.

Today we will hear from several witnesses from the Department of Defense. We will ask them for their responses to some of Mr. Jones' suggestions.

Our first witness is Mr. Dale W. Church, who is Deputy Director for Acquisition Policy of the Directorate of Defense Research and Engineering. Prior to assuming this position, he was corporate counsel, assistant secretary, and director of contracts for ESL, Inc., of Sunnyvale, Calif. He holds a juris doctor degree from George Washington University, and has practiced law with specialization in corporate and contract law.

Mr. Church, I would like to welcome you to the committee. If you would like to begin I would appreciate it if you could summarize your written statement in approximately 10 minutes, and the full written statement will be printed in the record of these hearings.

Go right ahead.

STATEMENT OF DALE W. CHURCH, DEPUTY DIRECTOR FOR ACQUISITION POLICY OF THE DIRECTORATE OF DEFENSE RESEARCH AND ENGINEERING, ACCOMPANIED BY FLOYD TROGDON, ASSISTANT DIRECTOR FOR MATERIEL ACQUISITION POLICY; AND DALE R. BABIONE, ASSISTANT DIRECTOR FOR CONTRACT AND SYSTEMS ACQUISITION

Mr. CHURCH. Thank you, Mr. Chairman.

First off I would like to introduce two gentlemen I have with me this morning. On my right I have Mr. Floyd Trogdon, who is my Assistant Director for Materiel Acquisition Policy. On my left I have Mr. Dale Babione, who is my Assistant Director for Contract and Systems Acquisition. They are the two deputies of my office who are most directly involved in the questions we are addressing here today.

Mr. Chairman, I appreciate the opportunity to discuss with you this morning how the procurement policies of the Defense Department affect the defense industrial base. My comments will address those aspects of our procurement policies which are directed toward obtaining the maximum competition in defense procurement and how our policies are oriented toward establishing and retaining adequate sources of production for military supplies.

I will also touch upon two relatively recent developments which support these efforts; namely, the promulgation of OMB Circular A-109 which provides Government-wide acquisition policies and S. 1264, otherwise known as the Chiles bill, a proposed bill to provide one statutory authority for acquisition for all supplies and services for the Federal Government.

I will also review for you the manner in which we are implementing the findings of our recent study on capacity utilization in the aircraft industry.

Finally, I will offer some suggestions as to how the Congress might assist in achieving a more competitive and responsive defense industrial base.

Concerning the maximization of competition, I would first like to say that no part of the Government is any more aware of the need for maximum competition than the Department of Defense. We are constantly striving to improve our track record.

In this regard, fiscal year 1976 statistics show that, including price competition, technical and design competition, and follow-on contracts where the source of supply was initially selected by competition, approximately 57 percent of the dollars obligated were the result of competition. The other 43 percent in large part represented one-source solicitations where it is more difficult to obtain effective competition. Contracts for Government-owned contractor operated facilities, utility services, and development and production of complex, high-cost weapons systems involving high capital investment and know-how, exemplify the types of procurement actions in this category.

It is in this latter area where we need to do more to introduce additional competition. Under circular A-109 we are pursuing increased competition among qualified sources in the early stages of major system acquisition. Although we can envision an expanded competitive base for design and technical competition prior to the selection of the full-scale development contractor, we also recognize the difficulty of other potential prime contractors in bidding for the system production contract. The cost experience, know-how, and investment of the development contractor gives him a strong competitive edge. Notwithstanding this, we are striving for increased competition through our high value spares breakout program, by acquiring production data packages and by assuring that the latest production know-how and technology are incorporated into the packages.

Additionally, we are encouraging increased prime contractor use of competition at the subcontractor levels. The approaches we are exploring to encourage the primes to solicit greater competition at the subcontractor levels include: where economical, encouraging the primes to "buy" rather than "make," avoiding "lock-ins" and "data rights situations" which may result in sole source contracts, encouraging primes to tailor subcontracts to reduce technical and administrative burdens, where appropriate, encouraging the primes to make subcontractual arrangements which are not less favorable than those incorporated into the prime contract.

By the same token, we—the Government—are searching for ways to remove the disincentives in our procurement actions in order to encourage greater competition among prime and subcontractors. Among the efforts we are pursuing are: increasing longevity of production through multiyear authorizations and contracts, reducing or eliminating the specialized nature of military specifications and standards, where feasible, accepting commercial practices and products.

We are stressing the increased use of the multiyear contracting technique, within our authority, to provide an assurance of program stability to prospective contractors. Aside from obtaining increased levels of competition we can anticipate reduced unit prices by reason of continuity of production and elimination of repetitive startup costs. These efforts would be greatly enhanced if the Congress would look favorably upon multiyear authorization of funds for major programs and lifting the \$5 million limitation on multiyear cancellation ceilings

imposed by the Defense Authorization Act of fiscal year 1973 (Public Law 92-436)

We have an intensive program under way to review those specifications and standards which have a potential for high cost compliance and to eliminate those requirements which contribute to this potential. We are also tailoring the actual application of those documents to the systems being produced to reflect our minimum qualitative needs. We are actively participating with recognized industry standards organizations to promote the adoption of industry standards. To date, we have adopted almost 1,500 industry specifications and standards. We also have a very significant effort under way to increase the use of commercial, off-the-shelf products when such products adequately serve DOD's requirements. These efforts are in full consonance with the philosophy of S. 1264 which is pending before the Senate.

While we have concurred in the objectives of the bill, we must likewise be cautious in mandating the use of functional specifications without considering the minimum essential characteristics a product must meet. An unlimited application of this concept would run counter to our logistical support requirements and our efforts at standardization as a means of cost reduction. Overly broad definitions of "functional terms" and "performance specifications" would result in widespread spare parts duplication in our inventories. For example, there are approximately 4 million numbered parts in the defense supply system. A 10-percent duplication would result in an initial first-year increase of about \$146 million in cost to the Defense Department.

Turning now to our efforts to better assure adequate sources of military supplies, we have instituted a program of initiatives to deal with this subject. These include: We have issued a directive to establish an "early warning system" for diminishing sources of materials and critical components and parts supply. We are seeking wider recognition of the potential of appropriations authorization under title III of the Defense Production Act to remedy materials shortages and deficiencies in production capacity. We are investigating the possibility of Government financing of dual or multiple sources of production for critical components during development—when the savings from the increased competition over the program life would pay back the initial qualification costs.

In addition to these initiatives, we launched our new profit policy to help strengthen the defense industrial base through the rewards of a fair level of profit. This policy, which was the subject of hearings before this committee last November,¹ is intended to recognize and reward contractor investment in cost reducing production facilities through prenegotiation profit objectives and allowing for the imputed costs of facilities capital under Cost Accounting Standard 414. It is too early to determine the effect of this new policy on the level of investment in cost reducing facilities because of the lead time between the capital investment budgeting decision and the procurement and installation of the facilities.

We also recognized there were situations where the investment was so significant that profit motivated incentives would not be adequate

¹ Defense Industrial Base: Department of Defense Profit '76, Part II, Hearings before the Joint Committee on Defense Production, November 18, 1976.

to provide the impetus for contractor investment. To respond to these situations, we initiated a study of investment policy to identify those factors which motivate contractor investment and the policy changes necessary to foster contractor motivation. A supporting investigation by the Logistics Management Institute revealed that defense oriented contractors reinvest at a level of about 6 percent of sales while comparable commercially-oriented contractors reinvest at a level of about 17 percent. The investment policy study concluded that the variation in investment decisions is influenced by a variety of reasons.

Chief among these is necessity—the need to have the capability to produce competitively in order to stay in business—rate of return, cash flow, competition and the perceived risks of investment. Of these, risk in relation to return on investment and cash flow proved to be the major factor; risk in defense procurement was perceived to be greater than in commercial business. This conclusion is based on the way the Defense Department conducts its business. Annual funding programs, program cutbacks and cancellations, schedule stretchouts, design change orders, changes due to advances in the state of the art and the lack of future business stability were singled out as being most contributory to risk in defense business.

We have other techniques that are on going which have been listed in the statement. These include the special termination buy-back technique and the manufacturing technology program, a program to address the efficiency of the investment that we now have in contractor's plant equipment, and to further encourage contractors to do better in that regard.

We have in the statement a summary of the status of the aircraft capacity study, which we undertook with the OMB. We are aggressively pursuing various means of implementing the results of that study trying to find ways to better that capacity and minimize the cost to the Department of Defense.

Some of the things include an aggressive implementation of ASPR policy and the examination of approaches to reduce potential excesses in capacity during the DSARC.

I would like to stress that I finally will offer some suggestions on how the Congress might assist achieving a more competitive and adequate defense industrial base.

The first of these would be to help us with the multiyear authorization of funds. The Senate bill S. 1264 proposes to give the statutory base for multiyear contracting, but beyond that we also need assistance in the multiyear authorization of funds to further enhance competition and to better set up continuity in production lines.

Let me say in summary we have found some problems in the industrial base, but we do find that the production base is responsive to our general procurement needs. The forthcoming report of the Rand Corp. study which looked at a selected segment of lower tiers in the defense industrial base confirms this finding. When the report is released, a copy will be provided to the committee.

I think that more or less summarizes and concludes my statement. I would be more than happy to answer any questions.

[The complete written statement of Mr. Church follows:]

PREPARED STATEMENT BY DALE W. CHURCH, DEPUTY DIRECTOR FOR ACQUISITION POLICY, OFFICE OF THE DIRECTOR OF DEFENSE RESEARCH AND ENGINEERING

Mr. Chairman and members of the committee, I appreciate the opportunity to discuss with you this morning how the procurement policies of the Defense Department affect the defense industrial base. My comments will address those aspects of our procurement policies which are directed toward obtaining the maximum competition in defense procurement and how our policies are oriented toward establishing and retaining adequate sources of production for military supplies. I will also touch upon two relatively recent developments which support these efforts; namely the promulgation of OMB Circular A-109 which provides Government-wide acquisition policies and S. 1264, a proposed Bill to provide one statutory authority for acquisition of all supplies and services for the Federal Government. I will also review for you the manner in which are implementing the findings of our recent study on capacity utilization in the aircraft industry. Finally, I will offer some suggestions as to how the Congress might assist in achieving a more competitive and responsive defense industrial base.

Concerning the maximization of competition, I would first like to say that no part of the Government is any more aware of the need to maximize competition than the Department of Defense. We are constantly striving to improve our track record. In this regard, fiscal year 1976 statistics show that including price competition, technical and design competition, and follow-on contracts where the source of supply was initially selected by competition, approximately 57 percent of the dollar obligated were the result of competition. The other 43 percent in large part represented one-source solicitations where it is more difficult to obtain effective competition. Contracts for Government-owned contractor operated facilities, utility services, and development and production of complex, high cost weapons systems involving high capital investment and know-how, exemplify the types of procurement actions in this category.

It is in this latter area where we need to do more to introduce additional competition. Under Circular A-109 we are pursuing increased competition among qualified sources in the early stages of major system acquisition. Although we can envision an expanded competitive base for design and technical competition prior to the selection of the full-scale development contractor, we also recognize the difficulty of other potential prime contractors in bidding for the system production contract. The cost experience, know-how and investment of the development contractor gives him a strong competitive edge. Notwithstanding this, we are striving for increased competition through our high value spares breakout program, by acquiring production data packages and by assuring that the latest production know-how and technology are incorporated into the packages.

Additionally, we are encouraging increased prime contractor use of competition at the subcontractor levels. The approaches we are exploring to encourage the primes to solicit greater competition at the subcontractor levels include: Where economical, encouraging the primes to "buy" rather than "make." Avoiding "lock-ins" and "data rights situations" which may result in sole source contracts. Encouraging primes to tailor subcontracts to reduce technical and administrative burdens. Where appropriate, encouraging the primes to make subcontractual arrangements which are no less favorable than those incorporated into the prime contract.

By the same token, we (the Government) are searching for ways to remove the disincentives in our procurement actions in order to encourage greater competition among prime and subcontractors. Among the efforts we are pursuing are: Increasing longevity of production through multiyear authorizations and contracts. Reducing or eliminating the specialized nature of military specifications and standards. Where feasible, accepting commercial practices and products.

We are stressing the increased use of the multiyear contracting technique, within our authority, to provide an assurance of program stability to prospective contractors. Aside from obtaining increased levels of competition we can anticipate reduced unit prices by reason of continuity of production and elimination of repetitive start-up costs. These efforts would be greatly enhanced if the Congress would look favorably upon multiyear authorization of funds for major programs and lifting the \$5 million limitation on multiyear cancellation ceilings imposed by the Defense Authorization Act of fiscal year 1973 (Public Law 92-436).

We have an intensive program underway to review those specifications and standards which have a potential for high cost compliance and to eliminate

those requirements which contribute to this potential. We are also tailoring the actual application of those documents to the systems being produced to reflect our minimum qualitative needs. We are actively participating with recognized industry standards organizations to promote the adoption of industry standards. To date, we have adopted almost 1500 industry specifications and standards. We also have a very significant effort underway to increase the use of commercial, off-the-shelf products when such products adequately serve DoD's requirements. These efforts are in full consonance with the philosophy of S. 1264 which is pending before the Senate. While we have concurred in the objectives of the Bill, we must likewise be cautious in mandating the use of functional specifications without considering the minimum essential characteristics a product must meet. An unlimited application of this concept would run counter to our logistical support requirements and our efforts at standardization as a means of cost reduction. Overly broad definitions of "Functional Terms" and "Performance Specifications" would result in widespread spare parts duplication in our inventories. For example, there are approximately 4 million numbered parts in the defense supply system. A 10 percent duplication would result in an initial first year increase of about \$146 million.

Turning now to our efforts to better assure adequate sources of military supplies, we have instituted a program of initiatives to deal with this subject. These include: We have issued a directive to establish an "early warning system" for diminishing sources of materials and critical components and parts supply. We are seeking wider recognition of the potential of appropriations authorization under Title III of the Defense Production Act to remedy materials shortages and deficiencies in production capacity. We are investigating the possibility of government financing of dual or multiple sources of production for critical components during development (when the savings from the increased competition over the program life would pay back the initial qualification costs).

In addition to these initiatives, we launched our new profit policy to help strengthen the defense industrial base through the rewards of a fair level of profit. This policy, which was the subject of hearings before this Committee last November, is intended to recognize and reward contractor investment in cost reducing production facilities through prenegotiation profit objectives and allowing for the imputed costs of facilities capital under Cost Accounting Standard 414. It is too early to determine the effect of this new policy on the level of investment in cost reducing facilities because of the lead time between the capital investment budgeting decision and the procurement and installation of the facilities.

We also recognized there were situations where the investment was so significant that profit motivated incentives would not be adequate provide the impetus for contractor investment. To respond to these situations, we initiated a study of investment policy to identify those factors which motivate contractor investment and the policy changes necessary to foster contractor motivation. A supporting investigation by the Logistics Management Institute revealed that defense oriented contractors reinvest at a level of about 6% of sales while comparable commercially-oriented contractors reinvest at a level of about 17%. The investment policy study concluded that the variation in investment decisions is influenced by a variety of reasons. Chief among these is necessity (the need to have the capability to produce competitively in order to stay in business), rate of return, cash flow, competition and the perceived risks of investment. Of these, risk in relation to return on investment and cash flow proved to be the major factor; risk in Defense procurement was perceived to be greater than in commercial business. This conclusion is based on the way the Defense Department conducts its business. Annual funding programs, program cut-backs and cancellations, schedule stretchouts, design change orders, changes due to advances in the state of the art and the lack of future business stability were singled out as being most contributory to risk in defense business.

One of the most significant new policy changes being tested as a result of the investment policy study is the special termination buy-back technique. Under this technique, the economic risks associated with program instability can be reduced. In the event a procurement program is partially or wholly terminated, contractual provisions can provide for the contractor to sell specified capital investments to the government (if he elects to do so) for their unamortized value or some portion thereof. The criteria for employing this technique is very demanding. Its use is authorized only when the investment would not be

made by the contractor except to meet the requirements of the system involved and providing the contracting officer has determined that the government will save money if the contractor makes the specific investment. Currently, the technique is being used on the F-16 and A-10 programs.

Another action we are taking to improve responsiveness and increase competition in the industrial base is through the DoD Manufacturing Technology Program. This program is designed to improve and apply manufacturing techniques, processes, materials and equipment to provide for timely, reliable and economical production of Defense materiel. We view the DoD investment in this program as "seed money", to motivate industry to "pick up the ball" and apply the new technology in the production of Defense systems. Project results substantially reduce industry's implementation risks, and furnish incentives to the private sector to implement the new technology across the entire industry spectrum. In effect, the DoD Manufacturing Technology Program shares the cost and the risk of proliferating new technology throughout industry and expanding our competitive base.

I will now address the Aircraft Capacity Study and the actions we are taking to implement the study's policy alternatives for reducing extra capacity. The study shows that the industry is operating at about 40% of its capacity. This figure is derived by basing current industry performance on an efficient 1.4 shift 40 hour work week. (From a nominal one shift activity standpoint the industry is operating at 55% capacity.) Government and industry analyses and market projections on which the study was based indicated that extra capacity would increase in the near term, then improve by the 1980's primarily due to an upturn in commercial transport demand.

Estimates of the cost to the Defense Department of the extra capacity condition range between \$300 and \$500 million per year. For the most part, this cost consists of indirect labor, i.e., engineering, marketing and administrative personnel, retained in anticipation of and to enhance obtaining additional business. Twenty-five percent or less of the extra capacity costs is associated with underutilized plant and equipment.

The study further estimated that the realistic potential for savings resulting from reducing extra capacity was about \$250 million per year while still retaining desired competition in each industry sector; i.e., two or three firms remaining viable to produce each type of aircraft.

The study identified 8 policy alternatives as those most feasible for reducing extra capacity. These varied in complexity from ones involving government action of a programmatic nature to those which would tend to evolve a different structural composition of the industry and a revised industry-government relationship. We have implemented several programmatic approaches, such as endeavoring to buy aircraft at more efficient production rates with buy-outs or termination of low rate production lines, phasing development and production procurements where militarily feasible to level industry activity, and favoring facilitization and sub-contractor arrangements which would make better use of existing resources. However, these approaches are not solely DoD prerogatives. For example, the Congress has not always agreed with the Defense Department on which production lines should be closed or what procurement rates, and even quantities, are needed.

In addition, we have directed the military departments to pay close attention during contract audits to idle facility and idle capacity costs as defined by the ASPR 15-205.12. Idle facility costs, with some exception, are not allowed nor are those resulting from chronic idle capacity.

A proposed revision to the ASPR has been developed which, when approved, will result in closer monitoring and control of contractor indirect costs. Formal procedures will be followed and a government cost monitoring coordinator designated at locations where government procurement is expected to exceed \$50 million.

We have constructed a generic checklist of potential capacity issues to be addressed in preparing for the Defense Systems Acquisition Review Council (DSARC) meetings at production milestone decision points. These milestone issues consist of pointed questions regarding program facilitization, use of government properties, industrial base requirements and procurement planning aimed at establishing the most economical program.

We have tabled the implementation of the more complex policy alternatives for a number of reasons. First, the study data are basically a year old and there are

indications that the extra capacity condition may be improving earlier than was projected. For example, commercial airline orders have increased and some production lines are scheduled to increase output rates next year by one-third to one-half. Secondly, the industry is apparently making voluntary corrections to reduce extra capacity in the form of disposing of unneeded facilities and lowering manpower levels. In this connection, an experimental macroeconomic model of the industry constructed during the study showed that without any change in government policy the industry would eventually stabilize at a level of extra capacity below what we experience now. We certainly would prefer to let the free market work to the maximum degree it is able to bring about reductions in extra capacity rather than resort to increased government manipulation or intervention.

At the outset I mentioned that I would offer some suggestions as to how the Congress might assist in achieving a more competitive and adequate defense industrial base. The first of these considers the possibility of Congressional multi-year authorization of funds and the removal of the multiyear contract cancellation ceiling imposed by Public Law 92-436. S. 1264 proposes to give the statutory base for multiyear contracting, which we endorse. However, without consideration of these two additional aspects, we will continue to be severely inhibited in employing this technique to encourage increased competition.

Secondly, I suggest that, whenever possible, the Congress encourage the competitive free market to work in reducing the extra capacity in the aircraft industry. This will alleviate the major problems resulting from unused capacity with fewer resultant inefficiencies in procurement programs.

In summary, although we have found some problem areas in the industrial base, we find the base responsive to our procurement needs. The forthcoming report of the Rand Corporation study of selected segments of the lower tiers of the defense industrial base appears to confirm this finding. The initiatives I have reviewed with you today, coupled with a favorable reaction by the Congress to the suggestions I have offered, should help to improve the way in which we do business with the private sector.

This concludes my statement. I will be pleased to respond to any questions the committee may ask.

Senator PROXMIRE. Well, thank you very, very much for a most helpful presentation, Mr. Church, and I realize, of course, that you have made a very sincere effort to improve the procurement. At the same time I think you would agree that you have a long way to go and that there are continuous overruns and late performances, and you have indicated some of the things that the Congress can do to help overcome that. I think those are very constructive suggestions. But we need a great deal more than this.

I would like to start off, as I have indicated in my statement, with whether or not it is possible, realistic, practical, for Government to get really tough and to say when you establish a price, that is it and the contractors produce at that price. When you set a date, that is it. When you don't produce on that date, we go to court.

Mr. Jones suggested that the Government should make maximum use of absolute fixed price contracts; it should enforce costs and scheduled promises. That seems, as I say, to be a sound practice.

Do you believe that can be realistically accomplished?

Mr. CHURCH. Mr. Chairman, I believe there are many areas where we can use firm fixed price contracts very effectively, and we are trying to pursue that type of contract vigorously in those areas.

I also believe we have had some problems in the past when we have introduced firm fixed price contracts at too early a stage in the process of developing a new weapon system. I think the notable example of that occurred when we used the total package procurement concept in buying the C-5A. I believe in that case, the early use of the firm

fixed price form of contract caused significant problems with the procurement of that particular system.

Senator PROXMIRE. Mr. Jones suggests you don't go to fixed price until you are ready for production. In the case of the C-5A, of course, you had the biggest overrun up to that time we had ever had, a \$2 billion overrun, and it seemed to me that it came out of a lot of things, including a feeling on the part of contractors that the Government really didn't mean it when they fixed the price, some way they would be able to push it up, and in that case, of course, they did as well as in most other cases. In fact, the instances of programs that are produced to the price that was agreed upon and on schedule are rather rare. They are the exception and almost the rare exception rather than the rule; isn't that correct?

Mr. CHURCH. Too often that has been the case, Mr. Chairman. We are moving to correct this through our DSARC process. Each time a decision coordinating paper comes before us, as part of the DSARC process, we vigorously question the type of contract that will be used in the forthcoming phase of that particular program. In that way, we are insuring that the type of contract is appropriate to the objectives of obtaining the best possible product at the lowest possible cost.

Senator PROXMIRE. Let me indicate some of the problems that Mr. Jones and others have indicated are the fault of the Defense Department and the Government.

He said that, for one thing, the Defense Department knowingly accepts unrealistic cost estimates, permits contract price adjustments, puts programs into production before the design has been completed, requires constant design changes.

What is being done to overcome these DOD incentives to overruns and later performance plans?

Mr. CHURCH. There is no question that you can find examples of each of those abuses that have occurred in the past. What we are doing in that area is to use our new organization, which was set up to respond to the policy of A-109, to vigorously review the program through each stage of the DSARC process to insure that all of these areas are adequately reviewed and to insure that the Services are in fact following through in the areas that you have suggested.

It is difficult oftentimes to determine when a program is ready for production, but that is not holding us back in performing those reviews in such a way as we do make that determination.

We are also reviewing procedures to avoid the buy-in technique to which you have referred to. The buy-in technique is not illegal. But, it is often difficult in rigorous competition to detect when in fact there has been a buy-in or whether all the contractors are probably bidding at relatively the same levels because they are all trying to buy in.

Senator PROXMIRE. Let's get into that buy-in situation, because some contractors charge that the Defense Department in effect invites a buy-in.

The president of Boeing Aerospace Co., for instance, said in a recent trade publication, and I am quoting:

After we had submitted the cost proposal, we were invited in for cost discussions—extremely detailed cost discussions. We were told "This is the last face-to-face meeting with us before you are informed whether you won or lost." Then the

Government team proceeded to detail where it thought the Boeing costs were out of line. I will let you decide for yourselves if there was any auctioneering. The team looked at us across the table and said our price for this was "substantially high," in another area it was "significantly high," in another area "very high," in another "very, very high." It also told us which issues were controversial. I have been to cattle auctions that were more subtle than that.

That was the quotation from the president of Boeing.

My question is, with these practices you are almost guaranteeing that companies will buy into a procurement. I believe everyone will agree that an initially unrealistic bid does not serve anyone's long-term interest.

What are you doing to eliminate these practices and assure more realistic enforceable price estimates?

Mr. CHURCH. Mr. Chairman, we do agree that such instances have occurred. I have attended similar sessions so I don't have any disagreement that such instances have occurred and that this technique has been used. I also agree that it is wrong, and we are trying to correct it.

We are doing a number of things in this area to eliminate these practices. The one which offers the most promise is the four-step source-selection technique which is designed not only to avoid the buy-in practice but also another, which is equally as abusive to the contractors. I refer to the technical transfusion which occurs in the kind of situation that you just described.

The Government negotiator will give a list of questions that is not tailored to the particular contractor he is addressing but rather, provides the questions being asked of all the contractors in the competition. This procedure frequently discloses the technically innovative approaches that have been used in other contractors' proposals.

To avoid this, we are testing the four-step source-selection technique. It is being resisted in some areas, but we have pilot programs underway under the direction of Mr. Babione in various procurements to show people how it can work. It is actively supported by the Defense Science Board. They are working with us and we believe by going through this four-step practice we will be able to avoid the kind of abuses in both these areas, both in the buy-in and the technical transfusion.

Senator PROXMIRE. How common is this situation? You said you have been in sessions like this and you agree that they are not constructive, they don't result in a realistic price. How common is that? Would you say that is rare or would you say that is rather common?

Mr. CHURCH. It not only occurs with respect to some prime contracts where the Government is doing it, but also with price contractors who in turn use the same technique on their subcontractors. So it has abuses in both areas.

The prime contractors, although they have complained about it, don't hesitate oftentimes to use the same technique on their subcontractors.

We are trying to pursue a policy of eliminating these objectionable techniques from these areas. As to how common they are, I can't put a numerical score on it, does it happen 10 percent of the time or whatever? I would say it happens where the competition is the most vigorous, and particularly when the amount of Government business is shrinking. You will often find that the abuses exist merely because the contractors are willing to let them happen and they are afraid to

stand up for their rights. In any case, we believe that that is wrong. It does not provide the best product at the lowest possible price and we are attempting in a very rigorous program to find the right technique to avoid it.

Senator PROXMIRE. Let me suggest one way in which you could end it rather effectively, and that is by really enforcing the price established, sticking to it. Then the contractor, as Mr. Jones indicated, recognizes that he has got to come up with a realistic estimate and if he doesn't he is in the same kind of trouble he would have been when he deals with another corporation and comes in too low. That is his problem. And if you just do that a few times, the word gets around, I think we would be getting far more realistic pricing.

Now, in addition to the cost overrun problem, there is a serious problem of declining force levels, you just don't have the money to produce the number of planes, or the number of tanks we need, because they cost so much.

Somehow there is a feeling that every plane has to be able to do everything and do it better than any other plane ever designed or ever conceived of—gold plating.

This has resulted in the type of plane that used to cost \$100,000, now costing \$15 million; tanks that used to cost a few thousand dollars, now costing \$1 million. So that we are moving to a position where we will have one ship, one tank, one plane for the entire military force in this country. It will be a beauty, it will do everything in the world, but it will be all by itself, and because it is so lonely, it won't be able to really accomplish what we need.

Is the Department moving toward a less sophisticated, lower performance weapon that might be more affordable, reliable and realistic?

Mr. CHURCH. Yes; we are using the high-low concept, having a varying mix of types of weapon systems that serve a particular purpose, those that are less sophisticated and those more sophisticated. Probably the best example I could use at this point is where the F-16 was to be the low and the F-15 and some other aircraft the high. Unfortunately, we haven't always been able to keep the low low and we are trying to figure out better ways to make sure that that doesn't occur.

In the case of the F-16, it has become much more expensive than when we started out and so it is becoming more a medium-high than the low we envisioned.

So let me say that just simply one problem area isn't going to keep us from trying to pursue that kind of policy wherever it is appropriate, and to figure out better ways to keep the low low.

Senator PROXMIRE. It was suggested by the witness yesterday that the Government ought to get rid of its Government-owned equipment and plants and so forth. The argument there was that the defense contractor should have control of all of the elements of production if he is going to do an efficient job, he ought to have control of his plant, of his personnel, of his own technology, and so forth, then he can decide what mix is appropriate, how much it would be wise to put into equipment in order to get the best product at the lowest cost, how much to rely on training to get the most skilled personnel and so forth. He argued that if you take one element out of the contractor's control, if

the Government just provides it, then you have a far less efficient operation.

Of course, the Government does own an enormous amount of plant and equipment.

How far do you go in going along or disagreeing with that position?

Mr. CHURCH. I agree very much with this particular position. I had a contractor come to my office just recently and try to argue with me the opposite was true. I think he walked out realizing if he wants to proceed in that area he is going to have to end up buying a plant we now own and are trying to sell to him.

We have pursued a vigorous policy of getting rid of the plants. In 1965, we had some 135 plants, today we have 89, which will give you an idea of how we have pursued that thus far.

There are seven plants currently under negotiation to be sold to the contractors. The unfortunate part is there is a minimum number which we reach at some point where it becomes difficult to turn the plants over to the contractors and those, I think, are some 41-odd plants that deal with ammunition production and this sort of thing. In those areas it is probably more effective for us not to sell the plant to one contractor but to actually compete the operation of that plant among various contractors.

But between the 89 and the 41 there are a number of plants that we will be able to sell. There are others that are so obsolete that the fact is nobody particularly wants them and—

Senator PROXMIRE. Then it seems to me the things to do would be to close them and sell them for scrap.

Mr. CHURCH. I agree with you and we are analyzing that to see what needs to be done in those areas. But it is my policy to pursue a rigorous program of turning all plants, wherever possible or wherever practical, over to the contractors to have them own them.

Senator PROXMIRE. Give me a quantitative notion of how many plants over what period would you expect to be able to dispose of.

Mr. CHURCH. Well, I really haven't had time to go into a plant-by-plant basis. I say there are 7 under negotiation right now which would bring the total down to 82. I believe there are 41 that are potentially available and of that 41 there is probably some significant portion which fall in the category of obsolescence and scrap.

So we are getting down to the base numbers and hopefully over the next few years we will be able to close them all out. That is the intention of the program.

Senator PROXMIRE. It seems to me one of the big elements here that was mentioned yesterday by Mr. Jones and makes a lot of sense is that we have moved into a different kind of military situation, unfortunately. There was a time when we completely demobilized after a war and our procurement and industrial production for defense diminished to a tiny fraction of what it was. That happened after World War I and happened after previous wars. It is not happening now and won't happen in the foreseeable future. We are going to have a steady demand. Every expectation is we are going to have a defense budget that increases in real terms 3 or 4 or 5 percent every year. I regret that very much and so does everybody else, including people in the Defense Department and defense contractors, and citizens recognize that is unfortunate. It is a fact of life. But that fact it

seems to me, should make it easier for the defense industry to be able to buy these plants. Obviously nobody would want to buy a plant if you are not going to continue military production, if demand is going to evaporate in a year or two. That isn't the case now, and it would seem to me that we could follow a more vigorous policy of disposing of these plants.

Can you give us any notion of how many of these 82 plants that you don't have scheduled for sale—you say you have 89, 7 of which you are negotiating now to sell—what is the minimum roughly, 20, 10, something like that?

Mr. CHURCH. Mr. Chairman, I don't have those statistics with me. I would be more than pleased to provide them for the record. We will look into that and provide—

[The following information was subsequently supplied for the record:]

PLANS TO REDUCE GOVERNMENT-OWNERSHIP PLANTS

Our goal is to reduce Government-ownership of plants to the very minimum in line with the responsibilities and direction of Public Law 93-155, Defense Industrial Reserve Act of 1973. 80 of the 89 production plants are contractor operated. Our plans for retaining and disposing of the 89 plants are summarized as follows:

Currently with GSA for sale to the using contractor.....	7
Retain as service designated essential contractor-operated plants.....	58
Retain as service designated essential Government-operated production plants	8
Dispose of surplus GOGO plant.....	1
Sell/dispose as excess to DOD requirements.....	5
Subtotal	79
Future efforts (during the next 5 to 10 years) to sell plants not designated as essential.....	10
Total	89

The major difficulty in selling the future 10 and the present 7 plants to the using contractor is the problem of reaching an agreement on price. Since 1964, GSA has returned several plants to the Services as undisposable, mainly because of lack of price agreement. These are included in the "future efforts" category shown above. The GSA groundrules are to obtain the maximum price on each plant (market value plus a user's value). More flexibility in negotiating a sales price might result in a long run benefit to the Government. Plants that were undisposable five to ten years ago because of price, might now be privately-owned facilities. During the same five to ten year period the Government has spent millions of dollars to maintain such plants. We believe that GSA should exercise more latitude in arriving at a reasonable market price.

Our current plans are to retain 66 plants as essential to Service requirements and dispose of 23 during the next five to ten years. During the same time period each of the 66 retained plants will be reviewed on an annual basis with the goal of further reductions.

Senator PROXMIRE. Do you think it would be realistic within the next 5 years you could get down to a reasonable minimum?

Mr. CHURCH. I believe that is the case, yes.

Senator PROXMIRE. Do you think this can be done without a giveaway program in which useful plant is in effect just handed over to defense contractors without reasonable compensation?

Mr. CHURCH. Well, of course, a giveaway is like beauty, it is in the eyes of the beholder. We will attempt to get the fair economic value of those plants in every case. I hate to characterize it as a giveaway or not

giveaway, but we are negotiating vigorously. However, there are cases where the contractors feel as though we should pay them to take over the plant as opposed to them——

Senator PROXMIRE. I wouldn't disagree with that. I am sure there are instances where that might be the case. I wouldn't have a closed mind on that at all. It still might be worthwhile. You might get a more efficient overall operation if the contractor controlled everything and, therefore, was operating on the basis of the most efficient input.

[Refer to questions 1 and 2 in app. III, pp. 164-65.]

Now, you made a most interesting observation in your statement, referring to additional cost associated with extra capacity. You say, and I quote:

For the most part, this cost consists of indirect labor, engineering, marketing and administrative personnel, retained in anticipation of and to enhance obtaining additional business. Twenty-five percent or less of the extra capacity cost is associated with underutilized plant and equipment.

That is a colossal amount, 25 percent.

What is the Department doing to crack down on unnecessary industry featherbedding?

Mr. CHURCH. Well, you are referring to the aircraft industry study which indicated there were some \$300 to \$500 million worth of excess capacity. That means approximately \$80 million, or about 25 percent, is bricks and mortar and various kinds of plant and equipment and the remainder is the labor and other areas that you do mention.

Senator PROXMIRE. How much of this is extra people you can just layoff?

Mr. CHURCH. A good percentage of it is people.

Now, as we were discussing earlier, within this competitive environment, there is a need to retain a rigorous competitive base. But, because there are many factors which we don't adequately understand, and particularly, what achieves the most competitive base in the airframe industry, I feel as though we must be very careful as we move into that area. Therefore, we are further analyzing that particular aspect of it to see that we don't move so vigorously that we throw the baby out with the bath water; that is, we don't get down to so few companies that we have destroyed the competitive base in the process. However, I believe, that there are areas where there——

Senator PROXMIRE. Are you saying that you would destroy the competitive base by reducing personnel that is unnecessary?

Mr. CHURCH. If the personnel are truly unnecessary, obviously you don't destroy the competitive base. But if, in fact, the personnel are there doing research and development into new technologies, that will give us a better technology in the air frame industry and they are preparing proposals to do that; then, in fact, they are not unnecessary but very much needed by advancing the technology.

Senator PROXMIRE. How about engineering and marketing staffs?

Mr. CHURCH. Well, I think there are many who would argue that marketing staffs are too large if they are more than one person. But, it is difficult to be able to go into a plant and identify the specific personnel and hang a tag on them as to whether they are doing marketing work or really doing new development work.

Senator PROXMIRE. What I am getting at, you directed your auditors to pay special attention to excess capacity when idle personnel may be a greater contributing factor to excess cost.

Mr. CHURCH. That is because it is easier to identify, of course, the excess capacity in the sense of brick and mortar. You can walk out into a plant and you can observe and you can see.

Senator PROXMIRE. That is why you need ASPR provision on idle personnel though, isn't it? It is easier to review the physical capacity than it is for the personnel.

Mr. CHURCH. There is no question that it is very difficult for an auditor who is trained in looking at statistics to subjectively make a determination of whether that guy who has an engineering development tag around his neck is a marketeer who is doing nothing but sales or is actually a development engineer who is, in fact, back there developing new technology. And I don't know whether you or I trained in the business community or in economics could adequately do that job either. It is a very subjective area. However, that won't keep us from rigorously pursuing a policy of getting the companies to come into line and to reduce what we consider to be idle capacity. We will make those subjective determinations and we will tell the corporations we have made them and have them present their own cases for making those costs allowable.

Senator PROXMIRE. Can you describe the proposed procurement regulation revision which you state "will result in closer monitoring and control of contractor indirect costs?"

Mr. CHURCH. That is correct.

Senator PROXMIRE. Can you describe that regulation?

Mr. CHURCH. I would like to provide that for the record. Maybe Mr. Babione, who is directly involved in the creation of that particular ASPR area, could respond.

Mr. BABIONE. Mr. Chairman, what we are talking about is that direct labor is rather easy to identify and determine the requirements and audit them. Indirect labor gets more difficult to determine how much is appropriate, and what we are talking about here is not any one specific part of indirect costs, because there are many components to that cost, such as engineering, research, proposals, management people, and so on.

So what we are talking about here is a better job of monitoring the day-to-day overhead that takes place at our large companies where we have onsite staffs who are responsible for performing that function and taking a tougher attitude in those transitional situations where a contractor's business base is shrinking down through smaller total sales or production, and insisting that he get rid of those extra people in a quick and reasonable manner.

So what we are talking about is not any one particular part of ASPR being changed so much as it is a charge to our people to do a better job of monitoring the day-to-day big program organization that we have throughout the United States. [See app. III; refer to questions 3 and 6, pp. 166, 169.]

Mr. CHURCH. I might add a specific example. I have asked my staff to monitor very closely the termination of the Rockwell Corp. contract relative to the B-1 program that as the capacity becomes idle, we should

get rid of unnecessary personnel at the earliest possible date. I believe the Air Force is due with a report into me today as to the exact plans and procedures. I will be asking them for a monthly statement of how they are progressing in that particular area. I think there are great dangers in major programs of people not moving vigorously and fast enough to clear personnel out. We intend to see that that is followed through, particularly in that program.

Senator PROXMIRE. How long will it take to phase out the B-1?

Mr. CHURCH. I think there have been some estimates made of that.

Mr. BABIONE. We have asked the Air Force to give us both how long it would take to terminate that contract and all the subcontracts involved, and how much money would be involved, and we don't have a final report on that, but it will take quite a substantial amount of time to terminate all of the contracts that are involved.

Senator PROXMIRE. How long did it take to phase out the B-70? I understand there are some estimates that even as of 1975 we were still making payments on the B-70.

Mr. BABIONE. I don't know. We could research it and give you something for the record.

[The following information was subsequently supplied for the record:]

TERMINATION SETTLEMENT OF THE B-70 PROGRAM

The Department of the Air Force has provided the following information relative to the status of termination settlement of the B-70 program :

The development contract was completed and the final payment was made on 16 March 1971.

The second or prototype contract was completed and the final payment was made on 13 May 1974.

The third or production contract AF33 (657) 42058 was completed and final payment was made on 29 May 1975.

The fourth or flight test contract was closed in 1970 when final payment was made.

In the process of closing the B-70 contracts, there was some residual inventory that was retained by Rockwell for use on other contracts. The residue of this property was disposed of earlier this year under the B-1 contract.

Consequently, the status of the B-70 program is that all actions have been completed and the contracts are closed. Since the files on the B-70 program have been retired, it was not possible to identify the date that decision was made to terminate the program. Therefore, it has not been possible to determine the length of time involved in phasing out the program.

If more detailed information is required, the files can be withdrawn from storage and data compiled as required. It is to be noted that any request for additional information should be confined to the second and third contracts because the other contracts have been closed over six years, and undoubtedly the records have been destroyed.

Senator PROXMIRE. We would like to be kept current on that because this could be an enormous cost, and I imagine we might even be paying for it 10 years from now.

Mr. CHURCH. I can't agree with you more and it is our intention to make sure this does not happen.

Senator PROXMIRE. You said several times the excess capacity problem in the aircraft industry has become less severe because of increased orders for commercial aircraft.

Why does the level of work on commercial projects have any effect?

Are you suggesting the Department of Defense absorbs part of the cost for commercial production facilities when there is no commercial business to keep them operating?

Mr. CHURCH. No. If you look at the overall capacity of the airframe industry and at the bricks and mortar which could be used for either purpose, they are not facilities necessarily owned by the Government which could be available either way. What we do in those areas is to split up the cost. It is my understanding there is an appropriate allocation to each of the accounts, and we share some of the costs, but not all of the costs of those unused facilities at that particular moment. However, as they use those facilities for any purposes, obviously our share and the amount of dollars will go down.

Senator PROXMIRE. Mr. Church, nearly a year ago the Department of Defense implemented a new profit policy. The intention of that profit policy was to enhance contractor productivity by encouraging facilities investment.

Has the Department determined whether the new policy has encouraged investment?

Mr. CHURCH. In my statement you will note that I did suggest that it was too early to determine, and that there is quite a lagtime between the time a contractor invests and the time we are able to get data. We are trying to come up with data as rapidly as possible. We have some preliminary indications. However, I can't give you statistics on it yet. It is more of a subjective nature of reports.

In the shipbuilding industry, in particular, the policy will reward investments that are aggressively pursued.

Senator PROXMIRE. Improve productivity?

Mr. CHURCH. The policy is set up so it rewards improved productivity resulting from that investment.

Senator PROXMIRE. In the shipbuilding situation where you do have some evidence, the evidence is that productivity has increased.

Mr. CHURCH. We don't have statistics yet, and that would be a subjective analysis. I would say the preliminary report is it is having its effect in the shipbuilding industry. To relate that between the investment and the productivity flowing from the investment, it is still too early to really give you a very good determination. [See appendix III, p. 166; refer to question 4.]

Senator PROXMIRE. What does your program to seek wider recognition of the potential for appropriations under title III of the Defense Production Act, I am quoting you, what does that involve?

Mr. CHURCH. Well, that is, I believe, a title that involves the multi-year contracting, and I mentioned in the statement the things we believe should be done in that particular area to better—let me ask Mr. Trogdon these numbers. I am getting acquainted, but this is an area that is kind of new to me at this particular point. I have been in office for 2 months.

Senator PROXMIRE. You are a very impressive witness.

Mr. TROGDON. We have a very vigorous program of soliciting from the services any problem areas. These areas are eligible for funding under title III, and we obtain a number of candidates each year as a result of the inputs from the services.

Last year we asked for help in the area of chromium. We also asked for several other areas that are still under consideration. A project

was funded as a result of our request for alternate sources of chromium. But there are a number of areas that do not get identified and we vigorously solicit input from the services.

Senator PROXMIRE. Now, tonight at midnight this committee goes out of existence, and the Banking Committee takes over its jurisdiction. I am chairman of both committees and we will continue on, of course, with the same kind of concern about the jurisdiction of the Defense Production Act. I do hope you will keep the Banking Committee informed about this as you make progress. Will you do that, and will you also answer additional questions for the record?

Mr. TROGDON. Yes, sir.

Senator PROXMIRE. I am talking on this one to our principal witness. All of you.

Mr. CHURCH. Yes, sir.

Senator PROXMIRE. Thank you very much. I am impressed. You are a fine witness. I think we are making some progress, but I think we have a long, long way to go, and I think you recognize we do, too. Anything we can do to help you we will. I am glad you are making some specific recommendations to the Congress as to where we can take action. It would be helpful in holding down the colossal cost and the burden we have in defense operations.

Thank you very much.

Mr. CHURCH. Thank you, Mr. Chairman.

Senator PROXMIRE. Our next two witnesses are Jacques Gansler, who is a vice president of The Analytic Sciences Corp., and Dr. James Kurth, of Swarthmore College. Since your statements cover similar subjects I would like to put you on as a panel. Until recently, Mr. Gansler was Deputy Assistant Secretary of Defense for Materiel Acquisition. In this capacity, Mr. Gansler supervised a year long study of the defense industrial base, which culminated in the release this year of the joint DOD/OMB study of capacity utilization in the aircraft industry.

Before joining the Department of Defense, Mr. Gansler was a vice president of the Avionics Division of ITT Corp. Dr. Kurth has written extensively on foreign and military policy. Mr. Gansler, I would like to welcome you in your second appearance before this committee. I regret the fact that you have left the Department of Defense, because I think that the concerns you raised during your tenure had been overlooked for too long. I understand that you have submitted your recent Harvard Business Review article in place of a prepared statement, and that you intend to summarize some of these points. I think your article was a superb analysis of our defense problems. It not only impressed me, but more importantly it impressed my staff, which is far more able in these areas than I am. They thought it was the best thing they had read for a long time in this area.

Nevertheless in spite of the distinguished witnesses we have, I am going to ask if you could confine your remarks to 10 minutes. The green light will go for 9 minutes, then the yellow light for 1 minute and then the red light goes on. I would appreciate it if you would close then.

[The article from the Harvard Business Review, May-June 1977, follows:]

Let's change the way the Pentagon does business

Jacques S. Gansler

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Let's change the way the Pentagon does business

Needed: business leaders who will present ideas to the Defense Department on how to make the defense industrial base more efficient

Jacques S. Gansler

This article deals with an important step for the United States to take in improving its National defense posture. That step is for government and business to create a base of defense industries that are efficient, flexible, and capable of responding quickly to increased demands in case of a sustained military conflict. Today there is a question as to whether the United States has such a defense base. As the evidence produced in this article shows, the defense industrial base suffers from excess capacity here and insufficient capacity there. It relies too much on foreign military sales and not enough on the market system. Profits may be adequate for prime contractors, but they may not be adequate for subcontractors. Other problems aggravate the problem still further. The Pentagon is beginning to correct some of these problems, but it has a long way to go. For any real headway to be made, business leaders must step forth and, drawing

from industrial experience, offer specific, practical proposals for constructive action.

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The defense industrial base is that part of the overall U.S. production capability that represents the industry side of the so-called "military/industrial complex." It is as much an element of our military deterrence as our array of weapon systems. The base must be able to provide high-quality weapon systems, and equipment support, at minimum cost. It must be able to accelerate production, on demand, in both peacetime and wartime.

The size of the base is heavily dependent upon the Department of Defense (DOD) budget. Historically, following every military crisis, the United States has significantly reduced its defense budget in order to stimulate other areas of the economy. Although DOD has come to expect and plan for this fact of life, the post-Vietnam period has produced some unique trends that are causing considerable concern in government and industry circles:

□ The level of defense procurement outlays (that is, the share of the defense budget spent to buy equipment for the military forces) is at its lowest point, in constant dollars, since the early 1950s (see *Exhibit I*). One cause of this is the increasing share of the defense budget required to pay for the "All-Volunteer Service."

□ Like many other industries, defense contractors have gone multinational, with annual foreign military sales increasing from \$1.6 billion in 1970 to more than \$10 billion in 1974 and 1975. As a group, the major defense contractors now rely heavily on these foreign military sales. This volume represents about 40% of the total U.S. production of defense related items.

□

The United States is no longer the clearly dominant military force in the international community. While we were absorbed with Vietnam, the Soviet Union was systematically closing the technological gap in weapon system sophistication, while at the same time establishing a quantitative edge in standing forces and production rates of most equipment.

These trends have contributed to a series of problems and strains in the defense industrial base—excess production capacity (particularly at the large aerospace prime contractors), deteriorating contractual relationships (for example, in the shipbuilding industry), insufficient efforts to improve corporate productivity, decreasing numbers of defense-oriented subcontractors and suppliers, and a growing dependency on foreign sources of raw materials and foreign production of critical components. In addition, the limited data available indicate serious problems in the base's capability to increase production rates significantly when called upon.

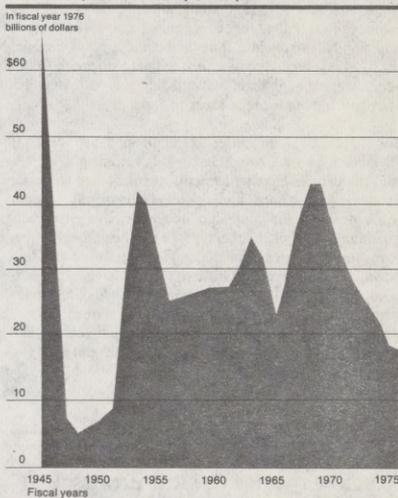
For example, after the 1973 Mid-East war, when Congress approved a rapid build-up of combat tanks, the prime contractor (Chrysler, operating a government-owned plant) was ready, but the sole company supplying turret and hull castings had all the commercial business it could handle. This supplier's response was "no, thank you" to DOD's request for greatly increased output.

How did it happen that only one company was supplying a necessary part to a prime contractor? The cause was the low level of procurement expenditures—one supplier was all that could survive. Unfortunately, "sole-source contractors," as such companies are called, are becoming far more numerous as the level of hardware complexity rises and the annually procured quantities shrink.

Critical problems such as these require immediate corrective action on the part of industry, DOD, and Congress. The objectives of such action should be:

- 1 Improved short- and long-term economic efficiency.
- 2 Improved responsiveness to demands for production increases.
- 3 The means to continuously develop and incorporate new, more advanced engineering and manufacturing technologies.

Exhibit I
U.S. defense procurement outlays, fiscal year 1976



Defense decision makers need to be able to determine the impact of alternative acquisition strategies on the industrial base. They need to find ways to break down the "barriers to exit" which exist at the large prime contractor level, and the "barriers to entry" which now exist at the subcontractor and supplier levels, thus encouraging real competition in bidding for defense contracts. It is my opinion that true competition does not exist at either the large, prime contractor level or at the smaller, critical-component supplier level.

One major obstacle is institutional in nature. Although DOD is virtually the sole buyer at the prime contractor level, and its prime contractors are oligopolies extensively using government plants, equipment, and money, DOD has essentially no policies or organizations dedicated to planning for the most effective use of its industrial resources. A good case can be made for the need to create such policies and organizations, though, if that is done, full public accountability should also be required.

DOD is looking to the executives of industry to take the lead in correcting many of the current prob-

lems, and in showing government new ways to improve and strengthen the defense business environment. In this article I shall describe the problem areas that seem to me to demand the most urgent and careful attention. The fact that a good deal of thought has already gone into ways to improve DOD procurement efficiency should make it more rewarding for business leaders to help.

For instance, in materiel acquisition I believe that efficiency can be improved by developing contractual incentives that will encourage industry to make productivity-enhancing capital investments; making cost as much a design characteristic as is performance; revising military specifications and procurement practices to make defense business less "unique"; motivating industry executives to combine their defense and commercial product lines where possible; and studying the possibilities for strengthening market operations. In particular, the possibilities for effective competition—in parts of the defense industry.

Excess capacity & slim profits

The most striking trend has been the decreasing level of defense expenditures (especially in the procurement account) as contrasted to the other major contributors to the gross national product (GNP). Since 1968, only defense expenditures have declined steadily—procurement alone went from about \$44 billion to approximately \$17 billion (in constant 1976 dollars).

By contrast, spending for consumer services, consumer goods, food, and capital goods has increased, as has nondefense buying by government—often greatly. Naturally, defense expenditures would be expected to decline during the post-Vietnam war years. The important fact is that the trend has caused, as we shall soon see, some severe problems in managing the defense sector.

The drop in procurement dollars has been matched by a continuing increase in the production unit cost of weapon systems. Over the past 25 years, after correcting for inflation and quantity reductions, the unit cost of U.S. weapon systems (e.g., ships, planes,

tanks) has increased, from one generation to the next, on the average of 5% each year. The net effect of the reduced procurement dollars and the increased cost of systems has drastically reduced the quantities of equipment procured. For example, the U.S. government annually bought over 3,000 fighter aircraft during the mid-1950s, about 1,000 per year in the mid-1960s, and under 300 through the middle 1970s.

In spite of the shrinking market, there has been very little consolidation of the numbers of prime contractors supporting DOD. Instead, with few exceptions, each contractor has been receiving a smaller and smaller absolute amount of defense business, while maintaining its "share" of the total defense market. During the past 15 years, the top 5 companies have consistently been doing about 20% of the business, the top 25 about 50%, and the top 100 about 70%. By contrast, there has been considerable consolidation in the civil sector over the same period, and with an expanding market.

The lack of contraction in the defense area can probably be attributed to the prevention of "free market" forces. Perhaps we can no longer afford such "barriers," and their resulting inefficiencies.

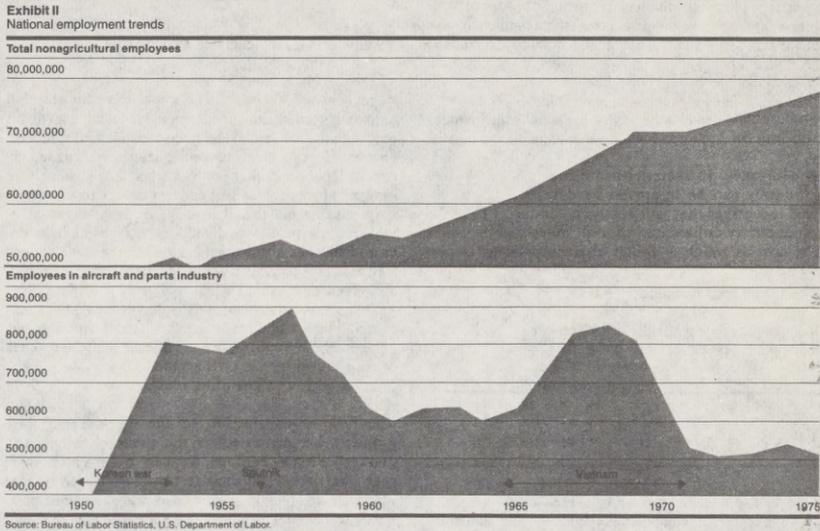
The net effect has been that capacity utilization in the overall aerospace industry has been below 70%; it has been even lower in the aircraft industry, where aircraft production plants are currently less than 55% utilized. This low level of capacity utilization gives rise to three key problems:

1 Since some of the excess capacity is not likely to be needed for mobilization or future production programs, it (and its associated "overhead" structure) may be unnecessarily expensive to carry.

2 The considerable excess capacity creates a possible imbalance between the high level of government "in-house" modification work that goes on in government depots on similar systems, and the decreasing workload in industry.

3 There is a need to modernize the essential parts of government-owned and contractor-owned production capacity in order to improve productivity and thus achieve lower production costs. Current data indicate that defense contractors, or divisions of large companies doing defense business, reinvest about 70% less than their commercial counterparts.¹ Yet modernization is required. For example, of the approximately 94,000 government-owned metal-cut-

1. Department of Defense Profit Study Group, *Profit 76—Summary Report* (Washington, D.C.: Office DASD (Procurement), December 1976, p. 20.)



ting machines, 62% are at least 20 years old and almost 90% are over 10 years old. In contrast, only 28% of the total U.S. inventory of metal cutting machines is more than 20 years old.

Too few subcontractors

Among subcontractors and parts suppliers the problem is just the opposite from that at the prime contractor level—namely, a rapid contraction is taking place. For instance, only two companies produce gun mounts in quantity—and the number may drop to one; only three companies (possibly dropping to two) make aircraft landing gears, and only one company makes tank hull and turret castings.

What accounts for this contraction? The causes range from bankruptcy, absorption by the prime contractors, and very low profit for most small de-

fense contractors, to business discouragement over the highly specialized, limited nature of the market. Obviously, the low levels of defense procurement have had a major effect, too. I suspect that "the Defense way of doing business" also contributes to the problem. For example, the government claims to leave all subcontract management up to the prime contractors, yet the primes frequently pass on all of the extensive government requirements (and more requirements of their own) to the smaller subcontractors, who do not have the "overhead" to handle this extra burden. Additionally, the increasing complexity of modern weapon systems has introduced high-technology, capital-intensive specialization in the manufacture of parts, and this trend has caused many suppliers to drop out.

As the number of suppliers in many critical areas shrinks to one or two producers, the government and its prime contractors experience rapid increases in the prices of parts, far above the levels of inflation—in some cases 300% to 500% in one year. DOD and the defense industry are paying essentially "monopoly prices" to get the small quantities of

specialty parts which they require. Sole-source suppliers are, of course, the ones responsible in the occasional news story of "a 20¢ bolt being sold to DOD for \$4."

What can be done about this problem? We are not sure yet—this is one of many areas where business leaders can help. Some possible answers advanced thus far are:

- Less use of military specifications.
- Greater use of commercial parts and practices.
- Multiyear procurements
- Required use of multiple suppliers

Ups & downs in the labor market

Due to the cyclical nature of Defense business, the labor market in weapons production has traditionally been "unstable" (see *Exhibit II*). The unattractiveness of this labor market, compared with the growing civil labor market, has forced defense contractors to pay a premium for its workers—in some cases up to 20%, as stated by responsible industry officials.

In addition, defense production has always been more labor-intensive than are similar civil industries, partly because of the extremely high ratio of research and development to production, which recently was over 50%. Thus with labor costs increasing and limited industry incentives to improve productivity, the government should do more to encourage the defense industry to make productivity-enhancing capital investments.

DOD has taken some steps in the right direction, making the interest on capital for facility investment an allowable contract cost, and developing a new investment-oriented profit policy. However, the fluctuating defense market (representing high risk) and the existing heavy debt structure of defense contractors (built up in the late 1960s) are discouraging to industrial decision makers when they consider long-term capital investments. Obviously, this important problem area, too, needs more attention.

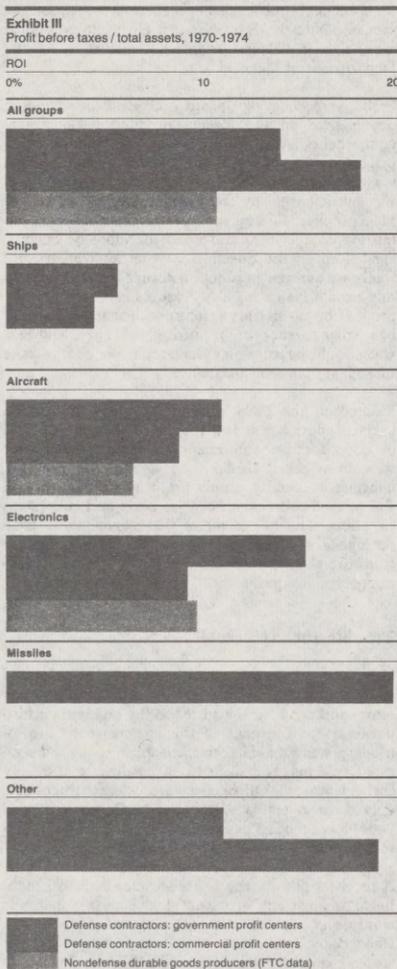
Why profits aren't motivating

In reviewing DOD profit policies, it is important to emphasize that the government tries to use profit as a means of motivating contractors to perform efficiently. Yet a recent profit study, performed by the independent firm of Coopers & Lybrand and looking at separate profit centers rather than overall corporations for the 1970-1974 period, shows that, in terms of profits realized on sales, which is the method DOD utilizes for negotiations, government business is significantly less profitable than comparable commercial business. The study finds a five-year, pretax average of 17.1% for comparable commercial business versus 4.7% realized for defense. (The negotiated profit rate was much higher—8.8% on the average.)

Although profits were negotiated on a uniform basis, they varied considerably by the time they were made. Contractors engaged in the development and production of electronics and missile products were generally the most profitable (5% to 6% profit rate realized) whereas ship producers were the least profitable (under 3% realized). In addition, it was found that, on the average, sales of military hardware to foreign governments were two and one-half times more profitable than sales of the same equipment to DOD.

While profits on sales provide some basis for making generalizations about the health of a business endeavor (particularly on a relative or historical basis), the more critical measure is certainly return on capital investment. The Coopers & Lybrand profit studies show that whereas contractors consistently realize less profit on sales for defense work than on commercial work, the picture is less clear for return on investment. Part of the uncertainty is attributable to the very low levels of investment by defense contractors. The ratio of capital expenditures to sales within defense-oriented profit centers is on the order of 11%; however, it is over 40% for comparable commercial operations.

Again, there are wide differences between sectors in the defense industry. For example, in the missile sector the investment to sales ratio is 8.7%, but it is 22.2% in the shipbuilding industry. The result is that, with return on investment as the measure of profitability, there is a very large spread among defense sectors, the extremes being missiles, showing



Note: Progress and advance payments are not included in the profit figures. "Other" includes chemicals, aircraft engines and parts, tanks and tank components, and general purpose computers.

Source: Department of Defense, "Profit '76" data, obtained by Coopers & Lybrand from 61 companies.

a pretax return of 20%, and ships, showing a pretax return of less than 6% [see Exhibit III].

The low overall profit level and high investment demands for the shipbuilding industry highlight a broader concern. The number of major private shipyards doing defense business has decreased from 14 in 1960 to basically 3 yards doing the lion's share of the work (approximately 90%) today. Here, unlike the aircraft case, DOD is faced with insufficient overall productive capacity, as well as increasing competition for the existing capacity from government-subsidized domestic shipbuilders. With the projected increase in Navy shipbuilding procurement over the next few years, DOD is finding competition in bidding hard to come by.

In fact, DOD is having difficulty in getting the shipyards to perform on current contracts; some shipyards were even refusing to bid on new Navy business. It appears to me to be a case in which the government procurement activities have emphasized short-term cost benefits on individual programs, without giving sufficient consideration to the possible long-term implications.

Less profit for small companies

Comparing the smaller defense contractors with the larger defense companies, the Coopers & Lybrand study finds the former not only have a significantly lower profit on sales, but also have a much lower profit on investment. In fact, the data for the smaller defense firms reveal a pretax return on capital invested of only around 6% to 8%. In addition, it appears that small defense firms are subject to more risk in profit making—more instability, more chance of loss—than are the large defense contractors. These data help to explain why we are seeing so many of the smaller defense suppliers going bankrupt. In one six-month period on a Navy electronics program, nine subcontractors went bankrupt. Some of these companies were sole-source contractors.

Thus it appears as though the intended "uniform profit policy" of the DOD actually results in the large contractors frequently making very favorable returns on investment, while the smaller defense contractors are frequently not making an adequate return on their investment. Results—the large con-

2. *An Analysis of Export Control of U.S. Technology—A DOD Perspective*, a report of the Defense Science Board Task Group on the export of U.S. technology (Washington, D.C.: Office of the Director of Defense Research & Engineering, February 1976.)

tractors are plentiful, in some sectors at least, while small producers are in short supply.

This situation is another reason for reassessing "the way DOD does its business." What changes might be made? One step might be to provide government contracting officers more flexibility in negotiating profits by prescribing different ranges of profit depending on (a) the company size and/or defense sector concerned, and (b) the need for more investment in the industrial defense base. The recently implemented new DOD project policy is a definite move in the latter direction.

Another step might be for DOD to assure that subcontractors do not receive more harsh treatment than government prime contractors do. There may be inequality today. Frequently a subcontract for a development of an advanced device is awarded on a fixed-price basis, while the government contract with the prime contractor is awarded on a cost-reimbursement basis.

Dependence on foreign suppliers

Total world arms exports have more than doubled since 1965. During this period, there has been a significant change in the types of weapons involved in the international arms trade—from exports of follow-on, "prior-generation" equipment, to current-generation equipment that is advanced in technology and may even "push the state-of-the-art."

As *Exhibit IV* shows, for the United States prior to fiscal 1971, annual foreign military sales orders remained fairly constant at about \$1.5 billion. After fiscal 1973, however, annual sales increased to more than \$10 billion (with the Middle East getting a major share of these new sales).

On the surface, this trend appears economically desirable, since the sales help our national balance of payments, help maintain our defense production base, and help improve defense industry profits. However, what if these sales were to drop suddenly as a result of some legislative action or changes in buyers' policies? The impact could be serious. For instance, consider the fact that U.S. defense procurement expenditures for fiscal 1976 were only about \$17 billion. Last year, the U.S. Army's procurements

for foreign military sales exceeded its own procurements. Similarly, last year the United States built more fighter aircraft for foreign sales than for the Department of Defense.

Perhaps the most significant problem is our growing dependence on the foreign production of critical components. We need not feel concerned about the price competition of foreign sources. In fact, this is considered desirable—it lowers U.S. military hardware unit costs. In areas where there is only one U.S. supplier, foreign sources are essential to maintaining competition and must therefore be encouraged. Rather, the question is whether we can rely solely on foreign production sources if the country must mobilize or for any reason must step defense production up sharply. The unwillingness of certain countries to support us during the 1973 Mid-East war should be ample evidence that we cannot take foreign support for granted.

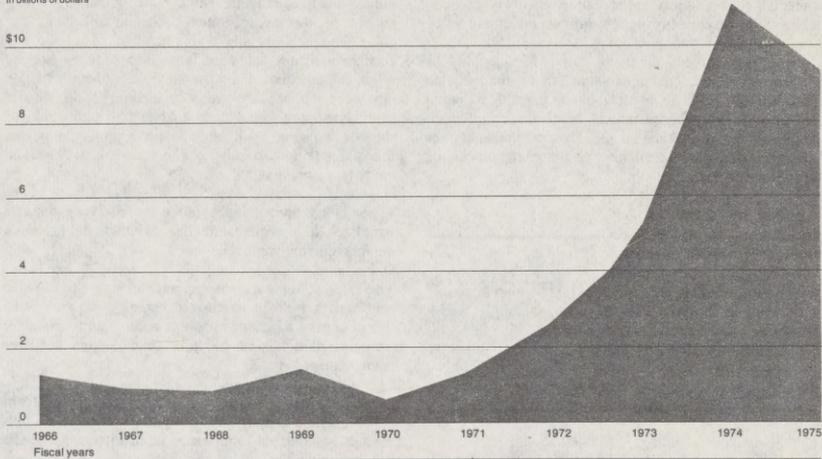
Related to the issue of increasing use of foreign parts producers are the moves toward greater use of coproduction and offset agreements for major weapon systems. Under such agreements, the U.S. contractors usually supply the prime hardware, and the foreign sources perform as parts and subsystem suppliers. The net effect of these agreements is to remove a significant share of the defense market from the already troubled U.S. subcontract and supplier-level companies.

Trouble ahead?

U.S. thinking on these problems tends to be geared to the world of the 1960s—selling of old weapon systems—and is not well attuned to the changing multinational environment of the late 1970s—selling of *modern* weapons, factories, machine tools, management systems, and so forth. According to the General Accounting Office, the various departments involved in overseas sales (DOD, Commerce, and State) have tended to evolve an ad hoc response and to deal with the issues on a case-by-case basis.

A recent study by the Defense Science Board highlights an apparent "structural lag" between changing conditions and the development of U.S. policy. Headed by Fred Bucy of Texas Instruments, the study group concludes that the highest long-term "risk" in foreign military sales comes from the transfer of manufacturing technology.² Yet this form of technology transfer appears to be increasing with each new foreign military sale!

Exhibit IV
Foreign military sales orders
In billions of dollars



Source: Comptroller, Defense Security Assistance Agency

Can industry respond fast enough?

As it should, DOD has devoted much attention to maintaining research and development, and, as earlier parts of this discussion suggest, to attempting to assure the production of military equipment in an economically efficient manner. However, DOD has been devoting relatively little effort to the significant matter of measures to assure that the country can increase defense production fast and effectively in the event of a national emergency. In DOD circles this capability is often called "production surge."

A Defense Science Board task force headed by Richard De Lauer of TRW, Inc. recently concluded that current industrial preparedness actions have produced only marginal results. As a result of the task force recommendations, DOD is considering whether to require defense program managers to bring industrial preparedness issues into the acquisition process on their individual programs. Let me explain briefly. Currently, industrial preparedness

planning is done "off line," by an entirely different group. It is classified as an "overhead" function. As a result, the program manager of a given weapon system is not responsible for being prepared to increase his output significantly if a crisis might demand it.

In order to achieve such a rapid response, long-lead parts may have to be procured a year in advance and stockpiled. Or, the purchase of a few extra pieces of critical manufacturing equipment may be required in order to eliminate bottlenecks that could prevent timely acceleration of production.

To improve the capability for defense "production surge," the greater use of commercial subsystems and parts is being studied. Also under study is the need to encourage contractors to integrate their defense-oriented and civil-oriented production lines in more effective ways. Both of these actions would allow a quick shift from the civil sector to the military if the need arises. Both actions would also lower peacetime costs significantly. However, to carry them out DOD would have to change its

policies and practices considerably. Present auditing and accounting requirements make it difficult to take such actions as buying according to a commercial specification rather than military specifications, or buying from the commercial divisions of a company.

In general, the main need seems to be for policies that will help at the subcontractor level, for that is where we find the potential bottlenecks and obstacles to a production surge. This problem, too, is one that definitely requires the help and advice of business leaders.

Changing needs & approaches

In thinking ahead about the defense industrial base, it seems to me that corporation and DOD leaders should begin with the following generalizations (most of them discussed in the preceding pages):

□ Defense business has shrunk significantly since Vietnam. Both procurement dollars and quantities are low. And the defense industry is now heavily dependent for profits on foreign military sales.

□ At the large, prime contractor level, there has been little movement out of defense business except in shipbuilding. The same companies keep doing most of the work, with each receiving a reduced share of defense procurement dollars. This situation results in considerable excess capacity, which in turn causes economic inefficiency.

□ There has been insufficient modernization of the plants and equipment being utilized. This failure increases unit production costs.

□ By contrast, the subcontractor and parts-supplier base seems to be shrinking to the point where DOD is being forced, in some cases, to pay extremely high prices for critical parts to sole-source suppliers. Part of this trend is due to technical specialization, part to the low profits and high business risk of producing defense parts.

□ Defense business, especially for the big aerospace contractors, is profitable; but because of the excess capacity and low volume of business, the profit is

not being used to generate capital for plant and equipment modernization.

□ For a variety of reasons, the U.S. shipbuilding industry has serious capacity and financial problems.

□ Foreign military sales are large and provide needed work for companies in the defense industrial base. However, these sales may ultimately add to the underlying problems of inefficient production, for they are coupled with an increasing tendency to sell manufacturing capabilities and training packages to countries overseas.

□ There is a growing dependence on foreign parts and suppliers to complement the existing dependence on foreign raw materials.

□ The need to have excess capacity in order to expand production rapidly in time of crisis competes with the objective of more efficient production of peacetime quantities. The balance in this area requires more study.

□ Defense business practices differ too much from commercial business practices and discourage commercially oriented companies from entering the defense market.

More free market operations

Are the problems mentioned the inevitable result of the normal interwar, cyclical decline in defense procurement, which somehow will be "weathered through"? Or are they evidence of a much more serious problem which is building up and will become critical over the next decade?

It is my view that at least some of the problems fit into the latter category. In addition, I find growing evidence that free market forces do not operate (and perhaps never have operated) at most levels and in most sectors of the defense industrial base. In fact, we may have the worst of both worlds—neither an efficient market economy nor a well-planned "controlled" economy.

If this is the case, our first corrective step should be to break down the barriers to entry and exit and thus create a market economy, *wherever possible*.

The best opportunity for this step is at the supplier levels, where there are multiple buyers and the possibility of, and need for, multiple suppliers. A

planned economy at these levels is not only inconsistent with the American system but less efficient. To create a market economy at the lower tiers would mean that DOD and its prime contractors would have to make significant changes—for instance, far less use of “military specifications,” greater use of commercial equipment and suppliers, encouragement of multiple sources, and discouragement of vertical integration by the prime contractors. The only government planning required at the supplier level would be to ensure that an adequate number of suppliers be maintained in each critical product area to provide competition and a “production surge” capability.

However, the possibility of free market operation at the prime contractor level is not as clear. In some cases (shipbuilding), the government must seek to create more sources. In other areas, such as aircraft production, the government must seek to reduce the number of sources, or at least get involved enough to allow the market to work and let some of the large companies leave the business. With the government being the sole buyer in many cases, and with a very few large contracts to be awarded, some form of industrial base planning will probably be required.

In fact, at the prime contractor level a large amount of planning is already being unofficially performed by DOD. The need for some of this planning is obvious. For instance, DOD must consider the timing of major programs; it must encourage consolidations in industries where there is excess capacity; it must schedule the use of resources, including both government-owned and privately owned industrial plants and equipment; it must encourage certain capital investments and low-cost equipment designs.

Such actions clearly involve changing the way DOD does its business. They mean moving in the direction of more commercial-like business relationships with far more of an atmosphere of mutual respect and trust based on results than exists in the current situation, where there is sometimes an adversary relationship evidenced between business and DOD.

What business leaders can do

The kinds of changes mentioned are not simply drawing-board ideas. DOD has already begun putting some of them into practice. For instance, in 1976 DOD announced a new profit policy to reward corporate investment in modernization. Also, re-

cently cost-of-capital was made an “allowable” cost. But clearly this is just the beginning. Many more actions are required, and many more new ideas need to be heard.

The source of the new ideas must be defense and civil industrial leaders. They must propose new procurement changes; if they don't, the wrong actions may be taken. What is more, neither reiterations of the problem nor general suggestions will suffice. The proposals have to be specific if they are going to have much effect. I recognize that this is no easy task. It takes creativity and guts to suggest that the old and comfortable way must be changed.

In addition, industry can begin to take certain actions on its own. For instance, it can suggest ways to improve efficiency and/or preparedness rather than just say, “If you want it that way, and you'll pay for it, we'll do it.” Industry can begin to combine its defense and civil production operations, in order to lower costs, smooth out the defense cycles, and increase its “production surge” capability. In sectors where there is overcapacity, companies can stop the practice of increasing capacity every time they get a big contract, only to come later to the government for more support saying, “But we just built this plant for you—now what are you going to put into it?” Also, industry can do more to create multiple sources at the supplier level.

Naturally, Congress is involved in all this. Its willingness to make legislative and budgetary revisions to allow the necessary changes in policy is crucial to the prospects for improvement.

In broad terms, the need is to “institutionalize” the concept that the defense industrial base is a national resource. As long as nations may be forced to go to war, this resource must be protected and managed with great care, just as we try to do with other great national resources, such as timber, oil, education, and science. If our defense industrial base is respected here and abroad, if it is efficient, and if it is able to respond quickly and effectively to changing needs, we will have a more credible defense deterrent. Also, if necessary, we would have a better chance of preventing a military conflict from “going nuclear” after the initial stocks of conventional military equipment are used up.

**STATEMENT OF JACQUES GANSLER, VICE PRESIDENT,
ANALYTIC SCIENCES CORP.**

Mr. GANSLER. Thank you very much, Mr. Chairman. I appreciate this opportunity to appear at these hearings in connection with the defense industry.

As you have just stated, I recently left the Federal Government. However, my interest in this vital sector of the U.S. economy, and of America's overall defense posture, has in no way diminished. I would, in fact, describe myself as a strong supporter of both sides of the so-called military-industrial complex. On the Department of Defense side, I believe it to be an extremely well managed organization—perhaps the best managed in the Federal Government—based on criteria of economic efficiency, relative ability to control costs on large Government programs, modern management techniques, et cetera; on the Defense industry side, as the worldwide leaders in the development of advanced technology; the leaders in the management of complex, multidisciplinary programs; and the world's leaders in the production of complex equipment.

Finally, and perhaps most important, on both the military and industrial side, I am continuously impressed by the dedication to the national interest. Clearly the data shows that the U.S. defense industry has served us well in the 200-year history of our country, and that it is still a vital and dynamic industry today.

However, I personally believe that there are significant improvements which can and should be made to bring this defense industrial base more into line with the demands and conditions of the post-Vietnam era. This recent environment includes the relatively long period of low procurement levels, the recent high levels of foreign military sales, the continued growth in unit cost of equipment, with the resulting small quantities being procured, and the extremely high technology being utilized in the advanced weapon systems, which limits the number of companies—particularly the small ones—that can participate in this market.

The overall effect has been to present some trends which give cause for future concern. It is toward addressing these potentially serious future problems that I believe studies—and future corrective actions—are appropriate. Many of these trends are reported on in my article in the May/June issue of the Harvard Business Review, which I understand you will include in the record as part of my official testimony.

What this article, and other studies that have been done over the past year, essentially conclude is that, for a variety of reasons—primarily having to do with the structure of the industry and the process by which defense acquisitions are made—including the role of Congress—there are many areas in which the normal free market is restrained from operating or, at best, operates extremely slowly. Thus, I believe there is a significant role for the Government to play in both improving the economic efficiency and the surge capacity of the defense industrial base.

First, however, a few definitions would be appropriate. To begin with, when I refer to the "defense industrial base" I am speaking of both that portion which is in the public sector as well as that in the pri-

vate sector. I might note, parenthetically, that for a variety of historical reasons the current distinction between the private and public sectors of this industry is quite vague, and the criteria—including relevant legislation—are both ambiguous and in many cases arbitrary. I personally believe that this is an area for fruitful future studies.

Next, let me consider the frequently asked questions: "Is this defense industrial base eroding?" The problem I have with this question is that the terms of reference, or the criteria for measurement, are rarely stated. The following five "objective functions" have, at one time or another, and in various forms, been given for the U.S. defense industry.

1. To achieve maximum production efficiency for the long and short term, within the given resources—dollars, plants, equipments, et cetera. This might be viewed as "economic efficiency" of the production process; that is, to avoid "waste" in the production of military products. Examples of concerns include: Optimum production rates; full plant utilization; modern manufacturing methods, et cetera.

2. To provide the maximum deterrent/defense equipment capability for the dollars allocated. This is a requirement placed on the weapon system's performance; that is, on the "types of outputs," and the numbers of each different product produced. This contrasts necessary equipment military performance with economic desires for low cost.

3. To provide for sufficient "surge" capability—that is, ability to rapidly increase production rates—for "likely" emergency scenarios—ranging from "proxy wars" (such as the 1973 Mideast war) to various levels of wartime mobilization. Naturally, this is an economic, as well as strategic, consideration; since dollars for providing surge capability are contained within the total peacetime dollars allocated for U.S. defense.

4. To achieve maximum technological advancement, for military advantage in the future; again, within the resources available. The danger of not maintaining research and development leadership, in the military area, is particularly critical—but this is always an investment for future needs, and must be balanced against current requirements.

5. To have minimum adverse societal and political impacts. This ranges from items such as minimizing the use of "defense priorities" over civil demands, to accepting the role of Congress in the procurement process, and to carefully weighing the political impact of changes in the existing industrial-Government structural relationship.

Personally, I believe that a number of the current problems of the defense industry result from trying to satisfy these five goals either simultaneously or, even worse, totally independently. It is basically an attempt to achieve a "best of everything" world. The net result has frequently been to argue, for example, for the preservation of surge capacity at "any cost," rather than to treat the interrelationship, and frequently conflict, between these various objectives.

In my opinion, the problem is better understood by defining a single "objective function"; namely, that of peacetime economic efficiency of production of defense equipment (goal No. 1 above), and treating the other four goals as "constraints." Thus, the provision of additional surge capability, or the requirement for pursuing different technologi-

cal approaches through the maintenance of a large research and development establishment, et cetera, all are constraints which must be included in optimizing the single "objective function" of developing and producing, for minimum peacetime cost, the current and future equipment necessary to maintain, at any point in time, the strategic viability of the U.S. defense posture.

Next, it is critically important to recognize that the defense industrial base is not a single industry, but rather a multiplicity of separate industries, for example, tracked vehicles, munitions, aircraft, ships, et cetera, and each of these has, for historical reasons, very different characteristics; even in such basic areas as structure, labor market, public/private sector mixes, profits, et cetera.

Thus, each of these industries will have different strengths as well as different problems; and, therefore, very different corrective actions.

Similarly, it is extremely important to recognize that the defense industrial base is basically a "dual-economy," that is, first at the level of the large prime contractors, and, second, at the level of the smaller subcontractors and parts suppliers. Again the characteristics of these two levels are totally different; and their problems and, therefore, corrective actions, are correspondingly very different.

Consider first the large, "prime" contractor level. Here the data indicate that there is considerable excess capacity existing today in many of the industrial sectors (perhaps excluding only nuclear shipbuilding); that many of the companies are in an unhealthy financial position (and here, even the shipbuilders are included); they have aging plants and equipment; and the Government has created formidable "barriers to exit" for these corporations.

Also, at this level, there is ample "surge capacity." However, current planning for wartime contingencies indicates that (for the likely "scenarios" of the current era) the duration of the conflicts may be too short for the industrial base to respond with significant quantities of major weapon systems, for example, planes, ships, et cetera.

Thus, we may be paying for excess capacity with a high likelihood that it will never be required. Also, at this "prime" contractor level, there are only a very few companies doing a major share of the business; and these are utilizing large amounts of Government-supplied money, plants, and equipment.

Finally, this is the sector to which most of the Government procurement regulations, acquisition practices, and Government "oversight" has been applied.

Thus, this sector would appear to be one in which there already is almost total Government involvement. In fact, the same department is the "regulator," the specifier of new products, the "banker," the judge of claims, and almost the sole buyer.

Yet, one frequently hears claims that this government intervention is grossly inefficient, and frequently self-defeating. Perhaps this results from the Government's de facto assumption that an optimum economic structure has been arrived at through the operation of the "marketplace"; when the data indicate that a true market economy does not, and probably cannot exist at this level.

In the environment of a monopsony buyer and a smaller number of oligopoly suppliers, I believe that the "theory of the second-best" applies, rather than traditional economic theory.

For this case, the theory of the second-best states that when many of the conditions for a free market do not exist, and cannot be made to exist, then creating some additional appearances of free market conditions may actually reduce economic efficiency.

Let me cite two examples from recent studies. The first was of the U.S. aircraft industry. Here the data would indicate that there is apparently considerable extra capacity in both manpower and plant and equipment, and that it is costing the DOD a large amount of money annually to maintain this additional capacity. A "second-best solution" would indicate that reducing the number of firms in this sector of the economy would still allow for ample competition, ample research and development, and ample surge capacity, while actually allowing more airplanes to be built for the amount of money that Congress allocates—simply by doing it more efficiently in a few, modernized, profitable plants.

Next, consider the shipbuilding industry, where another study showed that the very high turnover of labor in the private-sector shipyards—over 70 percent per year—results in very large annual inefficiencies in terms of the numbers of ships that can be built for the amount of money that Congress authorizes. Here the "second-best" solution would appear to be more "competitive allocation" of work into the shipyards; with the objective of keeping a more constant workload at each of the individual yards.

Notice that the problem, and therefore the corrective actions, for these two examples are quite different; and therefore would be difficult to implement with "uniform procurement policies." However, they could be achieved through conscious Government action that recognized the uniqueness of the industries and of the Government's role therein, and applied "tailored" solutions to each sector.

Returning to my discussion of the "dual economy," at the second level, namely, the subcontractors and parts suppliers, the data indicate that, in many cases, exactly the opposite characteristics and problems appear to exist. Here, the smaller contractors—those that remain after the large amount of vertical integration which has been achieved by the "giants"—are required to use their own plants, equipment and money. Also, because of the nature of the Government's and prime contractors' "way of doing business," these smaller contractors are realizing a relatively low return on investment—compared to the prime contractors, or to the small contractors in the civil sector, or frequently, even relative to the "bankruptcy" level.

Also, with the rapid drop in Defense procurements, the "primes" and the Government have been bringing more of their business "in-house," so the defense market dollars available to the "nongiants" have been shrinking even faster than at the Government-to-prime contractor level.

As a result, large numbers of Defense suppliers at this lower-tier level have been either purposely leaving Defense business for the growing and financially more attractive civil and foreign markets, or have been going bankrupt.

Finally, defense weapons systems are becoming extremely complex. This complexity has caused the evolution of high-technology, capital-

intensive specialization at the lower-tier levels. The combination of these trends has resulted in a shrinking number of critical suppliers.

Thus, in many important areas, the effect has been that those few remaining suppliers are in a monopolistic position, and thereby able to rapidly raise their prices, and to dictate delivery times. These price increases should, by traditional economic theory, result in large numbers of companies "rushing" to enter this market. Price increases of 300 to 500 percent, in 1 year, have been observed. However, no such "rush" has been found. It is hypothesized that this is attributable to the "barriers to entry" that the Department of Defense has created through its procurement practices—that is, military specification; "preferred parts" lists; small-quantity, annual procurements; and low profit.

I believe that this shrinkage of suppliers at the parts level not only affects the production efficiency of Defense procurements, but also creates significant industrial "bottlenecks" for "surge capability" in times of national crisis. A simple example of the latter case was the 1974 request by Congress for the Department of Defense to increase its tank production—as a result of the 1973 Mid-East war—and the inability of the defense industrial base to respond—not because of a shortage of tank-building capacity at the prime contractor level, but because of the inability to get steel castings from a supplier who preferred to do commercial business—and he was the only source supplying this size casting.

Personally, I believe that, at this subcontractor/parts supplier level, the proper "corrective action" would appear to be for the Government to remove the "barriers to entry;" thus, both allowing, and even encouraging, free market competition to take place.

Examples of such actions would be to allow the use of commercial parts and specifications; to require dual-sourcing of critical components; to encourage integration of a firm's defense and commercial product lines; to minimize steps toward vertical integration; and to force more "buy" decisions—rather than prime contractor "make" decisions.

Currently, at this level, the Government "tries not to get involved;" when, in reality, it is again the controlling factor.

Thus, Government action at this level should be directed toward creating a viable free-market economy.

In summary, I believe that at both levels of the defense industrial base, the prime contractors and the suppliers, there is evidence of diminishing economic efficiency and reduced surge capability. I believe that already these areas have reached a point where corrective action is warranted. However, I am even more concerned about the implication for the future if these trends are allowed to continue.

Fortunately, I think that the first, and perhaps most important step has been taken, namely, that the Department of Defense appears to recognize the need to institutionally address the question of economic efficiency and surge capability of its industrial base. This it began to do with studies over the past year, as well as with initial instructions and actions aimed at taking corrective steps.

I also believe that the recent reorganization of the Office of the Secretary of Defense will help to focus attention in this area.

Finally, I believe that hearings by this committee will serve that important function. Thus, I am optimistic that the currently indicated trends can, in fact, be reversed. The corrective actions appear both achievable and practical for implementation. They do not require radical change; but simply modifications within the current economic and political structure. Their implementation should result in "making the system work"—without the need for huge additional budget outlays, and the attendant costs to the American taxpayer.

In my opinion, as I stated at the beginning of my statement, the U.S. defense industrial base, and its Department of Defense counterparts, are both well-managed and strong today; and modifications, which will allow it to remain up with the demand and conditions of the current era, will result in its continued military viability and business strength.

Thank you.

Senator PROXMIRE. Thank you very much, Dr. Gansler.

Before we go to Dr. Kurth, I am going to have to leave and come back. We have a rollcall. I will be back, I hope, in about 7 or 8 minutes.

[Whereupon, a short recess was taken.]

Senator PROXMIRE. Dr. Kurth.

STATEMENT OF JAMES KURTH, ASSOCIATE PROFESSOR OF POLITICAL SCIENCE, SWARTHMORE COLLEGE

Mr. KURTH. Thank you, Mr. Chairman.

I am grateful to you and the committee for the invitation which you have extended me and for the opportunity to appear before you to discuss some issues raised by American defense production. It has always been important for the United States to obtain the best defense, including the best mix of weapons systems, for the money available. It is especially important today because of the impact of three recent developments:

1. The increase in the quantity and sophistication of the weapons systems deployed by the Soviet Union;
2. The increase in the fiscal constraints facing the U.S. Government in a time of severe inflation and;
3. The introduction of precision-guided munitions (PGM's), which some defense analysts believe will make many aircraft obsolete in the future, much as the airplane made the battleship obsolete in World War II and as the machinegun made the cavalry obsolete in World War I.

The recent history of U.S. defense procurement and the present structure of the American defense industry give reasons to think that the weapons systems we buy may not always be the best ones for the challenges that we face, that they may not always be the most cost effective or provide the best bang for the buck.

In the past decade and a half, the United States has bought a number of expensive military systems which were extensively criticized at the time of their procurement as not being cost-effective and which have continued to be criticized as poor investments. The most familiar examples have been the F-111 fighter-bomber, the C-5A military transport, and two systems which were eventually cancelled but not

before several billion dollars have been spent upon their development and production, the ABM system and the B-1 bomber.

In addition, the United States has procured progressively more accurate ICBM systems (MIRV's), which some defense analysts think have had the effect of destabilizing the strategic arms race, because of their first strike capabilities, leaving us with less rather than more security.

Why did the U.S. Government buy these weapons systems? In each case, of course, there were official explanations given that the systems were of military value. But the real question is: "Did they provide the most military value for the money expended?" and there are good reasons to think that they did not.

It is possible to construct an alternative explanation for these and other cases of U.S. defense procurement, one that focuses on the structure of the American aerospace industry and on the needs of particular aerospace producers at particular times. Relatedly, Jacques Gansler's concern about overcapacity in the prime contractors in aerospace production becomes quite important because overcapacity suggests that we might be buying more of the wrong weapons in the future.

In the course of my prepared statement, I go into some historical detail about why I think certain weapons were bought, why they were bought when they were, and why they took the form they did. I will not repeat this in my oral statement, but I have presented considerable detail about what I call the follow-on imperative. I argue that when a major production line—I identify nine of these—is opening up as certain contracts are phasing out, then the Defense Department has allocated a new contract that is technically superior but is structurally similar to the old contract. In other words, there has been an imperative to give the old contractors a follow-on contract.

This practice of course, has diminished the impact of competitive bidding on a particular kind of weapon system, but more importantly, it is not always obvious that there should be any new system at all in an old production sector. This is especially so because of the recent evolution of four functional categories or production sectors that I identified in my prepared statement, that is to say, bombers, fighter bombers, missiles, and antimissile missiles. For example, bombers and anti-missile missiles now seem to be obsolete. Many fighter bombers and fighters may become obsolete in the future. ICBM's, MIRV's and especially the MX that is being considered today, are becoming more destabilizing. So a good argument can be made that in certain production categories we should not even have any new weapons systems. And if we should continue to produce new weapons systems in a particular category, like fighters, an important question is who should get the contract? In my prepared statement I argue that competitive bidding has not been the prime explanation for why certain weapons systems contracts have been awarded to the corporations that received them.

The analysis presented in my prepared statement does have some implications for the future. I will discuss some of these implications now.

The table that I have in the statement indicates that recently pressure on U.S. procurement policy has become especially intense. In 1977 the United States is confronted with the pending phaseout of four major aerospace projects and thus with the opening-up of four major production lines: (1) the B-1, which is produced by Rockwell International; (2) Minuteman III, which is produced by Boeing; (3) the C-5A and C-141 modification programs; which are produced by Lockheed-Georgia, and (4) the A-7, which is produced by Vought.

Rockwell will receive partial compensation through its space shuttle program, which will handle the particular problem of how to preserve this particular contractor. Boeing, more significantly, will probably receive compensation through the MX or the cruise missile program.

I myself happen to be in favor of the cruise missile program. But according to the argument that I present in my prepared statement, policymakers will not really have a full array of options. They will not really be free to decide if they want a cruise missile program or not or if they want a Boeing, air-launched cruise missile program as opposed to a sea-launched cruise missile program.

According to this argument there will be enormous pressure to give Boeing either the MX or the cruise missile program, given the phasing out of the Minuteman III, and the important question is, is this a good thing?

Lockheed-Georgia and Vought face a far more uncertain future and raise very serious problems. I think it is significant that some people are considering that, in order to preserve Lockheed-Georgia, there should be adaptation of the C-5A to become a missile launching program.

I myself would discourage this. I hardly think this is a cost-effective way to deliver missiles on the Soviet Union. However, given the difficulties of Lockheed-Georgia, we can predict that there will be pressures for this sort of weapons program.

Vought also faces a serious problem. In this case, there will be pressure to permit Vought to export the A-7 to foreign countries, some of which exports might create enormous diplomatic difficulties.

The most recent case in that regard has been the possibility of exporting A-7's to Pakistan. This clearly would have caused great difficulties in our relationships with the new Government of India.

In the public debate over weapons policy and changing priorities, four major alternative paths for major production lines have been proposed. I discuss these four in my statement. Two of them I do not think are promising; two I think have a considerable amount of promise.

One proposal has been to convert production lines from aerospace to nonaerospace production. Mass transportation and disposal systems are the alternatives most often suggested. However, the normal experience of aerospace corporations with such conversions has been quite limited in scope or in success, and their executives generally take a pessimistic view of the possibilities. Significant progress down this path in the next decade is unlikely.

A second proposal has been to convert production lines from military aerospace to nonmilitary aerospace production. Here, commercial airliners are the alternative. Again, the actual experience with such con-

versions is not encouraging and even suggests that the cure is worse than the disease.

Thus, General Dynamics in the early 1960's entered the commercial airliner market with the Convair 880, only to lose so much money that the F-111 contract was needed to save the corporation from bankruptcy.

Similarly, Lockheed in the early 1970's entered the market with the L-1011, only to drive Rolls Royce into bankruptcy and consequently Lockheed itself into a position in which only Government guarantees of bank loans saved it from bankruptcy.

Furthermore, even the extraordinary Government effort to save the dubious L-1011 has not solved the problem of Lockheed-Georgia, to say nothing of any eventual problem of Lockheed-Missiles and Space, which is located in northern California. For the L-1011 is produced at a third, mainly commercial, Lockheed division, Lockheed-California, which is located in southern California.

As for Boeing, at first glance conversion might seem more plausible, since the company is already an established producer of superior commercial aircraft. But Boeing's major candidate for a new commercial airliner would be the SST, which was cancelled by Congress in 1971. And, as the recent controversy over American landing rights for the Anglo-French Concorde indicates, an American SST would face intense opposition from groups within the American public. But I would predict that, if for one reason or another the administration or Congress were to cancel the MX or the cruise missile, we would then see enormous pressure to produce an American SST. The only other major possibility available to Boeing is the C-141, a short takeoff and landing aircraft. If Boeing were to get that contract, Douglas (of McDonnell-Douglas), which is trying to produce a similar aircraft, the C-15—would be in considerable difficulty.

Finally, let me focus on what I think are the two most promising possibilities for reshaping our defense production base. One would be to collapse defense production lines from 10—counting Northrop—into a smaller number—this seems to be Jacques Gansler's position.

A persuasive case can be made that the United States needs new aerospace systems in only four production sectors, fighter-bombers and fighters; missile systems, particularly submarine-launched ones; STOL transports; and space systems; in addition, it needs a capacity to replace or improve units of already existing military transports and commercial airliners. If so, the United States needs only seven or eight major aerospace production lines.

The most attractive candidates for preservation would be Boeing—strong in missile systems and commercial airliners—Lockheed-Missiles and Space—submarine-launched missile system—McDonnell division—fighter-bombers and fighters—Douglas division—commercial airliners—Rockwell International—space systems—and Northrop—strong in fighters for export.

Two other strong possibilities are Grumman and General Dynamics—fighter-bombers and fighters. Grumman, despite its recent troubles with the F-14, has a distinguished reputation for producing superior naval aircraft and space vehicles. And General Dynamics, despite its earlier troubles with the F-111, seems to have produced a fine aircraft in its F-16.

Two other production lines, Lockheed-Georgia and Vought, have in recent years shrunk considerably in terms of contracts, production volume, and employment. It might be best not to award any new major contracts to these two production lines but rather, with the aid of sub-contracts and repair contracts, to let them decrease in size through attrition, in an orderly way, and with a minimum of disruption to the corporations and their employees. This means that there should be no contract for the so-called stretching of the C-141, which is being considered by the Air Force at this time. Certainly, there should be no contract for adoption of the C-5A for use as a platform for launching cruise missiles.

A second promising possibility for restructuring the defense industry would be to constrict production lines from \$1 billion or more each in annual weapons sales to a smaller amount. Relatedly, a major weapons system would be shared between production lines, much as, in the case of the F-111, General Dynamics produced most of the airframe, but Grumman produced the rear fuselage. This approach would make it easier for the administration or Congress to avoid massive disruptions of a region when an old major contract is phased out, to reallocate funds among production lines by more incremental and gradual means, and to "fine tune" the overall process of defense production. In addition, an American aerospace industry composed of 10 or so smaller producers sharing major contracts would preserve all the advantages of competition, including multiple sources of innovation.

Finally, these last two paths for the aerospace industry might have another advantage in a longer perspective. For in the next decade U.S. policymakers may see a need to place great emphasis on a variety of PGM's and other new modes of weapons, as opposed to a continued emphasis on aircraft. A smaller and leaner American capacity for airframe production would permit U.S. policymakers to make this transition and to achieve a better defense for America without imposing sudden distress upon particular Americans, upon those airframe companies and employees which have provided us with our national defense in the past.

[The complete written statement of Dr. Kurth follows:]

Statement by James R. Kurth, Associate Professor of Political Science, Swarthmore College, before the Joint Committee on Defense Production, September 30, 1977.

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Mr. Chairman. [I am grateful to you and the Committee for the invitation which you have extended me and for the opportunity to appear before you to discuss some issues raised by American defense production. It has always been important for the United States to obtain the best defense, including the best mix of weapons systems, for the money available. It is especially important today because of the impact of three recent developments: (1) the increase in the quantity and sophistication of the weapons systems deployed by the Soviet Union, (2) the increase in the fiscal constraints facing the U.S. government in a time of severe inflation and (3) the introduction of precision-guided munitions (PGM's), which some defense analysts believe will make many aircraft obsolete in the future, much as the airplane made the battleship obsolete in World War II and as the machine gun made the cavalry obsolete in World War I.

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effective or provide "the best bang for the buck."

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In addition, the United States has procured progressively more accurate ICBM systems (MIRV's), which some defense analysts think have had the effect of destabilizing the strategic arms race, because of their "first-strike" capabilities, leaving us with less rather than more security.

Why did the U.S. government buy these weapons systems? In each case, of course, there were official explanations given that the systems were of military value. But the real question is did they provide the most military value for the money expended, and there are good reasons to think that they did not.

It is possible to construct an alternative explanation for these and other cases of U.S. defense procurement, one that focuses on the structure of the American aerospace industry and on the needs of particular aerospace producers at particular times.⁽¹⁾ This alternative explanation becomes rather plausible if we attempt a somewhat systematic overview of two factors for the period from 1960 to 1977:

(1) aerospace systems which are military or military related (i.e., military aircraft, missiles, and space systems) and (2) aerospace

corporations which produce such systems.

II. Aerospace Systems and Aerospace Corporations

Aerospace systems. The major military aerospace systems produced for the U.S. government at some time during the period from 1960 to 1977 have been the following, grouped according to six functional categories or production sectors: (1) bombers: the B-52, B-58, B-70, and B-1 (only two prototypes of the B-70 were produced before it was cancelled, and probably only four prototypes of the B-1 will be produced, given President Carter's decision to cancel production of a larger number.); (2) fighter-bombers and fighters: the F-111, F-4, F-14, F-15, F-16, and A-7; (3) military transports: the C-130, C-141, and C-5A; (4) missile systems: Minuteman and Polaris and their MIRV successors or "follow-ons," Minuteman III, Poseidon, and Trident; (5) anti-missile systems: ABM, including the Spartan and Sprint missiles; (6) space systems: the Apollo moon program and the space shuttle program, both having some military value or spin-offs.

Major new military aerospace systems presently planned for production in the next few years are an STOL transport (probably the C-15), the cruise missile, and perhaps the MX missile, which would be a follow-on to Minuteman III.

These add up to 24 major military or military-related aerospace systems for the 1960's and 1970's. For most of the 24, the procurement of the system has involved or will involve expenditures which amount to at least \$3 billion and, in some cases, as much as \$15 billion.

Aerospace Corporations. In 1960, there were a large number of aerospace corporations which produced military aircraft, missiles, or space systems. Four stood out, however, in the sense that each received in fiscal year 1961 military and space "prime contract awards" of some \$1 billion or more: General Dynamics, North American, Boeing, and Lockheed. During the decade and a half since, each of these four corporations has continued to receive normally each year \$1 billion or more in military and space contracts, although Boeing and North American occasionally dropped below that amount. (North American changed its name in 1967 to North American Rockwell when it merged with a smaller company, Rockwell-Standard; the corporation again changed its name in 1973, to Rockwell International).

In addition, some aerospace corporations which were minor contractors in 1960 expanded their military and space sales during the 1960's until they too reached the \$1 billion level. McDonnell, which received military and space contracts of \$295 million in FY 1961, greatly expanded its military sales, primarily with the F-4 Phantom, which was used extensively in the Vietnamese war. In 1967, McDonnell merged with Douglas, another minor contractor. In FY 1961, Douglas was awarded contracts of \$341 million, much of which went to research and development programs for Skybolt, an air-to-surface missile cancelled in 1962, and for Nike Zeus, the first anti-missile missile; in FY 1966, the last year before the merger, Douglas was awarded contracts of \$539 million. Since 1967, the merged corporation of McDonnell Douglas has normally received each year contracts of \$1 billion or more. Grumman, another minor contractor in FY 1961 with contracts of \$249 million, also greatly expanded its

military and space sales, primarily with two large subcontracts awarded in the early 1960's, one for the aft fuselage of the F-111 and one for elements of the Apollo moon program. In 1968, Grumman also reached the \$1 billion level.

Thus, for the past decade or so, there have been six aerospace corporations which produce military aircraft, missiles, or space systems and which normally receive some \$1 billion or more in military and space contracts each year from the U.S. government; in FY 1976, General Dynamics, Rockwell International, Boeing, Lockheed, McDonnell Douglas, and Grumman were each awarded contracts amounting to \$1 billion or more.

A seventh, smaller contractor should also be noted, the Vought division of the conglomerate LTV, formerly Ling-Temco-Vought. Vought is one of the largest aircraft producers after the big six; it is also part of a conglomerate with annual sales - commercial as well as military - of more than \$3 billion. Although it received less than \$100 million in military and space contracts in FY 1961, Vought also expanded its military sales in the 1960's, primarily with the A-7 Corsair, which, like the F-4 Phantom, was used extensively in the Vietnamese war.

We should consider Lockheed, which is normally the largest military contractor, as having two main military divisions, Lockheed-Missiles and Space, located in California, and Lockheed-Georgia. Similarly, we can split McDonnell Douglas into its McDonnell division in Missouri and its Douglas division in California. There are thus nine major production lines. (Another large aerospace corporation and a tenth major production line, Northrop, produces fighters for sale to

foreign governments; we shall not discuss it here.)

Given these aerospace systems and aerospace corporations, it is possible to construct an economic explanation for several cases of weapons procurement. We shall refer to this economic factor as "the follow-on imperative."

III. The Follow-on Imperative and U.S. Defense Procurement

We can chart the major military aerospace systems according to the production line to which the U.S. government awarded the contract and according to the years when major development or production phased in or out or is scheduled to do so. Some interesting patterns result (see Table).

About the time a production line phases out production of one major government contract, it phases in production of a new one, usually within a year. In the case of new aircraft, which usually require a development phase of about three years, the production line normally is awarded the contract for the new system about three years before production of the old one is scheduled to phase out. In the case of new missiles, the development phase usually is about two years. Further, in most cases, the new contract is for a system which is structurally similar while technically superior to the system being phased out, i.e., the new contract is a follow-on contract. (An exception is Apollo, but ^(now Rockwell International) even here North American was NASA's largest contractor before the Apollo contract was awarded; in the case of the B-1, the follow-on was one step removed from the B-70.)

The Follow-on Imperative:
Major Production Lines and Military Aerospace Systems

	General Dynamics	Rockwell International	Boeing	Lockheed- M & S	Lockheed Georgia
1960	B-58	B-70	B-52 Minuteman	Polaris	C-130
1961		Apollo d in	Minuteman buildup	Polaris buildup	C-141 d in
1962	B-58 out F-111 d in		B-52 out		
1963					
1964		B-70 out			C-141 p in
1965					C-5A d in
1966	F-111 p in	Apollo p in	Minuteman III d in	Poseidon d in	
1967					
1968			Minuteman out; Minute- man III p in	Polaris out Poseidon p in	C-141 out C-5A p in
1969					
1970		B-1 d in			
1971				Trident d in	
1972		Apollo out Shuttle d in			
1973					
1974	F-111 out F-16 d in				C-5A out
1975			MX d in		C-5A mod in
1976		Shuttle p in			C-141 stretch in.
1977	F-16 p in	B-1 out	Minuteman III out MX or cruise missile p in?	Poseidon out Trident p in	

d = development; p = production; mod = modification

The Follow-on Imperative:
Major Production Lines and Military Aerospace Systems

	McDonnell	Douglas	Grumman	Vought
1960	F-4	Nike Zeus d	Miscellaneous	F-8
1961				
1962			F-111 sub d in	
1963			Apollo sub d in	
1964				A-7 d in
1965		Nike Zeus out Spartan d in		
1966			F-111 sub p in; Apollo sub p in	F-8 out A-7 p in
1967				
1968				
1969	F-15 d in		F-14 d in	
1970				
1971				
1972	F-4 out	Spartan p in	F-111 sub out; Apollo sub out; F-14 p in	
1973	F-15 p in			
1974				
1975		Spartan p out C-15 d in		
1976				
1977		C-15 p in?		A-7 out?

d = development; p = production; sub = subcontract

A large and established aerospace production line is a national resource - or so it seems to many high officers in the armed services. The corporation's managers, shareholders, bankers, engineers, and workers, of course, will enthusiastically agree. The Defense Department would find it risky and even reckless to allow a large production line to wither and die for lack of a large production contract. This is especially so because for each of the aircraft production sectors (large bombers, fighters, and military transports), there are actually only a few potential production lines out of the nine major lines we have listed. Large bombers are likely to be competed for and produced by only General Dynamics, Rockwell International, and Boeing; fighters and fighter-bombers by only General Dynamics, Rockwell International, Boeing, McDonnell division, Grumman, and Vought; and military transports by only Boeing, Lockheed-Georgia, Douglas division and, for small transports, Grumman. Thus, there is at least latent pressure upon the Defense Department from many sources to award a new major contract to a production line when an old major contract is phasing out. Further, the disruption of the production line will be least and the efficiency of the product would seem highest if the new contract is structurally similar to the old, in the same functional category or production sector, i.e., is a follow-on contract. Such a contract renovates both the large and established aerospace corporation that produces the weapons system and the military organization that deploys it.

This latest constraint or rather compulsion imposed on weapons procurement by industrial structure might be called the follow-on imperative and contrasted with the official imperative. The official imperative for weapons procurement could be phrased as follows: If strategic considerations determine that a military service needs a new weapons system, it will solicit bids from several competing

companies; ordinarily, the service will award the contract to the company with the most cost-effective design. The follow-on imperative is rather different: If one of the nine production lines is opening up, it will receive a new major contract from a military service (or from NASA); ordinarily, the new contract will be structurally similar to the old, i.e., a follow-on contract.

The follow-on imperative can perhaps explain the production line and the product structure of 15 out of 17 major contracts awarded from 1960 to 1977: (1) Minuteman III follow-on to Minuteman, (2) MX follow-on to Minuteman III, (3) Poseidon follow-on to Polaris, (4) Trident follow-on to Poseidon, (5) C-141 follow-on to C-130, (6) C-5A follow-on to C-141, (7) C-141 stretch and C-5A modification contracts, (8) F-14 follow-on to F-111 major subcontracting, (9) F-15 follow-on to F-4, (10) F-16 follow-on to F-111, (11) A-7 follow-on to F-8, (12) Spartan follow-on to Nike Zeus, (13) space shuttle follow-on to Apollo, (14) F-111 after B-58 (superficially a less certain case, but the two planes are structurally similar, with the F-111 being a relatively large fighter bomber and the B-58 being a relatively small bomber), (15) B-1 delayed follow-on to B-70. In regard to another contract, Apollo, North American might have been predicted by the follow-on imperative to receive the award: it was already NASA's largest contractor. Finally, in regard to still another contract, the STOL transport (C-15), the timing of Douglas' development contract can perhaps be explained by the phasing out of production of the Spartan anti-missile missile.

The imperatives of the industrial structure are reinforced, not surprisingly, by the imperatives of the political system. Six of the production lines are located in states which loom large in the Electoral College: California (Lockheed-Missiles and Space, ~~North American~~ Rockwell, and Douglas division of McDonnell Douglas), Texas (General Dynamics and Vought), and New York (Grumman).

It might be said, however, that one should expect most contracts to be follow-on contracts. Production of the original system should give an aerospace corporation a competitive edge in technical experience and expertise which will win for it the next system awarded in the same production sector. But in at least three major cases (the government has kept other cases secret), the Source Selection Board chose, on technical grounds, a different corporation than the one already producing a similar system; the contract became a follow-on contract only when the Board was overruled by higher officials. With the F-111, the original, technical choice was Boeing, rather than General Dynamics; with the C-5A, it was Boeing rather than Lockheed; and with Apollo, it was Martin rather than North American. More importantly, it is not always obvious that there should be any new system at all in an old production sector. This is especially so because of the recent evaluation of the six functional categories or production sectors. The aerospace systems within them or follow-on contracts of course are becoming progressively more complex and expensive. In addition, bombers and anti-missile missiles seem to be obsolete; many fighter-bombers and fighters may become obsolete in the future because of the advent of precision-guided munitions; and ICBM's (MIRV's and especially MX) are becoming more

destabilizing strategically because of their high accuracy or "first-strike" capabilities.

IV. The Future of U.S. Defense Procurement

The analysis of weapons procurement presented here may have implications for the future. The Table indicates that recently the pressure on U.S. procurement policies has become especially intense. In 1977, the United States is confronted with the impending phase-out of four major aerospace projects and thus with the opening up of four major production lines: (1) the B-1 and Rockwell International, (2) Minuteman III and Boeing, (3) the C-5A and C-141 modification programs and Lockheed-Georgia, and (4) the A-7 and Vought. Rockwell International is receiving partial compensation through the space shuttle program. Boeing will probably receive compensation through the MX or the cruise missile program. But Lockheed-Georgia and Vought each face an uncertain future and raise a serious problem.

In the public debate over weapons policy and changing priorities, four major alternative paths for major production lines have been proposed: (✓)

1. Convert production lines from aerospace to non-aerospace production. Mass transportation and waste disposal systems are the alternatives most often suggested. The normal experience of aerospace corporations with such conversions, however, has been quite limited in scope or in success, and their executives generally take a pessimistic view of the possibilities. Significant progress down this path in the next decade is unlikely.

2. Convert production lines from military aerospace to non-military aerospace production. [Here, commercial airliners are the alternative. Again, the actual experience with such conversions is not encouraging and even suggests that the cure is worse than the disease.

Thus, General Dynamics in the early 1960's entered the commercial airliner market with the Convair 880, only to lose so much money that the F-111 contract was needed to save the corporation from bankruptcy. Similarly, Lockheed in the early 1970's entered the market with the L-1011, only to drive Rolls Royce into bankruptcy and consequently Lockheed itself into a position in which only government guarantees of bank loans saved it from bankruptcy. Finally, even the extraordinary government effort to save the dubious L-1011 has not solved the problem of Lockheed-Georgia, to say nothing of any eventual problem of Lockheed-Missiles and Space, which is located in northern California. For the L-1011 is produced at a third, mainly commercial, Lockheed division, Lockheed-California, which is located in southern California. As for Boeing, at first glance conversion might seem more plausible, since the company is already an established producer of superior commercial aircraft. But Boeing's major candidate for a new commercial airliner would be the SST, which was cancelled by Congress in 1971. And, as the recent controversy over American landing rights for the Anglo-French Concorde indicates, an American SST would face intense opposition from groups within the American public.] (3)

3. Collapse production lines from ten (counting Northrop) into a smaller number. [A persuasive case can be made that the United States needs new aerospace systems in only four production sectors (fighter-bombers and fighters; missile systems, particularly submarine-

launched ones; STOL transports; and space systems); in addition, it needs a capacity to replace or improve units of already existing military transports and commercial airliners. If so, the United States needs only seven or eight major aerospace production lines.

The most attractive candidates for preservation would be Boeing (strong in missile systems and commercial airliners), Lockheed-Missiles and Space (submarine-launched missile systems), McDonnell division (fighter-bombers and fighters), Douglas division (commercial airliners), Rockwell International (space systems), and Northrop (strong in fighters for export). Two other strong possibilities are Grumman and General Dynamics (fighter-bombers and fighters). Grumman, despite its recent troubles with the F-14, has a distinguished reputation for producing superior naval aircraft and space vehicles. And General Dynamics, despite its earlier troubles with the F-111, seems to have produced a fine aircraft in its F-16.

Two other production lines, Lockheed-Georgia and Vought, have in recent years shrunk considerably in terms of contracts, production volume, and employment. It might be best not to award any new major contracts to these two production lines but rather, with the aid of sub-contracts and repair contracts, to let them decrease in size through attrition, in an orderly way, and with a minimum of disruption to the corporations and their employees.] (4)

4. [Constrict production lines from \$1 billion or more each in annual weapons sales to a smaller amount. Relatedly, a major weapons systems would be shared between production lines, much as, in the case of the F-111, General Dynamics produced most of the airframe, but Grumman produced the rear fuselage. This approach would make it easier for the

Administration or Congress to avoid massive disruptions of a region when an old major contract is phased-out, to re-allocate funds among production lines by more incremental and gradual means, and to "fine-tune" the overall process of defense production. In addition, an American aerospace industry composed of ten or so smaller producers sharing major contracts would preserve all the advantages of competition, including multiple sources of innovation.

Finally, these last two paths for the aerospace industry might have another advantage in a longer perspective. For in the next decade U.S. policymakers may see a need to place great emphasis on a variety of PGM's and other new modes of weapons, as opposed to a continued emphasis on aircraft. A smaller and leaner American capacity for airframe production would permit U.S. policymakers to make this transition and to achieve a better defense for America without imposing sudden distress upon particular Americans, upon those airframe companies and employees which have provided us with our national defense in the past.]

Senator PROXMIRE. Thank you very much.

Again, I apologize. That is another roll call. I will be back as soon as I can.

[Whereupon, a short recess was taken.]

Senator PROXMIRE. The committee will come to order.

Mr. Gansler, you give all kinds of reasons why the defense industry is less efficient—monopsony, that's one buyer; oligopoly, a few sellers, but I can't see why that any of the reasons you give should necessarily result in consistent overruns and late performances. You did not include those evidences of inefficiency in your testimony of the way the Defense Department operates.

Mr. GANSLER. I was trying to distinguish and I did in my text two areas to be considered. One being structural, and that is why you bring in the oligopoly and monopolistic characteristics; the other being the way in which the Government does business, the procedural part of it, and it is in that area that I believe the point you are making of the discussion that you had with Mr. Church, the "buy-in" and that sort of thing takes place, that is, the way in which business is done. They are obviously interrelated, they are not in any way independent phenomena, but the fact that it is an oligopoly situation might or might not necessarily result in inefficiency. You might through oligopoly competition have an efficient system.

Senator PROXMIRE. You might have inefficiency. I am not talking only about inefficiency, I am talking about overruns. You might have an inefficiency with the original fixed price that might be too high, at least Congress would then be on notice it is going to cost this much to produce the C-5A, and produce a B-1 bomber. What we have had has been enormous and consistent overruns where the coming in on target is very rare and then very late delivery is common.

I don't see why that should be characteristic of an oligopoly.

Mr. GANSLER. Well, in fact, it is not just even characteristic of Defense.

Senator PROXMIRE. Pretty characteristic of Defense.

Mr. GANSLER. Not a unique characteristic. What I mean is other Government projects in the civil sector have characteristically had the same large overruns and lateness. What I am trying to say, it is not a unique characteristic necessarily to Defense. One could do the same analysis on the way that the system works in terms of the budget process, the reviews, the competitions, and then the changes and so forth that get added into it.

Senator PROXMIRE. Would you disagree with the notion that it would be possible to achieve a pretty consistent performance coming in on price target if the Defense Department cracked down when defense contractors were above the overruns so we didn't find a way of paying them off?

Mr. GANSLER. If other things changed at the same time. I don't believe that uniquely you can just say starting tomorrow any overruns on a fixed price system have to stop. You have to also change—

Senator PROXMIRE. Isn't that a big part of it, though?

Mr. GANSLER. It is certainly a significant part of it. It is not unique. In other words, right now one of the ways in which that money is gotten back is through the changes, the constant changes that come

into the programs. There have to be ways to essentially prevent the system from allowing itself to have built in escape clauses, if you will.

Senator PROXMIRE. How would you respond to Dr. Kurth's argument that we produce obsolete, inefficient, unnecessary weapons systems, if I understand it, in part, perhaps in large part, simply to keep defense contractors open, busy, or at least in some cases alive?

Mr. GANSLER. The recent cases that occur to me instantly are those in which the Congress has extended—

Senator PROXMIRE. He gave some examples.

Mr. GANSLER. I understand that, in terms of the recent programs, the first and most obvious case is that in which lines have been kept open for a number of years at a relatively high cost level when the Department of Defense didn't request them, but Congress inserted significant dollars into the budget. There have been a few select cases in the past, I can think of major weapons systems, where there has been continuous controversy. I think some of the examples that he gave are perfect examples of that, say, C-5, AWACS, the B-1. Those are programs where there has been continuous controversy throughout their history, both within the Department of Defense and within the Congress, as to whether or not they were "cost effective."

Now, it is in that environment in which the other considerations of creating jobs and of the stimulus to the economy and so forth become major considerations.

Senator PROXMIRE. His allegation, to take an example, because we are not buying the B-1 bomber the contractor will get another contract, might get another contract.

Do you think there is an element of that, a big element of that involved, or do you think that is—

Mr. GANSLER. It has historically been verified, and the basis for it is the only thing that one can question. In other words, is it because someone says if we don't give company X a contract they will go out of business, or is it because, in fact, that is combined with the fact that that company does try very hard to win? Now, by trying very hard, it is a combination of a technological effort, putting all your very best people on winning the next contract. Because you don't have any other contracts you have to put those best people on making the price extremely attractive, even to the extent perhaps of a "buy-in" on the initial part of it because that is not the part to which you have to make your full financial commitment. A company that is supposedly "lean and hungry" makes a very attractive proposal. It is not simply because they do not have business, that they are getting awards, the source selection process would not allow that to happen, I believe. What does happen is that they have the combination of needing the business and making a very attractive proposal because they need the business. The company that just "bought in" last time can't afford to make it look that attractive, can't afford to put its very best people on because they are trying to satisfy their prior commitment and they are not that interested.

Senator PROXMIRE. I don't think anybody—correct me if I am wrong—says there is anything wrong with a hungry company going in and making a lower bid if they can produce. That is the name of the game and that is to everybody's interest. What we are arguing

about is the notion that the Defense Department recognizes that Lockheed needs some assistance or some other defense contractor needs some assistance, and, therefore, buys a weapon system that can't be justified on the basis of our national defense and security needs. Do you think that is an element?

MR. GANSLER. I don't think that is as common an element as the other phenomena. In other words, I do believe personally that there is a great deal of thought, debate, study, analysis on the individual systems. There are certainly cultural inertia within the institution that say if you had tanks before, you should study another tank, if you had bombers before, you should look at another bomber. There is some of that. It is not because you have a company that needs business. I don't believe that this is the case.

SENATOR PROXMIRE. Dr. Kurth, what Mr. Gansler said has been the Pentagon's position. What proof do you have that the follow-on imperative actually exists rather than it simply being a case of the best contractor getting the business? Obviously, the ones with the most experience in certain fields tend to perpetuate their domination.

MR. KURTH. Let me say two things on that.

There are those cases where we do not know what the Source Selection Board did recommend in regard to what corporation should get the contract and where in fact the Source Selection Board was overruled by higher authority. Presumably the recommendation of the Source Selection Board was based on considerations of the technical superiority of the weapons system. In the case of the C-5A, the Source Selection Board recommended Boeing, but Lockheed got the award because Lockheed needed the contract. In the case of the Apollo program, the Source Selection Board recommended Martin, but the final contract went to North American, now Rockwell International, because the Board was overruled by higher authority. In the case of the F-111, Boeing was recommended by the Board, but General Dynamics got the contract. In these cases we know what the Source Selection Board wanted. Other cases we do not know, or at least the knowledge is not in the public domain, exactly what the Source Selection Board recommended.

So we have a few cases where the technical criteria alone predicted a certain contractor, but a different corporation eventually got the award.

A second point I want to make is that the follow-on pattern I talked about seemed to fit a large number of contracts.

Furthermore, I am not claiming the follow-on imperative actually explains every contract that the U.S. Government has allocated since 1960. I think that Mr. Gansler's argument could explain certain ones; that is to say, instead of a lazy and inefficient contractor getting a contract because they need it, I think that you can also have the situation where a lean and hungry contractor needs a contract, and they get it not because they need it, because they are lean and hungry. There will be cases like that.

And finally, there are a few contracts that I think are objectively in the national interest. I have often referred to the example of the Trident missile. It fits the follow-on pattern, but I think a person of

good will and good analysis can come up with a good defense justification for that system, purely in terms of the national interest. What I am saying in terms of the future is this: That the existence of excess capacity plus the fact that the follow-on imperative worked sometimes in the past means that there will be considerable pressure to give contracts in the future to those contractors who do need a new award, even if they are not lean and hungry and even if the new weapons system is not in the national interest. Thus, in certain cases, we will not be buying the best weapon for our money.

Senator PROXMIRE. In view of DOD's obvious reluctance to lose any industrial capacity, and in view of the phenomenal political pressures that will be brought to bear in an effort to save a threatened defense contractor, I have noticed those over and over again in the Congress, I am sure they are just as strong in the administration, is it realistic to expect any contraction in the number of suppliers?

Mr. GANSLER. I was very heartened by the recent decision on the helicopter program where, in fact, as you know, one contractor had recently won a competition and had, therefore, a production line for over 1,000 helicopters. And there was another competition taking place on essentially a similar helicopter, the LAMPS program. If you go back to the history it would clearly have indicated Vertol would have gotten the contract because they need the business very badly, they could be in the position of going out of business as a result of not getting the contract.

The economics clearly indicated that a follow-on award, adding 300 to the already existing 1,000 line should be more inexpensive than setting up a total new line for a quantity of 300. However, history would have shown the quantity of the 300 bid alone would have been very "attractive" and I am sure it was.

In other words, the Department of Defense had the guts to say we are going to award it based on the right choice for that contract and let the chips fall where they will. I think that is an example where the Department of Defense recognized they may have more contractors than are required for competition and for economic efficiency.

Senator PROXMIRE. That is encouraging. It is a fine example. I wonder how typical it is?

You say in your prepared remarks, Dr. Kurth, "the imperatives of the industrial structure," quoting, "are reinforced by the imperatives of the political system."

My experience tells me it might be the other way around.

However, I think we both recognize there will be formidable political opposition to any proposed reduction in production lines, as we have indicated.

Do you think that the affected companies and their employees, local and State officials, national representatives, Congressmen, Senators, will permit a plan that calls for extinction of a major contractor?

Mr. KURTH. I think that is an excellent question and a very serious problem, and I think there are a number of ways in which we might be able to square the circle, to perhaps meet those people's needs.

I did suggest that one method might be to gradually reduce the total amount of funds flowing through any large prime contractor. Through the proceeding of attrition, certain contractors might shrink in size.

This coupled with the allocation of a higher proportion of sub-contracts to other contractors in any given prime contract, would permit a shrinkage of certain companies. Thus the denial of any one contract would not turn into a great and sudden stress and disaster. That I think would be one way of minimizing the economic and, therefore, the political difficulty.

Other methods are some of those that Mr. Gansler has recommended in his testimony and in his previous articles, and I would support those.

Senator PROXMIRE. Mr. Gansler, you say there is an urgent need to modernize plants and equipment. I think there is a good case for that. But that would be expensive. If Government just goes into modernizing without being willing to correct production problems and without rationalizing it on the basis of continued operation of some kind, it might be both expensive and inefficient.

Wouldn't it be more efficient to follow Mr. Jones, the Northrop top executive, who testified yesterday that the Government get entirely out of the equipment and plant ownership business, or if not entirely, just mostly out of it, sell more of the plants that they have?

Mr. GANSLER. I think the answer really isn't clear. The answer is not very clear to me in terms of which are the better approaches for each case. As I see it, very clearly in the case of an aircraft company that now comes to the DOD and says that they need to have a new plant built for their new program—and that still continues to happen—in this case, with an excess number of firms and the existing excess capacity, it certainly doesn't appear to make sense for the Government and/or even the aircraft firms necessarily to make large investments and essentially modernize all 16 different firms, say, when at the time we only need a fewer number of them to be modernized.

However, taking a different case, say the tank situation or in some other areas munitions, for example, it isn't clear to me. I would have to look at it a lot more to determine whether or not it is in the national interest to have Government ownership or private ownership in those special cases.

Right now we have both an unclear decisionmaking process, almost ad hoc in this regard, and legislation which is basically conflicting in that area.

So, if you ask what I think is the best thing, personally I think it would have to be on a case-by-case basis to analyze what may be the right thing.

I think in the long run clearly the profit incentive is the right one, and therefore we should maximize the use of the private sector.

Senator PROXMIRE. If we are going to move in that direction, don't you need a vigorous direct policy with some kind of reasonably flexible schedule of retiring plant? We were told this morning that we still have 89 plants owned by the Government, they are negotiating to retire 7, they have no notion how long it may take to retire more of them or how many more they might retire.

Mr. GANSLER. The current policy of the Department of Defense is to sell them off and try not to buy more. The major obstacle to the selloff to date has been the Congress in terms of not allowing the facilities to be sold off. That is the current situation. The Department of Defense is trying very hard to (a) sell off, and (b) not buy more.

Senator PROXMIRE. If you would get as much documentation of that as possible. I am part of the Congress. I would like to call that to the attention of my colleagues and make a case as strongly as I can where it is wise to do so, and any documentation you can give would be very helpful.

Mr. GANSLER. Fine.

[See appendix IV, pp. 181-184.]

Senator PROXMIRE. The previous witness, Dr. Kurth, yesterday suggested that excess idle capacity is not necessary, because he says surge needs can be met through adding extra shifts on the same production line. Would that in any way argue against your suggestion that we might maintain production lines for surge needs?

Mr. KURTH. I have read that statement by Thomas Jones, I think that it is an excellent statement, and I don't see any contradiction between us in regard to his argument yesterday on this particular issue or for that matter any of the other issues.

Senator PROXMIRE. He indicated we shouldn't maintain production lines with a notion that we might need them for surge, and I understood you to say we should maintain that. I understood him to say we could do it by adding shifts.

Mr. KURTH. If I left the impression that I thought we should maintain them for surge capacity, I didn't mean to do so. I think Mr. Gansler may have suggested that at one point or another. No, that is not my argument. I have not dwelled upon the question of the surge capacity. Insofar as I have a position on surge capacity, it is the same as Thomas Jones; that is, it is much better to multiply through additional shifts the production in an existing plant, one which is already operating well, than it is to keep some other plants operating at very low efficiency, such as Vought or Lockheed-Georgia today, for the purpose of somehow suddenly expanding them at a time of emergency.

So I would associate myself with the Jones position on the particular question of the surge capacity.

Senator PROXMIRE. Mr. Church testified this morning that no more than 25 percent of the increased cost associated with excess capacity can be attributed to idle facilities.

The rest, according to his statement, results from overstaffing and engineering, marketing and administrative departments. Mr. Gansler, do you agree with that?

Mr. GANSLER. The statement was based upon a study of the aircraft industry, so it couldn't be generalized, but the analysis definitely did show that the major costs of inefficiency in the aircraft industry were associated with labor costs, not associated with the excess plant and equipment.

Senator PROXMIRE. What do you think can be done to reduce this?

Mr. GANSLER. One step that would probably be very worthwhile is a much tighter reign on the overhead not only in terms of percent but also in terms of the type of charges that are allowable against it. That is in terms of the labor portion of the costs we are talking about.

In terms of facilities, that already is being looked at carefully now, but that only addresses the bottom 25, not the top 75 percent.

Senator PROXMIRE. Dr. Kurth, among your principal recommendations are that we reduce the number of prime defense contractors.

Supposing that recommendation is implemented, what role would you recommend the Federal Government play? Should it provide aid to affected contractors and communities, some kind of special addition to unemployment compensation, or should it follow a policy of just letting the free market take care of it?

Mr. KURTH. I personally believe it should follow the first policy.

Senator PROXMIRE. How do you do that? People are laid off. With the B-1 bomber overnight 9,000 people were out of work. It has, of course, a terrible effect in the local community. What should be done in that kind of circumstance by the Federal Government?

Mr. KURTH. Well, there are a number of other contracts which could be awarded for research and development on either new aircraft in the future or new weapons beyond aircraft in the future. In this particular case, given the fact that Rockwell International is a major space contractor, and also has a major avionics capacity, it seems to me that much of the managerial and engineering staff might be preserved by pursuing more technically advanced contracts in the research and development line.

Senator PROXMIRE. Aren't those completely different divisions and different plants? The company might be in fairly good shape but the individual person who worked on the B-1 bomber would still be out of work.

Mr. KURTH. That is correct, and it is a serious problem with many contractors. I think it is not a serious problem in this particular case.

Senator PROXMIRE. Not a serious problem as far as Rockwell is concerned?

Mr. KURTH. No.

Senator PROXMIRE. The stockholders. How about the employees?

Mr. KURTH. The problem would be less serious in this particular case, that is, for Rockwell International in a transition from the B-1 to alternative contracts, because much of Rockwell's operations are located in southern California. The employees might move out of one division to another, although I understand Rockwell is now reorganizing its divisions. They might move from one division to another, from one plant to another, even from one southern California community to another southern California community. This would be a cost to them. On the other hand, they would still have what is most important to them, and that is jobs. Furthermore, Rockwell International, of course, is not just a California contractor. It has many facilities in the Northeast, including Pennsylvania, and if worse came to worse I think there would be jobs available elsewhere in the country. Or if worse comes to worse, I would advocate a generous severance allowance that would be sustained by the Federal Government.

Senator PROXMIRE. Mr. Gansler, you refer to the cascading effect on the defense industry of declining procurement budgets, in terms of purchasing power, at the same time that real unit costs increase. Do you believe that the industrial base would be in better shape if the Government were to stress lower cost, less sophisticated aircraft, missiles, electric systems, and sacrifice state of the art performance in order to obtain higher production rates? The question I asked before of the previous witness about the gold plating that we have and the tendency we have to produce enormously expensive weapons systems with very, very small numbers, fine quality but almost no quantity.

Mr. GANSLER. Yes. As you know, I have been a very vocal advocate of things like the "design-to-cost" concept, even during the time while I was with the Department of Defense. I feel strongly that the Department is now starting to use cost as a primary design criteria, along with performance. That was not the historical case in the Department of Defense. It was, as you say, state of the art performance exclusively, and then left to the people to bid for the lower cost for that expensively designed system.

The approach should be, and is starting to be in many cases now, designing to a lower cost system, one that can be afforded, so that the quantity versus quality trade can be made within the limited budget. The quantity is the thing that is suffering the most. We don't have sufficient tactical forces today.

Senator PROXMIRE. If we learned anything, I guess, from the latest Israel-Arab war, we learned we could have enormously expensive tanks knocked out in such immense numbers within a few days that we really suffered greatly from having a shortage of the number that we had to have. You could make an argument, the same kind of argument with aircraft.

Mr. GANSLER. Very definitely.

Senator PROXMIRE. Dr. Kurth, do you think that industrial readiness might be improved if we moved to lower cost, less sophisticated systems?

Mr. KURTH. I didn't hear the last.

Senator PROXMIRE. I am really asking the same kind of question.

Do you think that our readiness could be improved if we moved to lower cost systems, less sophisticated systems?

Mr. KURTH. I do associate myself with the statement by the witness for the Department of Defense. Given the way aircraft have evolved, I think the best solution is to have both the high cost and the low cost aircraft for both the Navy and the Air Force. That is to say both the F-14 and the F-18 for the Navy (high cost and low cost, that is a top of the line and hopefully a lower line aircraft) and the F-15 and the F-16 for the Air Force.

I think that is probably a good policy. I would not try to restructure the defense industry in a way that would no longer permit that. I would say that we would normally want to have four major aircraft in the U.S. military inventory, a high-cost Navy and a low-cost Navy aircraft, and a high-cost Air Force and a low-cost Air Force aircraft.

I do agree with what the Defense Department wants to do in this regard. And the low-cost aircraft producers, especially Northrop and McDonnell vis-a-vis the F-18, have good records for producing very cost-effective aircraft.

Senator PROXMIRE. Mr. Gansler, you say that the Department of Defense should, and I quote, assure that subcontractors do not receive more harsh treatment than Government prime contractors do.

I think it was your article that indicated that as we have an overcapacity of prime contractors, we often have a serious undercapacity of subcontractors.

At any rate, how can we avoid more harsh treatment of subcontractors?

Mr. GANSLER. In fact, I personally believe that this shortage of subcontractors constrains you as much if not more in the surge areas

as well as in the economic area through the pricing structure. An example of the more harsh treatment would be on a program where the contract was awarded cost-plus to the prime and the major high-technology, high-risk subcontractor is awarded fixed price for the subcontractor development; and that is a typical situation that happens today.

There frequently is vicious competition that takes place at the sub-level, trying to get two to play against each other, and there are a number of examples. The actual data does show that at the subcontractor level and at the parts supplier level, the profit appears to be much lower; and therefore, what is happening is that with the shrinking total dollars and the low profit, they are all leaving voluntarily or going bankrupt. In terms of corrective action that could be taken, I think in many critical areas the Department of Defense should pay for two suppliers of a critical item, two people to develop, two people to produce it, at the subcontractor and component part levels. That means initially people will come back and say that this is very expensive, how can you afford to pay for two people to build a tube when we only really need one tube supplier. If we are down to the point of only one supplier, say of that type of device, then in fact I think you would be far better generating two suppliers, paying for them and letting them compete.

The development phase cost, in fact, might be higher. However, letting these two people stay in production would keep driving the price down in the big-dollar phase. By contrast, when there is only one supplier, we find the prices going up. The thing that prohibits this multiple saving is that the budget is always established on this year's dollars; it is not a multiyear, long-range commitment, and therefore, the cheapest thing this year is the thing that is done.

Senator PROXMIRE. I suspect one of the reasons why subcontractors have what might be harsher treatment, maybe it ought to be put the other way, the prime contractors have a soft permissive kind of treatment, is because the subcontractors deal with a private corporation, which is used to having its contracts respected and delivery on time and a fixed price met or else, whereas a prime contractor deals with the Government which doesn't do that.

Does this suggest if we follow a businesslike policy with prime contractors, the kind I have been advocating here, that we are going to reduce excessively the number of prime contractors in the same kind of problem now we have with the subcontractors?

Mr. GANSLER. I would think the initial response would be that you have more subcontractors going bankrupt because the primes initially pass on as much of that financial liability downward and the smaller people can't afford the high losses that will result from the initial impact, while the larger ones can. So I think unless one does that very carefully you will have the less desirable of the two impacts, first; namely, that you will wipe out the total subcontractor base before having had a significant impact on the giants who can take it—

Senator PROXMIRE. What does the data really show? Does the data really show the subcontractors are in that kind of shape, profits on investment, for instance? Data that I have seen on defense contracts generally have shown that while the percentage of profit on sales may be moderate, the percentage of profits on investment is pretty good.

Mr. GANSLER. That is right for the prime contractors. The data at the subcontractor level is very minimal, first of all. The Department of Defense decided a number of years ago to stop gathering data at the subcontractor level. There is very little visibility as to what the profit really is. The data you are getting which was done at the prime contractor level was for the larger contractors who in fact do in many cases have a good return on investment, but that does vary with the sector. Like shipbuilding, it appears to still be very low. In the other sectors it appears to be quite high. I took that same data which came from the profit 1976 study that you referred to and plotted it versus the size of the company rather than by the sector of the industry and found in fact in the smaller companies that the profit was significantly less for the same data you are quoting, significantly less, but even more important that the spread in that profit, which is a measure of risk, was far greater for the small companies. So it says that even from the same set of data, that the profit was much lower for the small companies and the risk much higher for the small companies.

There have been other studies done of that sort over the years that have indicated the same thing. The fact that many of them seem to be going bankrupt is another indication.

Senator PROXMIRE. Well, I looked at the Renegotiation Board's record on renegotiated profits. We found that a large number after renegotiation were making 200 percent, 500 percent, 1,000 percent on their contracts. So they move all over the place.

Mr. GANSLER. If I could comment. What we have found in those cases is at the subcontractor level where you get down to a sole-source supplier then the profit obviously flies out of sight and I think those are some of the cases—

Senator PROXMIRE. We have asked the Renegotiation Board to do something about it.

Mr. GANSLER. I would think simply having competition would be even better. Forcing two suppliers, that would keep the prices down through competition and not require the renegotiation.

Senator PROXMIRE. One of the reasons I bring this up is because the Renegotiation Board is fighting for its life.

Mr. GANSLER. I realize that.

Senator PROXMIRE. Its life depends on this committee. We haven't given up yet. It looks like it is dead.

Well, gentlemen, I am going to ask your permission to permit me to read a statement. It is going to take me a couple of minutes to read it. It is a statement at the end of the hearing which sums up my feelings about what we have learned and where we can go.

CLOSING STATEMENT BY SENATOR PROXMIRE

This concludes the last day of hearings of the Joint Committee of Defense Production. As of October 1, the functions of this joint committee will be absorbed by the Banking Committee. The Defense Production Act will require further hearings under the authority of the Banking Committee and any unfinished business of this committee will be taken up by that parent body.

The Defense Production Act required that this committee "make a continuous study of the programs and of the fairness to consumers of

the prices authorized by this act and to review the progress achieved in the execution and administration thereof."

The history of the Defense Production Act makes it clear that the overriding purpose of reviewing prices and programs was to answer the question: Is the United States economically prepared to meet a military emergency?

In the last 2½ years we have examined that issue closely. Although there may be a difference in opinion among individual members of this joint committee as to the answer to that question, I am prepared to offer my opinion.

The answer is a qualified "no." Surely the potential is there. This country has amazing recuperative powers. We can marshal enormous resources in times of national emergency. We did so during World War I and II and, to a lesser extent, for the Korean war. We have the plant capacity, the skilled manpower, the technology, the management, the financial resources, the natural resources, the productivity, and will to produce war materials without parallel in the history of the world. It has been said with more than a hint of truth that our adversaries are more afraid of Detroit than our standing Army.

But potential is not enough. If this potential is left unexploited and lies unready to meet a national emergency then it is a weak link in our national defense posture.

We no longer have the luxury of time. Prior world wars were fought on distant continents with sufficient lagtimes involved so that our industry could gear up into action. We had time to redress any momentary imbalances.

Today the flight time of the ICBM is 30 minutes at most. Warheads from one submarine could destroy all the major population centers on the eastern seaboard.

To answer the question: "Are we economically prepared to meet a military emergency?" the committee held 13 days of hearings over an 18-month time period beginning in December 1975. We looked at the use and availability of strategic materials; the adequacy of the civil preparedness bureaucracy to face a nuclear attack; the strength and weakness of the defense industrial base.

We found long-term neglect in preparedness planning. In some cases no planning at all.

We found Government agencies not knowing what each other were doing. Duplication and inefficiency were rampant. Therefore the committee recommended a consolidation of the preparedness agencies and higher visibility of their problems at the National Security Council level.

We found inadequacies with the defense priorities system; lack of enforcement; misuse of priority ratings; disjointed coordinating efforts.

The committee also turned its attention to the defense product. As a test case we conducted one of the most intensive reviews of a major weapon system decision on record—the Condor missile program. It was a classic story of conflict of interest which resulted in situations inimical to the Government's best interests.

Inside information was leaked continuously to the contractor. Barriers to production were eased. Specifications were changed. And

people responsible for the Condor go-ahead decision were found to have prior- and postfinancial ties to the contractors involved.

This conflict-of-interest atmosphere was found to be widespread. The duck and goose hunting forays to the Eastern Shore were as Secretary Schlesinger said "only the tip of the iceberg." The real issue was not the momentary acceptance of a gratuity but the collective effort these actions had in degrading the budgetary and force planning system. It was a prime sign of lack of discipline.

An industrial base that allows noneconomic factors to shape force level decisions is an inadequate base. The lack of competition in defense procurement represents a built-in economic penalty to productivity.

And what has the result been? We produce one-fifth as many aircraft as 10 years ago. We have the smallest number of ships in the Navy since before World War II. We have the largest backlog of ship construction in our history with delays of 2 years not being uncommon. There are too few shipyards and too few subcontractors producing critical components.

All in all it cannot be said that our defense industrial base is adequate when the country continues to face the declining-force-level-rising-unit-cost dilemma. And until that problem is resolved there is no room for satisfaction or complacency.

There are many other items I could mention, but I will not take the time. The hearings, reports, staff studies, and legislative recommendations are available to anyone with the interest.

In closing I want to pay tribute to the staff of this committee who have worked far longer and harder than could be expected of them. With the smallest budget on Capitol Hill and the smallest staff, they have produced facts, recommendations, and legislation out of proportion with their resources.

A committee relies heavily on its staff and this committee has been blessed with the best.

The meeting is adjourned. Further business will be conducted by the Senate and House Banking Committees.

Thank you.

**WHEREUPON, AT 12:25 P.M., THE JOINT COMMITTEE ON DEFENSE
PRODUCTION ADJOURNED**

STATEMENT OF SENATOR HOWARD M. METZENBAUM BEFORE THE
JOINT COMMITTEE ON DEFENSE PRODUCTION, SEPTEMBER, 30,
1977

Mr. METZENBAUM. Mr. Chairman, it is always a pleasure to appear before your committee. Since you entered the Senate you have been a leader in the fight against waste in defense spending. I am sure that these hearings will contribute a great deal to that effort. I am only sorry that the concern which this committee has so often demonstrated apparently is still not shared by the top levels of the Pentagon. I recently had an exchange of letters with Secretary of Defense Brown that I will be glad to provide for the record. The letters focused on some of the problems of the defense procurement process. Dr. Brown's response indicated that the Secretary of Defense, or at least his immediate staff, does not consider Pentagon waste to be a major problem.

I am particularly pleased to be here today because these hearings focus on a problem which, as a former businessman, I have been concerned about for a long time: the need for more competition in the defense industry.

It is clear that the defense industry is a monopolistic one. If we look, for example, at a list of the companies receiving the largest amounts of Department of Defense procurement dollars during the 1970's, we can see that a few top contractors have dominated the industry.

Eight of the top ten Department of Defense contractors for 1970 were still in the top 10 last year. Between 1970 and 1976, these top 10 received about one-third of all Department of Defense procurement dollars.

A comparison of 1976's top 25 defense firms with those of 1970 shows that 19 companies have remained on top throughout the 1970's. Moreover, the top 25 firms have received almost 50 percent of all Department of Defense procurement dollars since 1970.

This domination of defense procurement dollars by a few companies is especially alarming because the economic performance of these companies has been shockingly bad. Cost overruns have continued to soar in the 1970's, reaching \$53 billion—not including inflation—according to the latest Department of Defense figures.

There are a number of reasons for this monopoly structure, but I believe the main cause is that the Defense Department does not use enough competitive bidding.

I have had some success in business, Mr. Chairman, and I know that when you are awarding a contract the way to generate competition and efficiency is to ask interested contractors for sealed bids. Then select the contractor who offers the lowest price, and hold him to the price quoted. As you well know, Mr. Chairman, this rarely occurs at the Defense Department. Only 8 percent of Department of Defense dollars—a shocking low percentage—are given out through sealed bidding. Somewhat more is awarded through "competitive negotiated

contracts," but fully 70 percent of Defense dollars were given out without any kind of price competition in 1976.

Since the Department of Defense, the defense industry's only consumer, does not demand competition, it is no wonder that the same 25 companies get most of the procurement dollars every year. It is also not surprising that they continue to operate inefficiently.

The crucial question, of course is: How do we begin to break out of this system? How can we change the monopolistic structure of the defense industry, in order to use competition to generate efficiency?

We can begin by heeding the words of Thomas V. Jones, the chairman of the board and chief executive officer of the Northrop Corp. Mr. Jones recently commented:

There is no reason why the defense industry cannot be as efficient as any other sector of the economy. The Government, the Congress, the public, the investment community, and the defense industry must get rid of the notion that defense companies are somehow different—that they cannot be confined within the same standards of competitive performance by which we measure the rest of our market economy.

The most important thing we can do to rid ourselves of the notion that defense companies are not suited to competition is to drastically decrease the number of contracts which are given out without sealed bids.

The Defense Department, of course, should take the initiative, but, since Dr. Brown does not seem interested in increasing competition, perhaps the Congress must act. I have been preparing a bill which I believe gets at this problem. As the law now stands, the Department of Defense is required to use competitive sealed bidding, but there are 16 exemptions to this requirement which the Pentagon uses 92 percent of the time. My bill would formally eliminate these exemptions, requiring instead that the Secretary of Defense approve each exemption and submit regular reports on these exemptions to Congress.

In addition, whenever a sole source contract was awarded, my legislation would require a GAO audit of the contractor selected, in order to determine whether a sole source contract was truly justified. Congress would then be able to cancel the contract if it were found that competition could have been used. Finally, my bill would require that "follow-on" contracts be awarded competitively. I plan to introduce this bill soon because I believe it would give Congress the information and powers it needs to increase the amount of competition in defense procurement.

I might add that I find it particularly aggravating that the top echelon of the Defense Department has resisted competition for so long. Good business sense would indicate that increasing competition leads to more efficiency and lower prices. Moreover, this has been confirmed by every objective study which has been done on this matter.

The classic work on defense procurement, "Arming America" by J. R. Fox, published in 1974, estimated that price competition caused cost decreases of 25 percent. A 1973 study prepared for the Joint Economic Committee found that switching from sole source procurement to competitive procurement generated average savings of 51.9 percent. And, a recent study in the "Anti-Trust Law and Economic Review" also found that price competition has led to average price decreases of 25 percent.

If more Defense Department contracts were awarded through the use of price competition, well-managed, efficient firms would prosper, because lower costs mean higher profits. If the firms which have dominated the defense industry because they did not have to compete were forced to enter the marketplace, they would lose out to firms which had been working in a competitive environment. These new firms would begin to win contracts and the monopoly would be loosened.

In closing, Mr. Chairman, I would just like to add that I find it very ironic that those of us who criticize the way our defense dollars are spent are sometimes called "radical" or "un-American." The most radical thing we are saying is also the most typically American: "Let the free enterprise system work."

TRW

EXECUTIVE OFFICES

1977 SEP 26 AM 10:30

September 21, 1977

The Honorable William Proxmire
 Chairman, Joint Committee on
 Defense Production
 United States Senate
 Room A-421 Senate Annex III
 Washington, D. C. 20510

Dear Senator Proxmire:

In response to your invitation of September 2, 1977, I am very sorry to advise you that pressing obligations will make it impossible for me to appear in person to present testimony at the hearings of the Committee on September 29, 1977.

I have taken the liberty of preparing a brief statement which summarizes the principal findings and conclusions of the Defense Science Board Task Force on Industrial Readiness Plans and Programs which met during the DSB Summer Study in August 1976. A copy is enclosed.

Although I believe most of the information contained in this statement is probably already known to you and to your Committee, I have not been directly involved in activities relating to this topic since the completion of the Task Force Final Report late last year, and thus have nothing of substance to add to what is contained in the statement. It is my understanding that implementing actions were directed late last year by then-Deputy Secretary of Defense Clements, but I am not in a position to report on the status of developments in this area since that time.

Again, please accept my best wishes for successful and constructive hearings. As the Joint Committee goes out of existence in the near future, I want to compliment you and your staff on the excellent work you have done in behalf of our national defense posture.

Very truly yours,



Richard D. DeLauer
 Executive Vice President

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SYSTEMS AND ENERGY · TRW INC. · ONE SPACE PARK · REDONDO BEACH, CALIFORNIA 90278

STATEMENT OF
DR. RICHARD D. DE LAUER
EXECUTIVE VICE PRESIDENT, TRW SYSTEMS AND ENERGY
TRW INC., REDONDO BEACH, CALIFORNIA
TO THE
JOINT COMMITTEE ON DEFENSE PRODUCTION
SEPTEMBER 29, 1977

During the 1976 Summer Study of the Defense Science Board, a Task Force under my Chairmanship conducted a study of Industrial Readiness Plans and Programs. The Final Report, which is classified Secret, was issued on 15 November 1976. An Unclassified Executive Summary was prepared in April 1977, a copy of which is appended to this statement as Attachment 1.

The Task Force considered the question posed by the Joint Committee on Defense Production in its 1975 Annual Report: "Is the United States economically prepared to meet a military emergency?" In particular, we attempted to answer the last of the ten questions into which this basic question was broken down: "Are current readiness plans and programs keyed to realistic threat estimates and scenarios or do they merely reflect lessons learned from World War II and the Korean War?"

We determined that this question was perhaps not actually referring so much to the "lessons learned" as to whether our current readiness plans and programs are merely a reflection of an assumption that we expect to "fight World War II and the Korean War over again" in the event of a future conflict.

In this context, it was the conclusion of the Task Force that our present readiness plans are keyed to a particular threat model with a good degree of preciseness. While these plans appear to be scenario-sensitive to a very high degree, we found that they are reasonably complete. The real shortcomings were found to be in the funds to implement these plans. The funding of readiness programs is generally insufficient to carry out the plans which have been developed to respond to the threat estimates and scenarios which have been issued as basic defense guidance.

It should be noted that evaluation of the realism of the specified threat estimates and the dominant scenarios lay outside the charter of this Task Force. We took these estimates and the dominant scenarios

as "givens" and then attempted to assess the adequacy of our implementing plans and programs.

It was our basic conclusion that the U. S. can better achieve its goals of dynamic deterrence and an effective war fighting posture by:

- 1) Attaining the required levels of War Reserve Materiel (WRM) to support the realistic strategy.
- 2) Establishing consistent preparedness planning ground rules.
- 3) Creating, through an interagency civil effort, effective industrial mobilization plans for the entire U.S. industrial base for support of an indefinite length conventional war.
- 4) Establishing a realistic surge capability in the Defense Industrial Base to support that portion of the conflict duration spectrum which transitions from the short intense war to the indefinite length conventional war.

This so-called surge capability does not now exist in our readiness plans and programs. It was identified by the Task Force as a means of providing industrial support in the case of a conflict situation which was too long to be supported by the WRM stocks on hand, and too short to last until defense production could be increased as a result of full national mobilization. In essence, "surge" would be a means of rapidly accelerating production with the existing defense industrial base through the adoption of a multi-shift, extended work week utilization of existing production lines and with the existing peacetime production facilities. It is envisioned that certain pre-stocking of critical long lead subassemblies, components, and materials would also be necessary to support the surge capability.

With respect to the acquisition of WRM stockpiles to support the short intense conflict described by the dominant scenario, the Task Force is concerned with the levels of funding being provided by each of the Services in each year's budget to procure such materiel, as well as to implement industrial preparedness measures (IPM) necessary to maintain an adequate defense industrial base.

We recognize that the defense budget for each fiscal year must be a compromise among many competing requirements, and that attempts are made to alleviate major deficiencies by structuring the Five Year Defense Plan (FYDP) of the Department of Defense so that near-term shortfalls are redressed in the out years. The threat posed by the tremendous size and continuing growth of Soviet and Warsaw Pact forces dictates the need for emphasis and priority in our funding for the maintenance and upgrading of our forces in being. Among the other competing requirements for a share of the annual defense budget are

logistics support for the forces, training activities to maintain the readiness of the forces, research and development to create new weapons and supporting systems, and industrial preparedness measures to maintain the capability of the industrial base to accelerate the production of defense systems and logistics when needed.

As a consequence of various military and political factors, and as a result of the economic and fiscal restraints on the total budget, it was the finding of the Task Force that the United States is presently somewhat deficient in our logistics support for the forces in being and in maintaining the industrial base needed to meet all our national security requirements.

Recent funding guidance (August 1976) by the then Secretary of Defense to each of the Services showed some promise of increasing the rate at which WRM stockpiles are completed to support the very short, intense war described in the dominant scenario. Whether the specified inventory objective will be sufficient to achieve our national security goals and those of our allies in this event remains open to some question, however.

In the case of a long conventional war, we believe there is a need for the government to re-energize national mobilization planning in order to use our position as a preeminent industrial and technological power in the world to attain our national security objectives.

In the in-between case of a conflict which extends beyond the dominant "short war" scenario, but does not continue to the full mobilization long war situation, the Task Force has concluded that the adoption of industrial preparedness measures aimed at facilitating a surge capability to rapidly increase production rates above those occurring in peacetime, but less than ultimately achievable with full wartime mobilization, will go far to enhance the deterrent effectiveness and contribution of the U.S. defense industrial base.

Attachment 1
to Statement by
Richard D. DeLauer
September 29, 1977

DEFENSE SCIENCE BOARD

TASK FORCE ON INDUSTRIAL READINESS

PLANS AND PROGRAMS

UNCLASSIFIED EXECUTIVE SUMMARY

NOTE: The attached Executive Summary summarizes the findings, conclusions, recommendations, and suggested action items developed by the Task Force during its deliberations in the 1976 Summer Study at San Diego, California. It was necessary to abbreviate or sanitize parts of this summary in order to protect national security information. The classified version of the study should be consulted for a more comprehensive understanding of the basis for the Task Force's determinations.

DEFENSE SCIENCE BOARD
TASK FORCES ON
INDUSTRIAL READINESS PLANS AND PROGRAMS

UNCLASSIFIED

EXECUTIVE SUMMARY

A. U.S. INDUSTRIAL PREPAREDNESS

In the course of its investigations, the Task Force questioned whether our logistics support capabilities and the defense industrial base are capable of meeting the requirements of the operating forces if required to fight the full range of potential conflicts.

The Task Force also questioned whether the defense industrial base is capable of accelerating the production of weapons (e.g., tanks, artillery, tactical aircraft, helicopters, etc.) and many critical consumables and spares beyond peacetime delivery rates within acceptable time frames. The response time for many major weapons systems is on the order of 18 months to two years or more for the first additional delivery over the peacetime rate. Insufficient money is being spent each fiscal year on Industrial Preparedness Measures (IPM) and Industrial Preparedness Planning (IPP) to bring the defense industrial base to the point where it can contribute increased production in support of the forces in the time needed to support possible conflicts. Present and expected War Reserve Stocks (WRM) stocks are inadequate to support certain conflicts of short duration, and the defense industrial base is incapable of accelerating production rates rapidly enough to make the offsetting contribution in that time.

This leads to the difficult question of how such a condition could have come about. Each year, many billions of dollars are appropriated by the Congress for our national defense--over \$104 billion in FY 1977 alone. How can it be, therefore, that our Armed Services fall short of the requirements to respond to potential conflicts which the National Security Council, the Office of the Secretary of Defense, and the Joint Chiefs of Staff have all agreed is within the realm of realistic threats to our security at this time?

The answer to this question can perhaps be found in an analysis of the various categories of activities which must be funded by the defense budget:

- 1) Systems acquisition to give the fighting forces weapon systems.
- 2) Logistics support to operate these forces in peace, crisis, and war.

- 3) Training, operations, and maintenance to keep the forces in a state of readiness..
- 4) Research and development to create new weapons systems and supporting systems.
- 5) Industrial Preparedness Measures to maintain the capability of the industrial base to accelerate acquisition of systems and logistics when required.

The defense budget for each fiscal year must necessarily be a compromise among these competing requirements. Efforts are made to alleviate major deficiencies by structuring the Five Year Defense Plan (FYDP) in such a way that near-term shortfalls are rectified in the out years.

The major factor which dictates emphasis on the in-being general purpose forces is the threat posed by the size of the Soviet and Warsaw Pact forces and their continuing rapid growth. U.S. forces must be able to meet this threat in the near term and for the foreseeable future. Also, the recent demands of the Vietnam War and support of Israel have resulted in drawdowns on the logistics stockpiles required by the U.S. Finally, the extremely high and rising cost of maintaining and supporting the personnel in the active force consumes an ever greater portion of the total defense budget.

As a consequence of these factors and of the fiscal constraints on the total defense budget from year to year, other aspects of our national posture for security have necessarily received a much lower priority. From an overall point of view, we find ourselves in a situation where we are deficient in our logistics support capabilities, and also in our ability to maintain the industrial base needed to satisfy all of our security requirements.

Without attempting to pass judgment on the validity or adequacy of the decisions in the current FYDP, it is the impression of the Task Force that preparedness planning and programming for wartime does not appear to be receiving an adequate share of the funds spent by the Services in any one fiscal year. The same can probably be said for each of the other competitors for a share of the total annual defense appropriation.

For these and other reasons developed during our study, the Task Force has concluded that the time has come to reenergize our national planning in order to use our position as the preeminent industrial and technological nation in the world to adequately support our national security objectives. Industrial preparedness could be used as an effective element in support of the nation's deterrent posture but is not. Warning signals of enemy intent can frequently be discerned long before strategic or tactical warning can be perceived. The U.S. has

essentially three strategic options available to it: 1) to deter strategic war, 2) to deter a theater war with conventional or nuclear weapons, and 3) to conduct military R&D programs which will enable us to maintain a dynamic deterrent. The industrial and economic resources of the U.S. could be employed as an additional means of indicating credible intent to the Soviets and thereby inhibit their threatened aggressive actions. At present, there are no plans or programs by means of which the industrial base could be caused to respond in order to indicate to the Soviets our intention of deterring them from exercising various of their strategic options.

B. FINDINGS

1. Warning Time

The longer the period of warning (and the more proper the response to this warning), the greater can be our readiness posture at all levels. The intent warning signals by which measures may be instituted to accelerate the production rate of the defense industrial base may be perceptible long before strategic warnings of impending enemy military action can be discerned. Such strategic warning time is typically greater than the tactical warning time available for the tactical employment of forces and materiel. Current policy guidance fails to distinguish between strategic and tactical warning time, and does not recognize intent warnings by which the industrial base could be caused to accelerate production rates as a means of indicating to the Soviets our intent to respond to the threat.

2. Planning Factors

Planning factors (principally attrition and loss rates) are critical to the calculation of requirements for wartime logistic support. The factors now being used may not be realistic.

Although logistics planning and analysis techniques have improved through the use of advanced analytical tools such as computer simulation of combat situations and more effective techniques to identify the critical sensitivities, concerted efforts must be made to upgrade logistics planning under a range of factors and through the use of new analytical techniques as they become available.

3. Industrial Preparedness Planning

Nearly all existing IPP policies and procedures are incapable of providing for an adequate defense industrial base. The Prime Contractor IPP Schedule (DD 1519) is ineffective for major weapon systems, since only very limited vertical planning is actually accomplished.

4. Foreign Military Sales

Support to our allies and the contribution of the Security Assistance Program (which can be positive or negative) to the logistic support of our operating forces under any level of conflict has not been determined. An assessment should be made of the impact of support for the allies and of the Security Assistance Program on the defense industrial base under both peacetime and wartime conditions. Special consideration should be given to the impact of a requirement to provide resupply and consumable (especially munitions, maintenance support, and spares) to our foreign allies during a short war situation. This requirement could result as a consequence of Security Assistance commitments made prior to the onset of the conflict or where it may become necessary to insure the successful outcome of the war to protect our vital interests.

5. The National Stockpile

The National Stockpile for Strategic and Critical Materials and the DoD Industrial Preparedness program are at best only loosely coupled. This loose coupling, however, seems to be the proper relationship. In the case of planning for the longer duration war, however, there should be increased participation by the DoD in the development of future National Stockpile requirements.

6. Questions of the Joint Committee on Defense Production

The Joint Congressional Committee on Defense Production in its 1975 Annual Report ^{1/} stated that the principal concern driving its activities is the question: "Is the United States economically prepared to meet a military emergency?" This question was broken down into ten components.

The tenth and last question was: "Are current readiness plans and programs keyed to realistic threat estimates and scenarios or do they merely reflect lessons learned from World War II and the Korean War?"

The Task Force finds that current readiness plans and programs are keyed to specific threat estimates and scenarios, but determined that these plans and programs are not adequate for the most important of these estimates and scenarios. (Evaluation of the realism of the specified threat estimates and scenarios lay outside of the Task Force's charter.)

^{1/} Annual Report of the Joint Committee on Defense Production, Congress of the United States. House Report No. 94-771, 94th Congress, 2d Session. Washington: U.S. Government Printing Office, 1976, p. viii.

While the current readiness plans appear to the Task Force to be generally responsive to the designated threat estimates, the real shortcomings were found to be in the funding of programs to implement these plans. These shortcomings seem to be, in most cases, driven principally by tradeoff decisions to meet fiscal constraints.

C. PRINCIPAL CONCERNS

The Task Force concluded that the U.S. can better achieve its goals of dynamic deterrence and effective war fighting posture by:

- o Attaining the required level of War Reserve Materiel to support the realistic strategy
- o Establishing a realistic capability to rapidly accelerate production rates with the existing Defense Industrial Base (i.e., "Surge")
- o Creating effective industrial mobilization plans through an interagency civil effort for the entire U.S. industrial base
- o Using selected Industrial Preparedness Measures as a means of signalling U.S. resolve and intent to a potential enemy
- o Establishing consistent planning ground rules.

The Task Force also concluded that the relative priorities for the allocation of National Defense resources should be:

- 1) Upgrading and improving the readiness of the existing forces, including the reserve forces.
- 2) Achieving the optimum (budgetarily feasible) mix of WRM stocks on hand and surge capability through implementation of appropriate Industrial Preparedness Measures.
- 3) Accomplishing military preparedness planning of the Industrial Base for an extended conflict, including the maintenance of an adequate National Stockpile of Strategic and Critical Materials.

D. RECOMMENDATIONS

1. Communicate IPP Information

The President and the Congress should be frequently informed about logistics considerations with respect to current and future central policy positions, major options, and fashionable scenarios. Communications should be required on a continuing basis among the Secretary of Defense, the Chairman of the Joint Chiefs of Staff, the Commanders in

Chief, and the Service Chiefs regarding shortfalls in the estimates of logistic support and their implications for the alternatives which will in fact be available to the National Command Authority and to the commanders in the field.

The results of these periodic assessments should be made available to the Theater Commanders.

2. Cover the Conflict duration Spectrum

Due to the exclusivity of the logistic support required by the nature and duration of the conflict being supported, the Task Force believes that our preparedness would be enhanced if the IPP program were carried out on the following basis:

a. Short War - A short, intense war (followed by theater nuclear exchange if not concluded successfully by conventional weapons) should be supported completely by on-hand WRM stocks plus existing production from the Defense Industrial Base. It is imperative that the current and anticipated funding and acquisition realities be brought into consonance with the conflict scenario, force level and utilization, and logistic support capability.

b. Long War - In the case of an indefinite length conventional war, the necessary resources should be planned and allocated so as to provide an industrial capacity sufficient to meet the assessed requirement by M-Day plus two years, assuming that full national mobilization conditions will exist from M-day. Elements of the industrial base (e.g., new facilities for selected weapons such as tactical aircraft, tanks, guns ships, etc.) that would be expanded beyond a peacetime configuration should be identified as a part of this planning process.

It should be noted that this is primarily a comprehensive planning requirement; acquisitions should be made only to the extent needed to meet the two year requirement. Such a program will undoubtedly result in conflicting Service requirements on the industrial base and will also have a major impact on the civilian sector. Therefore, it should probably be directed from a single point in the Executive Branch. Further, there will be distinct advantages in creating a consistent and uniform planning system--which does not now exist.

c. Short to long Transition - To provide for the transition from the short intense war case to the indefinite length conventional war, a surge capability should be established that will expand the existing production output of the Defense Industrial Base by a significant factor. This surge capability will permit the Defense Industrial Base to more effectively support a spectrum of conflict situations.

The suggested approach for establishing the surge capability is to plan and fund the industrial Preparedness Measures necessary

to expand existing production to 3 work shifts per day, 8 hour shifts, 5 days per week (3 x 8 x 5) or to 2 shifts per day, 10 hours per shift, 6 days per week (2 x 10 x 6)--or on some other basis which will provide the equivalent production capability based on the particular commodity. Initial planning of this surge capability should be based on reaching the maximum achievable production rate (within existing facilities) in either six months or one year, but not to exceed a maximum mobilization requirement. A decision should be made on which time period is the most suitable and economically feasible, and long lead items should be procured and stockpiled on a basis which will support the selected period. The responsibility for planning and implementation of the surge capability should be assigned to the designated materiel acquisition manager who is normally responsible for peacetime procurement of the end item being planned. Where various items are in competition for the available production capacity, support analysis and analysis and allocation should be controlled by a central focal point within the Services and in OSD.

d. Deterrence - Ways should be planned for how to use our industrial and economic power in order to deter the Soviets mobilization measures.

E. RECOMMENDED ACTIONS

1. Department of Defense

- o Initiate a resource analysis study to determine the responsiveness potential of the Defense Industrial Base and of the National Economy to the "Surge" and "Long War" cases.
- o Issue a directive revising the guidance by which Industrial Preparedness Planning is carried out to make it consistent with scenarios, force structure, logistic support requirements, and industrial base capacity.
- o Develop and issue guidance to separate "intent or industrial warning" from "strategic warning" for use of the Defense Industrial Base as an element of deterrence and to improve its responsiveness to industrial warning signals when received.
- o Integrate "Surge" and "Mobilization" planning requirements into current procurements, and develop industrial resource planning capabilities for multiple-program "bottlenecks" in Surge and overall Mobilization planning.
- o Develop plans for making use of the Defense Industrial Base as an element of deterrence.

- o Develop and issue guidance for support to allies, Security Assistance (FMS), and use of foreign sources in relation to logistic support and contribution to the Defense Industrial Base.
- o Initiate procurement (DoD and the Federal Preparedness Agency) and/or obtain industrial "options" for semi-finished material and components and critical long-lead parts for "Surge" capability and selected "Long War" capability.
- o Highlight to the President, the Congress, the JCS, the CINC's, and the Field Commanders the current lack of funding and its consequences for the Short War, Surge, and Long War capability.

2. Executive Branch

A comprehensive review should be undertaken by the National Security Council of the U.S. industrial base. Such a review should include the following:

- o The strategic environment
- o Present capability to support emergency/wartime requirements for direct defense, essential civilian, and general civilian sectors
- o Expansion capability under various mobilization criteria
- o Effects of reliance on foreign production
- o Interaction between the industrial base and the availability of raw materials and energy
- o Cost of different preparedness measures
- o The assumptions underlying the production requirements for direct defense, essential civilian, and general civilian sectors
- o Recommended courses of action to strengthen the procedures for planning the best use of the total industrial base during emergency or war situations, and for deterrence
- o Assessment of the need for a standing inter-agency group for guiding industrial base planning.

The completion of such a comprehensive review of the U.S. industrial base would go a long way toward providing complete and substantiated answers to the "10 Questions" posed last year by the Joint Committee on Defense Production of the Congress.

APPENDIX I
BIOGRAPHIES

THOMAS V. JONES

Thomas V. Jones is chairman and chief executive officer of Northrop Corporation, a Los Angeles-based diversified industrial firm which operates primarily in the fields of aircraft, electronics, communications, construction and technical and management support services.

Mr. Jones joined Northrop in 1953 as assistant chief engineer and was named senior vice president for development planning in 1958. He was elected president in 1959; chief executive officer in 1960; and chairman of the board in 1963. From 1963 to 1975, he served in all three capacities, as chairman, chief executive officer and president.

Before joining Northrop, Mr. Jones was a member of the staff of the RAND Corporation, scientific advisors to the United States Air Force. At RAND, he directed and wrote a widely used logistical study: "Capabilities and Operating Costs of Possible Future Transport Airplanes."

From 1947 to 1951 he served the Brazilian Government as technical advisor to the Brazilian Air Ministry in Rio de Janeiro. Concurrently, he held the post of professor and department head in the Brazilian Institute of Technology.

He was with Douglas Aircraft Company as an engineer during and after World War II.

Mr. Jones was born in Pomona, Calif., July 21, 1920. He was graduated from Stanford University in 1942, magna cum laude in engineering, and received an honorary doctor of law degree from George Washington University, Washington, D.C., in June, 1967.

Mr. Jones and his wife, Ruth, have two children.

DALE W. CHURCH

Dale W. Church is Deputy Director of Defense Research and Engineering (Acquisition Policy). Prior to assuming this position, he was Corporate Counsel Assistant Secretary and Director of Contracts, ESL, Inc., Sunnyvale, California

Mr. Church attended Oregon State University receiving a B.S. degree in Business and Technology. He also holds a Juris Doctor degree from George Washington University and is a member of California and District of Columbia Bars. Mr. Church has a wide range of experience in the field of Contract Policy negotiation, administration and settlement, both in government and private industry. He has had a private legal practice with emphasis on corporate law and has been a member of the Board of Directors of several corporations.

Mr. Church is married to the former Mollie Ann Harper. They have one young son, Forrest Gregory Church. They reside in McLean, Virginia.

JACQUES S. GANSLER

Mr. Gansler is Vice President of The Analytic Sciences Corporation (TASC) formerly served as Deputy Assistant Secretary of Defense responsible for Materiel Acquisition. Prior to this, he was Assistant Director of Defense Research and Engineering, first responsible for Electronics and later for R&D Planning

Before joining the Office of the Secretary of Defense, Mr. Gansler was Vice President and Director of Business Development at the Avionics Division International Telephone and Telegraph Corporation (ITT).

He previously held management positions with both Singer Company and Raytheon Corporation.

Mr. Gansler has a B.E. from Yale University, an M.S. from Northeastern University (both in Electrical Engineering) and an M.A. in Political Economy from the New School for Social Research. He has completed his course work for a Ph. D. in Economics at American University. He has been an instructor in Servo-mechanism, and has published numerous professional papers.

JAMES R. KURTH

James R. Kurth is Associate Professor of Political Science at Swarthmore College, Swarthmore, Pennsylvania. He received his B.A. in history from Stanford University (1960) and his M.A. and Ph.D. in political science from Harvard University (1967, 1968). He taught at Harvard University as Assistant Professor and then Associate Professor in the Department of Government from 1967 to 1973 and has been at Swarthmore College since 1973. He also served as an officer aboard the U.S.S. St. Paul (CA-73) (1960-1962). His professional interests are American foreign policy and American defense policy, and he has published extensively on these topics, including several articles on the economics of weapons procurement. During 1976-77 he was a research associate at the Institute for Advanced Study, Princeton, New Jersey, where he was writing a book on the relations between industrial structure and foreign and defense policies.

APPENDIX II



MANPOWER,
RESERVE AFFAIRS
AND LOGISTICS

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D. C. 20301

4 August 1977

The ASPR Committee has been considering the matter of overhead management policies for DoD contracts in order to clarify the responsibilities of DoD personnel and to establish a more uniform and consistent treatment of contractors' costs. Attached for your review and comment are the proposed ASPR changes developed by the Committee in this regard.

Material covered by the changes includes:

- a. overhead settlement by procurement determination for:
 - (i) all locations in a multi-divisional complex for which a Corporate Administrative Contracting Officer (CACO) has been established;
 - (ii) locations to which an ACO is assigned; and
 - (iii) educational institutions.
- b. overhead settlement by audit determination at all locations not designated for procurement determination.
- c. the establishment of an Indirect Cost Monitoring Office to assure uniform application of procurement policies and consistent treatment of cost allowability.
- d. the establishment of a quick close-out procedure.
- e. revisions to the applicable clauses in Section VII to conform to the revised coverage.
- f. revisions to Section XX, Part 9, to clarify the responsibilities of the CACO.



g. the addition of a new Part 10 to Section XX to enunciate the policies of a Cost Monitoring Coordinator and the coordinator's relations with the contracting officer and the auditor.

Although paragraph 3-705(c)(2) concerning the issuance of DCAA Form 1 by the auditor is included in this coverage, the matter is being further reviewed within DoD because of concern regarding the effect of the issuance of the form on contracting officers' decisions.

Your comments (25 copies are required) on the proposed changes are requested within 60 days from the date of this letter.

Sincerely,

T. F. Blake, Jr.
for THOMAS F. BLAKE, JR.
Colonel, USAF
Chairman, ASPR Committee

Attachments
Tabs A thru H

Proposed Revisions to ASPR 1-406:1-406 Contract Administration Functions.

(a) and (b) - No change.

(c)(i) through (c)(iv) - No change.

(c)(v) ~~negotiate-billing-and-final-overhead-rates-when-the contract-contains-the-clause-in-3-704;-except-when negotiation-responsibility-is-placed-elsewhere-in accordance-with-Departmental-procedures;~~ establish final overhead rates and billing rates for those contractors meeting the criteria for procurement determination set forth in 3-705;]

(c)(vi) through (c)(lxvii) No change.

(c)(lxviii) negotiate and execute contractual documents for settlement of cancellation charges under multi-year procurements; ~~and~~

(c)(lxix) evaluate and monitor contractor's procedures for complying with the "Restrictive Markings on Technical Data" clause in 7-104.9(p); ~~;~~ ;

Add [(c)(lxx) monitor the contractor's costs as set forth in 20-1000;]

[(c)(lxxi) issue Notice of Intent to Disallow or not Recognize Costs (see 15-206); and]

[(c)(lxxii) negotiate forward pricing rate agreements.]

Proposed Revisions to ASPR Section III, Part 7Part 7 - Establishing Overhead Rates

3-700 Scope of Part. This Part sets forth the policy and procedure for establishing final overhead rates and billing rates for use in making interim reimbursements and final settlements under Department of Defense contracts.

3-701 Definitions.

3-701.1 Final Overhead Rates. The term final overhead rate, as used in this Part, means a percentage or dollar factor which expresses the ratio(s) mutually agreed upon by the Government and the contractor, at the close of the contractor's fiscal year, of indirect expense incurred in the period to direct labor, manufacturing cost, or other appropriate base of the same period.

3-701.2 Overhead Billing Rates. The term overhead billing rate, as used in this Part, means an overhead rate for interim reimbursement purposes which may be adjusted as necessary pending establishment of the final overhead rate.

3-701.3 Overhead (Indirect Cost) The term overhead (indirect costs), as used in this part, is defined in 15-203 and 15-305.

3-701.4 Postdetermined Overhead Rate. The term postdetermined overhead rate, as used in this part relative to contracts with educational institutions, refers to the establishment of the rate after the completion of the period to which the rate pertains.

3-701.5 Predetermined Overhead Rate. The term predetermined overhead rate as used in this part refers to the situations involving educational institutions when final overhead rates are used to establish the amount of reimbursement for the indirect costs to be incurred during a future period of contract performance (see 3-704.2(b)).

3-702. Purpose.

3-702.1 Final Overhead Rates. The reason for establishing final overhead rates is to provide a method for determining the amount of reimbursement for indirect costs for a specific period.

3-702.2 Overhead Billing Rates. These rates provide a method for interim reimbursement of incurred indirect costs at estimated rates, subject to appropriate adjustment when final rates are established.

3-703 Applicability. Billing and final overhead rates will be used for all cost reimbursement type contracts; final overhead rates shall be considered in accordance with 15-106 for the final pricing of fixed price incentive and fixed price

redeterminable type contracts as well as other contracts which require settlement of indirect costs prior to establishing final contract price. Overhead billing rates will be used in determining progress payment amounts.

3-704 Contract Clauses.

3-704.1 Contracts with Contractors other than Educational Institutions. Insert the appropriate clause in cost type contracts with other than educational institutions:

- a. Cost reimbursable supply - 7-203.4(a) or (b)
- b. Cost reimbursable research and development - 7-402.3
- c. Cost reimbursable construction - 7-605.5

3-704.2 Contracts with Educational Institutions.

(a) Contracts with Educational Institutions - Post-determined Rates. Insert the clause in 7-203.4(a) (modified as required) in contracts with educational institutions when post-determined overhead rates are to be used pursuant to this Part.

(b) Contracts with Educational Institutions - Predetermined Rates. Provision may be made in cost reimbursement type research and development contracts with educational institutions for payment of reimbursable indirect costs on the basis of predetermined overhead rates, provided that this basis is used with respect

to all contracts with an institution. Insert the clauses in 7-203.4(a) (modified as required) and 7-403.9 in contracts with educational institutions when such negotiated overhead rates are to be used pursuant to that Part. When predetermined overhead rates are to be used and no such rate(s) have been established for the contractor's current fiscal year, the contracting officer shall obtain from the contractor a proposal for a predetermined overhead rate(s) to be applied until the end of such fiscal year. As far as practicable, such proposal should be based on the contractor's cost experience under similar contracts together with supporting data. The overhead rate(s) for such initial period shall be predetermined by negotiation and set forth in the contract schedule. The schedule shall also include the bases to which the rate(s) apply. Pending establishment of predetermined overhead rates for the initial period, the contractor shall be reimbursed at overhead billing rates acceptable to the contracting officer, subject to appropriate adjustment when the predetermined rates for that period are established.

3-705 Procedure.

(a) The clauses in 7-203.4, 7-402.3 and 7-605.5 provide for the establishment of final overhead rates as part of the "Allowable Cost, Fee, and Payment" determination. Such rates will be established by either procurement or audit determination in accordance with the following criteria:

1. Final overhead rates shall be established by procurement determination for all locations in a multi-divisional contractor complex for which a Corporate Administrative Contracting Officer (CACO) has been established, on a coordinated or centralized basis as jointly determined by the CACO and individual ACO's based upon the degree of centralization within the contractor complex and the requirements of the parties concerned. Where joint agreement cannot be reached, the matter will be referred to the Indirect Cost Monitoring Office (ICMO) for resolution. When negotiations are conducted on a coordinated basis, individual ACO's are responsible for coordinating with the CACO to assure consistency of cost determinations. In addition, those contractor locations, not under an assigned CACO, but where a resident ACO (see 20-903) is assigned, and all educational institutions will follow the procedure of procurement determination of overhead rates. Exceptions to this basic policy may be made in special circumstances when the contract administration and audit services agree that one or more of the following circumstances apply:

- a. The contractor location involves primarily fixed price work with only minor cost type contracts, or,
- b. The contractor location has a history of no known disputes and few cost problems which should result in a settlement which can be expected with little difficulty, or

c. The administrative cost of procurement determination is in excess of benefits to be gained there from, or,

d. Special circumstances which dictate audit determination and the procurement, contract administration and audit services agree on a deviation.

2. Final overhead rate settlements will be determined by the cognizant auditor at all locations not designated for procurement determination.

(b) Established by Procurement Determination. For those contractors meeting the criteria for procurement determination as set forth in (a) (1) above, responsibility for establishing final overhead rates will rest either with the CACO or the resident ACO. The procedure should consist of: (i) submission by the contractor of an annual overhead rate proposal consisting of actual cost experience during the period, together with supporting data to the contracting officer and a copy to the cognizant DCAA audit activity; (ii) submission of an advisory audit report to the contracting officer; (iii) development of a negotiation position by the Government negotiating team; (iv) conduct of negotiations; (v) cost or pricing data certification; (vi) preparation of a negotiation memorandum; and (vii) preparation and execution by both parties of a written overhead rate agreement. The overhead rate agreement shall be executed for the Government by the contracting officer.

1. The Government team will be headed by the Contracting officer. Other team members should include the cognizant auditor and any technical/functional personnel as required. Those providing a significant input to the Government position will be invited to attend the negotiation. In addition, those buying offices having significant dollar interest will be invited to participate in the negotiation.

2. The cognizant audit activity shall submit an advisory report to the Contracting Officer. Such report shall (i) identify any advance agreements and special provisions governing specific contracts, (ii) set forth the findings of the audit activity, (iii) include results of discussion of such findings with the contractor, and (iv) show the cost impact of any technical recommendations.

3. When there is a significant difference of opinion between the Government and contractor concerning the allowability, allocability or reasonableness of indirect costs or the acceptability of the bases used in developing the overhead rates, representatives of the audit activity, technical activity and the contracting officer will discuss the areas of disagreement prior to the negotiation conference with the contractor. Special attention should be directed to those issues which impact prospective and subsequent final overhead rate determinations. Such issues should be resolved in order to preclude repetitive consideration of the same items.

4. The negotiation conference will be conducted by the contracting officer or his authorized representative. The results of the negotiation will be binding on all procuring activities. In the event overhead rates other than the final overhead rates were utilized to effect a settlement or closure of a specific contract, that fact will not be considered a precedent when negotiating final overhead rates.

5. At the completion of the negotiation, the contracting officer will prepare a negotiation memorandum (see 3-811) and a written overhead rate agreement which will conform to paragraph "(g)" of the clause in 7-203.4, 7-402.3 and 7-605.5. The negotiation memorandum will address:

- (i) disposition of significant matters in the audit report.
- (ii) resolution of questioned costs, and
- (iii) identification of cost or pricing data submitted during negotiation and relied upon in reaching a settlement.

(c) Established by Audit Determination.

(1) The procedure for the establishment of final overhead rates by audit determination should consist of

- (i) submission by the contractor of an overhead rate proposal consisting of actual cost experience during the period, together with supporting data to the cognizant audit activity with a copy to the cognizant ACO;
- (ii) audit and discussion of audit findings with the contractor;
- (iii) cost or pricing data certification;
- (iv) preparation of a written

overhead rate agreement, which will conform to paragraph "(g)" of the clause in 7-203.4, 7-402.3 and 7-605.5 signed by the contractor and auditor-in-charge; and (v) preparation of an audit report detailing the audit findings, the cost impact of technical recommendations and results of discussion of such findings with the contractor.

(2) In the event agreement is not reached, the auditor will prepare and issue an advisory audit report and DCAA Form 1 detailing the items of exception to which the contractor can formally appeal to the cognizant ACO.

(d) Distribution of Documents.

1. One executed copy of the overhead rate agreement will be furnished to the contractor, the cognizant CACO (if assigned), the cognizant ACO, and the cognizant auditor. In addition, copies will be distributed to other Departments, and (upon specific request) any other interested Government agencies. Departments may make further distribution to activities within their departments and shall insert one copy in each contractor general file (see S2-101.2 and S2-102.4).

2. One copy of the negotiation memorandum prepared under procurement determination procedures and the audit report prepared under audit determination procedures will be furnished to the cognizant CACO (if assigned), the cognizant ACO, and the cognizant auditor. Upon specific request, a copy will be furnished to other Departments or Government Agencies.

(e) Indirect Cost Monitoring Office.

The Indirect Cost Monitoring Office (ICMO), under the direction of the Deputy Assistant Secretary of Defense (Procurement), is responsible for assuring uniform application of procurement policies and consistent treatment of cost allowability. The function of the ICMO will include:

1. Maintaining a data bank of the rationale behind the various ASPR Section XV cost principles and authoritative decisions thereon.

2. Maintain liaison with DCAA to achieve maximum consistency between procurement and audit determined final overhead rates.

3. Attending selected negotiations related to procurement determinations of final overhead rates to act as an advisor and to be alert to significant areas of dispute or need for policy change.

4. Recommending to the DASD (Procurement) policy changes as needed.

5. Monitoring establishment of CACO's and conduct of procurement determination assignments in accordance with established criteria.

6. Serve as the DOD focal point for reviews and reports by GAO and Internal Auditors regarding indirect cost matters and serve as a central point of contact for industry regarding indirect cost and final settlement matters.

7. Maintain a master list of contractor locations and responsible activities where final overhead rates are determined by procurement.

8. Resolve disagreements between CACO's and ACO's regarding final overhead determination responsibilities.

3-706. Interagency Coordination for Educational Institutions.

Each educational institution will be assigned to a single Government agency which will be responsible for negotiating final overhead rates. The procedures set forth in 3-705 will be followed in determining rates for those institutions assigned to the Department of Defense. The sponsoring Department will notify other interested Government agencies of each pending negotiation and invite these agencies to send representatives to participate in the negotiations. Departments having contracts with institutions assigned to nondefense agencies for negotiation of overhead rates will be invited to participate in such negotiations. When institutions are assigned to agencies other than the DOD, the cognizant agency will prepare and distribute copies of executed overhead rate agreements to interested Departments.

3-707 Cost Sharing Rates. Cost sharing arrangements are frequently made wherein the cost participation by the contractor is evidenced by an agreement to accept overhead rates which are lower than the anticipated actual overhead rates. In such cases, a negotiated fixed-ceiling overhead rate may be used for application prospectively, provided that, in the event final overhead rates established by procurement or audit determination are less than the negotiated rates, the negotiated rates will be reduced. When reductions are necessary, they will be accomplished in accordance with 3-705. The Government will not be obligated to pay any additional amounts on account of overhead above the negotiated fixed-ceiling rates (For cost sharing practices under research and development contracts, see 4-110).

3-708 Quick Closeout Procedure. When indirect costs allocated to a contract are relatively insignificant and agreement can be reached on a reasonable estimate of allocable dollars, a physically completed contract may be closed in advance of the final overhead rate determination. This determination shall be considered final for the affected contract closed prior to the final overhead settlement. No adjustment shall be made against, or the affect of any quick closeout allowed to impact, other contracts for any over or under recovery disclosed at the time of final overhead rate determination.

7-203.4 Allowable Cost, Fee, and Payment.

(a) Except as provided in (b) below, insert the following clause in all cost-reimbursement type supply contracts. *Additional instructions for use are in (c) below.*

ALLOWABLE COST, FIXED FEE, AND PAYMENT (1974 APR) []

(a) For the performance of this contract, the Government shall pay to the Contractor:

(i) the cost thereof (hereinafter referred to as "allowable cost") determined by the Contracting Officer to be allowable in accordance with:

(A) Part 2 of Section XV of the Armed Services Procurement Regulation as in effect on the date of this contract [], provided that the allowable indirect costs under this contract shall be obtained by applying overhead rates established under (e) below to bases agreed upon under (f) below;] and

(B) the terms of this contract; and

(ii) such fixed fee, if any, as may be provided for in the Schedule.

(b) Payments shall be made to the Contractor when requested as work progresses, but not more frequently than bi-weekly, in amounts approved by the Contracting Officer. The Contractor may submit to an authorized representative of the Contracting Officer, in such form and reasonable detail as such representative may require, an invoice or public voucher supported by a statement of cost for the performance of this contract and claimed to constitute allowable cost. For this purpose, except as provided herein with respect to pension contributions, the term "costs" shall include only those recorded costs which result, at the time of the request for reimbursement, from payment by cash, check, or other form of actual payment for items or services purchased directly for the contract, together with (when the Contractor is not delinquent in payment of costs of contract performance in the ordinary course of business) costs incurred, but not necessarily paid, for materials which have been issued from the Contractor's stores inventory and placed in the production process for use on the contract, for direct labor, for direct travel, for other direct inhouse costs, and for properly allocable and allowable indirect costs, as is shown by records maintained by the Contractor for purposes of obtaining reimbursement under Government contracts plus the amount of progress payments which have been paid to Contractor's sub-contractors under similar cost standards. In addition, when pension contributions are paid by the Contractor to the retirement fund less frequently than quarterly, accrued costs therefor shall be excluded from indirect costs for payment purposes until such costs are paid. If pension contributions are paid on a quarterly or more frequent basis, accruals therefor may be included in indirect costs for payment purposes *provided* that they are paid to the fund within thirty (30) days after the close of the period covered. If payments are not made to the fund within such thirty-day period, pension contribution costs shall be excluded from indirect cost for payment purposes until payment has been made. The restriction on payment more frequently than bi-weekly and the requirement of prior payment for items or services purchased directly for the contract shall not apply where the Contractor is a small business concern.

(c) Promptly after receipt of each invoice or voucher and statement of cost, the Government shall, except as otherwise provided in this contract, subject to the provisions of (d) below, make payment thereon as approved by the Contracting Officer. Payment of the fixed fee, if any, shall be made to the Contractor as specified in the Schedule; *provided*, however, that after payment of eighty-five percent (85%) of the fixed fee set forth in the Schedule, the Contracting Officer may withhold further payment of fee until a reserve shall have been set aside in an amount which he considers necessary to protect the interests of the Government, but such reserve shall not exceed fifteen percent (15%) of the total fixed fee or one hundred thousand dollars (\$100,000), whichever is less.

(d) Final annual overhead rates and the appropriate bases shall be established by procurement or audit determination in accordance with the procedures of Section 3-700 of the Armed Services Procurement Regulation in effect for the period covered by the proposal for final overhead rates.

(e) The contractor, as soon as possible but not later than ninety (90) days after the expiration of each of its fiscal years for estimating accumulating, and reporting contract costs, shall submit to the Contracting Officer with a copy to the cognizant audit activity a proposed final overhead rate(s) for that period based on the Contractor's actual cost experience during that period, together with supporting costs data, including a list of contracts and applicable base costs to which the proposed rates apply as well as identification of costs voluntarily deleted by the contractor. Establishment of final annual overhead rate(s) shall be undertaken as promptly as practicable after receipt of the Contractor's proposal. The Contractor shall submit an executed Certificate of Current Cost or Pricing Data applicable to data furnished in connection with establishment of any final overhead rate(s).

(f) Allowability of costs and acceptability of cost allocation methods relevant to establishment of final overhead rate(s) shall be established in accordance with Part of Section XV of the Armed Services Procurement Regulation in effect on the date of this contract.

(g) Final annual overhead rate(s) which are established shall be set forth in a written overhead rate understanding executed by either the Contractor and the Contracting Officer or the Contractor and the Auditor-In-Charge. Such understanding is automatically incorporated in this contract upon execution and shall specify (i) the agreed final annual rate(s), (ii) the base(s) to which the rate(s) apply, (iii) the periods for which the rate(s) apply, (iv) any specific overhead items treated as direct costs in the settlement, and (v) a list of affected contracts, identifying any with advance agreements or special provisions and the rates applicable thereto. The overhead rate understanding shall not change any monetary ceiling, contract obligation, or specific cost allowance or disallowance provided for in this contract.

(h) Pending establishment of final annual overhead rate(s) for any period, the Contractor shall be reimbursed at billing rate(s) established by the Contracting Officer or the auditor, subject to appropriate adjustment when final rate(s) for that period are established. To prevent

substantial over or under payment billing rate(s) may, at the request of either party, be revised by mutual agreement, either retroactively or prospectively. However, billing rates will recognize the anticipated annual rates that will result rather than rate fluctuations during the year due to seasonal or monthly volume changes.

(i) Notwithstanding any other provisions of this clause, the quick closeout procedures set forth in Section 3-700 of the Armed Services Procurement Regulation in effect on the date of this contract, may be used when mutually agreeable to the Contractor and the Contracting Officer. ⁷

(j) ~~(d)~~ At any time or times prior to final payment under this contract, the Contracting Officer may have the invoices or vouchers and statements of cost audited. Each payment theretofore made shall be subject to reduction for amounts included in the related invoice or voucher which are found by the Contracting Officer, on the basis of such audit, not to constitute allowable cost. Any payment may be reduced for overpayments, or increased for underpayments, on preceding invoices or vouchers.

(k) ~~(e)~~ On receipt and approval of the invoice or voucher designated by the Contractor as the "completion invoice" or "completion voucher" and upon compliance by the Contractor with all the provisions of this contract (including, without limitation, the provisions relating to patents and the provisions of ~~(4)~~ [1] below), the Government shall promptly pay to the Contractor any balance of allowable cost, and any part of the fixed fee, which has been withheld pursuant to (c) above or otherwise not paid to the Contractor. The completion invoice or voucher shall be submitted by the Contractor promptly following completion of the work under this contract but in no event later than one (1) year (or such longer period as the Contracting Officer may in his discretion approve in writing) from the date of such completion.

(l) ~~(f)~~ The Contractor agrees that any refunds, rebates, credits, or other amounts (including any interest thereon) accruing to or received by the Contractor or any assignee under this contract shall be paid by the Contractor to the Government, to the extent that they are properly allocable to costs for which the Contractor has been reimbursed by the Government under this contract. Reasonable expenses incurred by the Contractor for the purpose of securing such refunds, rebates, credits, or other amounts shall be allowable costs hereunder when approved by the Contracting Officer. Prior to final payment under this contract, the Contractor and each assignee under this contract whose assignment is in effect at the time of final payment under this contract shall execute and deliver:

- (i) an assignment to the Government, in form and substance satisfactory to the Contracting Officer, of refunds, rebates, credits, or other amounts (including any interest thereon) properly allocable to costs for which the Contractor has been reimbursed by the Government under this contract; and
- (ii) a release discharging the Government, its officers, agents, and employees from all liabilities, obligations, and claims arising out of or under this contract, subject only to the following exceptions:

- (A) specified claims in stated amounts or in estimated amounts where the amounts are not susceptible of exact statement by the Contractor;
- (B) claims, together with reasonable expenses incidental thereto, based upon liabilities of the Contractor to third parties arising out of the performance of this contract; *provided*, that such claims are not known to the Contractor on the date ~~of~~ [of] the execution of the release; and *provided further* that the Contractor gives notice of such claims in writing to the Contracting Officer not more than six (6) years after the date of the release or the date of any notice to the Contractor that the Government is prepared to make final payment, whichever is earlier; and
- (C) claims for reimbursement of costs (other than expenses of the Contractor by reason of his indemnification of the Government against patent liability), including reasonable expenses incidental thereto, incurred by the Contractor under the provisions of this contract relating to patents.

[(m)] ~~(g)~~ Any cost incurred by the Contractor under the terms of this contract which would constitute allowable cost under the provisions of this clause shall be included in determining the amount payable under this contract, notwithstanding any provisions contained in the specifications or other documents incorporated in this contract by reference, designating services to be performed or materials to be furnished by the Contractor at his expense or without cost to the Government.

[(n) Any failure by the parties to agree on a final overhead rate under this clause shall be considered a dispute concerning a question of fact for decision by the Contracting Officer within the meaning of the "Disputes" clause of this contract.]

(End of clause)

7-203.4 (cont.)

(b) When, in accordance with 3-405.4, incentive revision of the fee in a cost-reimbursement type supply contract is to be provided, insert the following clause. Additional instructions for use of the clause are in (c) below.

ALLOWABLE COST, INCENTIVE FEE, AND PAYMENT (1973-JUL)

- (a)(1) For the performance of this contract, the Government shall pay to the Contractor:
- (i) the cost thereof (hereinafter referred to as "allowable cost") determined by the Contracting Officer to be allowable in accordance with:
 - (A) Part 2 of Section XV of the Armed Services Procurement Regulation as in effect on the date of this contract , provided that the allowable indirect costs under this contract shall be obtained by applying overhead rates established under (e) below to bases agreed upon under (f) below;] and
 - (B) the terms of this contract; and
 - (ii) a fee determined as provided in this contract.
- (2) The target cost and target fee of this contract are set forth in the Schedule and shall be subject to adjustment in accordance with ~~(h)~~ and ~~(i)~~ below. As used throughout this contract the term—
- (i) "target cost" means the estimated cost of this contract initially negotiated, adjusted in accordance with ~~(h)~~ below; and
 - (ii) "target fee" means the fee which was initially negotiated on the assumption that this contract would be performed for a cost equal to the estimated cost of this contract initially negotiated, adjusted in accordance with ~~(h)~~ below.
- (b) Payments shall be made to the Contractor when requested as work progresses, but not more frequently than bi-weekly, in amounts approved by the Contracting Officer. The Contractor may submit to an authorized representative of the Contracting Officer, in such form and reasonable detail as such representative may require, an invoice or public voucher supported by a statement of cost for the performance of this contract and claimed to constitute allowable cost. For this purpose, except as provided herein with respect to pension contributions, the term "costs" shall include only those recorded costs which result, at the time of the request for reimbursement, from payment by cash, check, or other form of actual payment for items or services purchased directly for the contract, together with (when the Contractor is not delinquent in payment of costs of contract performance in the ordinary course of business) costs incurred, but not necessarily paid, for materials which have been issued from the Contractor's stores inventory and placed in the production process for use on the contract, for direct labor, for direct travel, for other direct inhouse costs, and for properly allocable and allowable indirect costs, as is shown by records maintained by the Contractor for purposes of obtaining reimbursement under Government contracts plus the amount of progress payments which have been paid to Contractor's subcontractors under similar cost standards. In addition, when pension contributions are paid by the Contractor to the retirement fund less frequently than quarterly, accrued costs therefor shall be excluded from indirect costs for payment purposes until such costs are paid. If pension contributions are paid on a quarterly or more frequent basis, accruals therefor may be included in indirect costs for payment purposes provided that they are paid to the fund within thirty (30) days after the close of the period covered. If payments are not made to the fund within such thirty-day period, pension contribution costs shall be excluded from indirect cost for payment purposes until payment has been made. The restriction on payment more frequently than bi-weekly and the requirement of prior payment for items or services purchased directly for the contract shall not apply where the Contractor is a small business concern.

(c) Promptly after receipt of each invoice or voucher and statement of cost, the Government shall, except as otherwise provided in this contract, subject to the provisions of (d) below, make payment thereon as approved by the Contracting Officer. Normally, payment of fee shall be made to the Contractor as specified in the Schedule. However, when in the opinion of the Contracting Officer, the Contractor's performance or cost indicates that target will not be achieved, the Government shall pay on the basis of such lesser fee as is appropriate. Further when the Contractor demonstrates that his performance or cost clearly indicates that he will earn a fee significantly in excess of target fee, the Government may, in the sole discretion of the Contracting Officer, pay on the basis of such higher fee as is appropriate. After payment of eighty-five percent (85%) of the applicable fee, the Contracting Officer may withhold further payment of fee until a reserve shall have been set aside in an amount which he considers necessary to protect the interests of the Government, but such reserve shall not exceed fifteen percent (15%) of the total applicable fee or one hundred thousand dollars (\$100,000) whichever is less.

[(d) Final annual overhead rates and the appropriate bases shall be established by procurement or audit determination in accordance with the procedures of Section 3-700 of the Armed Services Procurement Regulation in effect for the period covered by the proposal for final overhead rates.]

(e) The Contractor, as soon as possible but not later than ninety (90) days after the expiration of each of its fiscal years for estimating, accumulating, and reporting contract costs, shall submit to the Contracting Officer with a copy to the cognizant DCAA/activity a proposed final overhead rate(s) for that period based on the Contractor's actual cost experience during that period, together with supporting costs data - including a list of contracts and applicable base costs to which the proposed rates apply as well as identification of costs voluntarily deleted by the contractor. Establishment of final annual overhead rate(s) shall be undertaken as promptly as practicable after receipt

of the Contractor's proposal. The Contractor shall submit an executed Certificate of Current Cost or Pricing Data applicable to data furnished in connection with establishment of any final overhead rate(s).

(f) Allowability of costs and acceptability of cost allocation methods relevant to establishment of final overhead rate(s) shall be established in accordance with Part 2 of Section XV of the Armed Services Procurement Regulation in effect on the date of this contract.

(g) Final annual overhead rate(s) which are established shall be set forth in a written overhead rate understanding executed by either the Contractor and the Contracting Officer or the Contractor and the Auditor-in-Charge. Such understanding is automatically incorporated in this contract upon execution and shall specify (i) the agreed final annual rate(s), (ii) the base(s) to which the rate(s) apply, (iii) the periods for which the rate(s) apply, (iv) any specific overhead items treated as direct costs in the settlement, and (v) a list of affected contracts, identifying any with advance agreements or special provisions and the rates applicable thereto. The overhead rate understanding shall not change any monetary ceiling, contract obligation, or specific cost allowance or disallowance provided for in this contract.

(h) Pending establishment of final annual overhead rate(s) for any period, the Contractor shall be reimbursed at billing rate(s) established by the Contracting Officer or the auditor, subject to appropriate adjustment when final rate(s) for that period are established. To prevent substantial over or under payment billing rate(s) may, at the request of either party, be revised by mutual agreement, either retroactively or prospectively. However, billing rates will recognize the anticipated annual rates that will result rather than rate fluctuations during the year due to seasonal or monthly volume changes.

(i) Notwithstanding any other provisions of this clause, the quick closeout procedures set forth in Section 3-700 of the Armed Services Procurement Regulation in effect on the date of this contract, may be used when mutually agreeable to the Contractor and the Contracting Officer.]

[(j)] ~~(d)-At any time or times prior to final payment under this contract, the Contracting Officer may have the invoices or vouchers and statements of cost audited. Each payment therefore made shall be subject to reduction for amounts included in the related invoice or voucher which are found by the Contracting Officer, on the basis of such audit, not to constitute allowable cost. Any payment may be reduced for overpayments, or increased for underpayments, on preceding invoices or vouchers.~~

[(k)] ~~(e) On receipt and approval of the invoice or voucher designated by the Contractor as the "completion invoice" or "completion voucher" and upon compliance by the Contractor with all the provisions of this contract (including without limitation, the provisions relating to patents and the provisions of (f) [(1)] below), the Government shall promptly pay to the Contractor any balance of allowable cost, and any part of the fee, which has been withheld pursuant to (c) above or otherwise not paid to the Contractor. The completion invoice or voucher shall be submitted by the Contractor promptly following completion of the work under this contract but in no event later than one (1) year (or such longer period as the Contracting Officer may in his discretion approve in writing) from the date of such completion.~~

[(1)] - (f) - The Contractor agrees that any refunds, rebates, credits, or other amounts (including any interest thereon) accruing to or received by the Contractor or any assignee under this contract shall be paid by the Contractor to the Government to the extent that they are properly allocable to costs for which the Contractor has been reimbursed by the Government under this contract. Reasonable expenses incurred by the Contractor for the purpose of securing such refunds, rebates, credits, or other amounts shall be allowable costs hereunder when approved by the Contracting Officer. Prior to final payment under this contract, the Contractor and each assignee under this contract whose assignment is in effect at the time of final payment under this contract shall execute and deliver:

- (i) an assignment to the Government, in form and substance satisfactory to the Contracting Officer, of refunds, rebates, credits, or other amounts (including any interest thereon) properly allocable to costs for which the Contractor has been reimbursed by the Government under this contract; and
- (ii) a release discharging the Government, its officers, agents, and employees from all liabilities, obligations, and claims arising out of or under this contract, subject only to the following exceptions:
 - (A) specified claims in stated amounts or in estimated amounts where the amounts are not susceptible of exact statement by the Contractor;
 - (B) claims, together with reasonable expenses incidental thereto, based upon liabilities of the Contractor to third parties arising out of the performance of this contract; provided, that such claims are not known to the Contractor on the date of the execution of the release; and provided further, that the Contractor gives notice of such claims in writing to the Contracting Officer not more than six (6) years after the date of the release or the date of any notice to the Contractor that the Government is prepared to make final payment, whichever is earlier; and
 - (C) claims for reimbursement of costs (other than expenses of the Contractor by reason of his indemnification of the Government against patent liability), including reasonable expenses incidental thereto, incurred by the Contractor under the provisions of this contract relating to patents.

Except as provided in (j) [(p)] below, payments under the assignment and claims excepted from the release shall be subject to adjustment by reason of the adjustment of fee in accordance with (i) [(o)] below.

[(m)] - (g) - Any cost incurred by the Contractor under the terms of this contract which would constitute allowable cost under the provisions of this clause shall be included in determining the amount payable under this contract, notwithstanding any provisions contained in the specifications or other documents incorporated in this contract by reference, designating services to be performed or materials to be furnished by the Contractor at his expense or without cost to the Government.

[(n)] - (h) - When the work under this contract (including any supplies or services which are ordered separately under, or otherwise added to, this contract) is increased or decreased by contract modification or when any equitable adjustment in the target cost is authorized under any other clause of this contract, equitable adjustments in the target cost, target fee, minimum fee, maximum fee, or any or all of them, as appropriate, shall be set forth in an amendment or supplemental agreement to this contract.

[(o)] - (i) - The fee payable hereunder shall be the target fee increased by (insert contractor's participation) cents for every dollar by which the total allowable cost is less than the target cost or decreased by (insert contractor's participation) cents for every dollar by which the total allowable cost exceeds the target cost. In no event shall the fee be greater than percent nor less than percent, of the target cost; and, except as provided in (j) [(p)] below, within these limits such fee shall be subject to adjustment, by reason of increase or decrease of total allowable cost, on account of payments under the assignment required by (f) [(1)] (i) above, and claims excepted from the release required by (f) [(1)] (ii) above. If this contract is terminated in its entirety, the portion of the target fee payable shall not be subject to an increase or decrease as provided in this paragraph. The terminations shall be otherwise accomplished pursuant to other applicable provisions of this contract.

[(p)] - (j) For the purpose of the adjustment of the fee in accordance with ~~(i)~~ [(o)] above, the term "total allowable cost" shall not include allowable costs arising out of:

- (i) any of the causes covered by the clause hereof entitled "Excusable Delays" to the extent they are beyond the control and without the fault or negligence of the Contractor or any subcontractor;
- (ii) the taking effect, after the negotiation of the target cost of this contract, of a statute, court decision, written ruling or regulation which results in the Contractor's being required to pay or bear the burden of any tax or duty, or increase in the rate thereof;
- (iii) any direct cost attributed to the Contractor's assistance or participation in litigation as required by the Contracting Officer pursuant to a provision of this contract, including the furnishing of evidence and information requested pursuant to the clause hereof entitled "Notice and Assistance Regarding Patent and Copyright Infringement";
- (iv) the procurement and maintenance of additional insurance not included in the target cost and required by the Contracting Officer or claims for reimbursement for liabilities to third persons pursuant to the clause hereof entitled "Insurance—Liability to Third Persons";
- (v) any claim, loss or damage resulting from a risk for which the Contractor has been relieved of liability pursuant to the clause hereof entitled "Government Property."

Except as otherwise specifically provided in this contract, all other allowable costs shall be included in the term "total allowable cost" for the purpose of the adjustment of the fee in accordance with ~~(i)~~ [(o)] above.

[(q)] - (h) The total allowable cost and the adjusted fee determined as provided in this clause shall be evidenced by a modification to this contract signed by the Contractor and the Contracting Officer.

In the event the contracts call for spare parts or other supplies and services which are to be ordered under a provisioning document or Government option, the following provision (1) shall be included:

(1) Compensation for supplies (including spare parts) and services which are to be furnished under this contract pursuant to a provisioning document or Government option shall be determined in accordance with the provisions of this clause notwithstanding any inconsistent provision in such provisioning document or Government option.

[(r)] Any failure by the parties to agree on a final overhead rate under this clause shall be considered a dispute concerning a question of fact for decision by the Contracting Officer within the meaning of the "Disputes" clause of this contract.]

(End of clause)

(7-203.4 cont.)

(c) (1) For approvals with regard to fixed-price type subcontracts providing for progress payments, pursuant to paragraph (c) of the foregoing clauses, the standards shall be the same as those governing progress payments on fixed-price type prime contracts, as provided by E-314 of Appendix E.

(2) In paragraph ~~(f)~~ [(1)] (h) (B) of the foregoing clauses, the period of years may be increased to correspond with any statutory period of limitation applicable to claims of third parties against the contractor; provided, that a corresponding increase is made in the period of retention of records required in paragraph (d) of the clause set forth in 7-104.15.

(3) In respect to paragraph (c) of the clause set forth in (b) above, generally, the payment of fee provisions in the Schedule should be based on target fee.

(4) In the case of cost-sharing contracts and cost-reimbursement type supply contracts without fee:

- (i) insert the following sentence in lieu of the second sentence of paragraph (c) of the clause set forth above, except that, if the contract does not provide for cost-sharing, delete the parenthetical references to the Government's share:

After payment of an amount equal to eighty percent (80%) of (the Government's share of) the total estimated cost of performance of this contract set forth in the Schedule, the Contracting Officer may withhold further payment on account of allowable cost until a reserve shall have been set aside in an amount which he considers necessary to protect the interests of the Government, but such reserve shall not exceed one percent (1%) of (the Government's share of) such total estimated cost or one hundred thousand dollars (\$100,000), whichever is less. (1968 SEP)

- (ii) delete the words "and any part of the fixed fee" from paragraph (e) [(k)] of the clause set forth in (a) above;
- (iii) in contracts which provide for cost-sharing, change paragraph (a) of the clause set forth in (a) above as follows:

(a) the allowability of costs incurred in the performance of this contract shall be determined by the Contracting Officer in accordance with:

- (i) Part 2 of Section XV of the Armed Services Procurement Regulation as in effect on the date of this contract; and
- (ii) the terms of this contract.

and

- (iv) change the title of the clause set forth in (a) above to "Allowable Cost and Payment".

(5) The contracting officer shall determine to his satisfaction that the estimated cost of the contract initially negotiated does not include amounts for the contingencies identified in paragraph (j) [(p)] of the clause set forth in (b) above.

(6) The following shall be added to paragraph (j) [(p)] of the clause set forth in (b) above if the contract contains an "indemnification" clause in accordance with 10-701(b)(1) and 10-702(b)(1):

- (vi) any claim, loss, or damage resulting from a risk defined in the contract as unusually hazardous or as a nuclear risk, against which the Government has expressly agreed to indemnify the Contractor. (1966 APR)

(7) The amount to be withheld under paragraph (c) of the clauses shall normally be the maximum authorized by the clause except that the administrative contracting officer may, if he believes that such amount exceeds the amount necessary to protect the interests of the Government, review the status of all funds being withheld from the contractor under the particular contract concerned and under any other contracts with the contractor which he is administering and make appropriate recommendations to the procuring contracting officer. The procuring contracting officer shall decide whether to reduce the rate of withholding or whether to release a portion of the amount already reserved under the contract, as appropriate, and shall promptly advise the administrative contracting officer.

Delete ASPR 7-204.16.

7-402.3 Allowable Cost, Fee, and Payment.

(a) Except as provided in (b) below, the clause in 7-203.4(a) shall be inserted in all cost-reimbursement type research and development contracts. *Additional instructions for use are in (c) below.*

(b) When, pursuant to 3-405.4, incentive revision of the fee in a cost-reimbursement type research and development contract is to be provided, the clause in 7-203.4(b) shall be included in the contract. *Additional instructions for use of the clause are in (c) below.*

(c) In the clauses prescribed in (a) and (b) above, the following changes shall be made.

(1) For approvals with regard to fixed-price type subcontracts providing for progress payments, pursuant to paragraph (c) of the clauses, the standards shall be the same as those governing progress payments on fixed-price type prime contracts, as provided by E-514 of Appendix E.

(2) In subparagraph ~~(f)~~ [(1)] (ii)(B) the period of years may be increased to correspond with any statutory period of limitation applicable to claims of third parties against the contractor; provided, that a corresponding increase is made in the period for retention of records required in paragraph (a)(4) of the clause prescribed by 7-402.7.

(3) In respect to paragraph (c) of the clause prescribed in (b) above, generally the payment of fee provisions in the Schedule should be based on target fee.

(4) Under some circumstances the use of a sliding scale may be appropriate in paragraph ~~(i)~~ [(0)] of the clause prescribed in (b) above (for example, \$0.01 for the first \$100, \$0.02 for the next \$100, etc.), in which case necessary changes in the wording of such paragraph ~~(i)~~ [(0)] of the clause prescribed in (b) above are authorized.

(5) In the case of contracts, including cost-sharing contracts, without fee:

(i) change the title of the clause prescribed in (a) above to "Allowable Cost and Payment";

(ii) insert the following sentence in lieu of the second sentence of paragraph (c) of the clause prescribed in (a) above except that in contracts not providing for cost-sharing, the parenthetical references to the Government's share shall be deleted:

After payment of an amount equal to eighty percent (80%) of (the Government's share of) the total estimated cost of performance of this contract set forth in the Schedule, the Contracting Officer may withhold further payment on account of allowable cost until a reserve shall have been set aside in an amount which he considers necessary to protect the interests of the Government, but such reserve shall not exceed one percent (1%) of (the Government's share of) such total estimated cost or one hundred thousand dollars (\$100,000), whichever is less. (1968 SEP)

(iii) delete "and any part of the fixed fee" from paragraph ~~(e)~~ [(k)] of the clause prescribed in (a) above.

(iv) change paragraph (a) of the clause prescribed in (a) above, as follows:

(a) The allowability of costs incurred in the performance of this contract shall be determined by the Contracting Officer in accordance with:

- (i) Part 2 of Section XV of the Armed Services Procurement Regulation in effect on the date of this contract; and
- (ii) the terms of this contract.

(6) In contracts without fee with nonprofit institutions, "ten thousand dollars (\$10,000)" may be substituted for "one hundred thousand dollars (\$100,000)" in the sentence set forth in (5)(ii) above.

(7) In contracts with educational institutions substitute Part 3 of Section XV in paragraph (a)(i)(A) of the clause prescribed in (a) above and in paragraph (a)(i)(A) of the clause prescribed in (b) above.

(8) In contracts without fee with educational institutions, the second sentence of paragraph (c) of the clause prescribed in (a) above and the provision of subparagraph (5)(ii) of these additional instructions, which pertain to withholding of fee and costs, may be omitted. If the second sentence of paragraph (c) is so omitted, in the first sentence of paragraph (e) delete "and any part of the fixed fee which has been withheld pursuant to (c) above or otherwise."

(9) In the clauses prescribed above, "Task Order" or other appropriate designation may be substituted for "Schedule."

~~(10) In the clause prescribed in (b) above, "provisioning document or" may be deleted from paragraph (4) [(9)] thereof if inappropriate to the procurement.~~

(11) When clause paragraph (c) provides for withholding, the amount to be withheld shall normally be the maximum authorized by the clause except that the administrative contracting officer may, if he believes that such amount exceeds the amount necessary to protect the interests of the Government, review the status of all funds being withheld from the contractor under the particular contract concerned and under any other contracts with the contractor which he is administering and make appropriate recommendations to the PCO. The PCO shall decide whether to reduce the rate of withholding or whether to release a portion of the amount already reserved under the contract, as appropriate, and shall promptly advise the administrative contracting officer.

* * * * *

7-403.9 Negotiated Overhead Rates [- Predetermined]. In accordance with 3-704, insert the appropriate clause in ~~7-304.16~~ or the following clause.

NEGOTIATED OVERHEAD RATES—PREDETERMINED (1970 SEP)

(a) Notwithstanding the provisions of the clause of this contract entitled "Allowable Cost and Payment", the allowable indirect costs under this contract shall be obtained by applying predetermined overhead rates to bases agreed upon by the parties, as specified below.

(b) The Contractor, as soon as possible but not later than three (3) months after the expiration of his fiscal year shall submit to the Contracting Officer with a copy to the cognizant audit activity, a proposed predetermined overhead rate or rates based on the Contractor's actual cost experience during that fiscal year, together with supporting cost data. Negotiation of predetermined overhead rates by the Contractor and the Contracting Officer shall be undertaken as promptly as practicable after receipt of the Contractor's proposal.

(c) Allowability of costs and acceptability of cost allocation methods shall be determined in accordance with the Armed Services Procurement Regulation, Section XV, Part 3, as in effect on the date of this contract.

(d) Predetermined rate agreements in effect on the effective date of this contract shall be incorporated into the contract schedule. Rates for subsequent periods shall be negotiated and the results set forth in a written overhead rate agreement executed by both parties. Such agreement shall be automatically incorporated into this contract upon execution and shall specify (i) the agreed predetermined overhead rates, (ii) the bases to which the rates apply, (iii) the fiscal year unless the parties agree to a different period for which the rates apply, and (iv) the specific items treated as direct costs or any changes in the items previously agreed to be direct costs. The overhead rate agreement shall not change any monetary ceiling, contract obligation, or specific cost allowance or disallowance provided for in this contract.

(e) Pending establishment of predetermined overhead rates for any fiscal year or different period agreed to by the parties, the Contractor shall be reimbursed either at the rates fixed for the previous fiscal year or other period or at billing rates acceptable to the Contracting Officer subject to appropriate adjustment when the final rates for that fiscal year or other period are established.

(f) Any failure by the parties to agree on any predetermined overhead rate or rates under this clause shall not be considered a dispute concerning a question of fact for decision by the Contracting Officer within the meaning of the "Disputes" clause of this contract. If for any fiscal year or other period specified in the Schedule of this contract the parties fail to agree to a predetermined overhead rate or rates it is agreed that the allowable indirect costs under this contract shall be obtained by applying negotiated final overhead rates in accordance with the terms of the

~~"Negotiated Overhead Rates—Predetermined" clause set forth in 3-704.2~~ ["Allowable Cost, Fee, and Payment" clause set forth in 7-203.4] of the

Armed Services Procurement Regulation as in effect on the date of this contract.

(g) Allowable indirect costs for the period until the end of the Contractor's fiscal year during which performance begins shall be obtained by applying the predetermined overhead rate set forth in the Schedule to the bases set forth therein.

(End of clause)

* * * * *

7-605.5 Allowable Cost, Fixed Fee, and Payment. Insert the clause in 7-203.4(a) with the following changes:

(a) Delete paragraph (a) and substitute the following:

- (a) For the performance of this contract, the Government shall pay to the Contractor:
- (i) The cost thereof (hereinafter referred to as "allowable cost") determined by the Contracting Officer to be allowable in accordance with—
- (A) Section XV, Part 4, of the *Armed Services Procurement Regulation* as in effect on the date of this contract [, provided that the allowable indirect costs under this contract shall be obtained by applying overhead rates established under (e) below to bases agreed upon under (f) below]; and
- (B) The terms of this contract; and
- (ii) a fixed fee in the amount of Dollars (\$.....).

(b) Delete paragraph (c) and substitute the following:

(c) Promptly after receipt of each invoice or voucher and statement of cost, the Government shall, except as otherwise provided in this contract, subject to the provisions of (d) below, make payment thereon as approved by the *Contracting Officer*. Payment of the fixed fee, if any, shall be made to the Contractor in installments based upon the percentage of completion of the work as determined from estimates submitted to and approved by the Contracting Officer; *provided, however*, that after payment of eighty-five percent (85%) of the fixed fee set forth in (a) above, the Contracting Officer may withhold further payment of fee until a reserve shall have been set aside in an amount which he considers necessary to protect the interests of the Government, but such reserve shall not exceed fifteen percent (15%) of the total fixed fee or one hundred thousand dollars (\$100,000), whichever is less. (1970 SEP)

(c) The additional instructions for use of the clause as set forth in 7-203.4(c)(1), (2), (6) and (7) apply.

(Section XX)

Part 9--Corporate Administrative Contracting Officer (CACO)

20-901 Scope. This Part sets forth (i) policy and procedures for the assignment of a single Corporate Administrative Contracting Officer (CACO) to deal with corporate management for selected multi-division contractors and (ii) duties and responsibilities of the assigned CACO, including his relationship to other contracting officers, particularly those within other contract administration organizations.

20-902 Policy. Many contractors with more than one operational location (divisions, plants, subsidiaries, etc.) have corporate-wide policies, procedures, and activities requiring Government review or approval which may be more efficiently performed by a single administrative contracting officer who has been delegated appropriate authority. To promote effectiveness and consistency in the performance of contract administration service functions, a CACO may be assigned and given responsibility for performing functions as provided herein.

20-903 Assignment. [A CACO should be established for only those contractors with at least two operational locations where resident ACO's are assigned. For the purpose of this paragraph, a non-resident ACO will be considered the equivalent of a resident ACO if at least 75% of the ACO's effort is devoted to a single contractor. CACO functions will be performed by either a designated resident ACO or a full-time CACO who should be in residence at either the corporate headquarters office or at one of the major plant locations. Other important considerations for determining the location of the CACO should include the geographic locations of the corporate office and the Contract Audit Coordinator (CAC). If a particular corporate complex does not meet the criteria for

the establishment of a CACO, but a Department or Agency believes a CACO assignment is required, such determination requires approval of the Secretary of the Department (see 1-201.15) or his designee. Decisions to initiate or discontinue a contractor's participation in the DOD CACO program should consider such factors as (i) the benefit to be derived by the Government from coordination and liaison at the corporate level; (ii) the volume of Government sales; (iii) the degree of control exercised by the contractor's corporate office over Government-oriented lower tier operating elements; and (iv) the impact of corporate policies and procedures on these elements. Corporate administrative contracting officers, when warranted, shall be assigned as follows:

(a) When all divisions of a corporate entity are under the contract administration cognizance of a single department, that department shall be determine the necessity for and designate the component of that department responsible for assigning the CACO.

(b) When a corporate entity has divisions under the contract administration cognizance of more than one department, CACO assignments shall be determined by majority vote among the departments concerned. When agreement cannot be reached or an appeal is desired against a majority decision, the matter shall be referred to the Office of the Deputy Assistant Secretary of Defense (Installations and Logistics) [Procurement] for resolution. Any contract administration office which believes, that with respect to a specific contractor, the appointment of a CACO is needed, will recommend such action to their departmental headquarters and request designation of a coordinator until the matter is fully resolved. The primary criterion determining the department responsible for assignment of

a CACO will be the unliquidated dollar balance of contracts being administered. This information may be requested from the appropriate GAS components by the departmental coordinator. Other important considerations should include the geographic location of the corporate office, the location of the contract audit coordinator and any other particular factors which may be relevant to the particular case. When CACO responsibility has been assigned, that office [Department] shall notify the Director of the Defense Supply [Logistics] Agency, Attention: PGAS-JP, [DLA-A], in order that information concerning the CACO assignment may be included in the DOD Directory of Contract Administration Services Components (DOD 4105.59-H).

20-904. Duties and Responsibilities of the CACO

(a) Concurrently with the assignment of a CACO, duties and responsibilities of the CACO shall be selected from the functions listed in 1-406 which, in whole or in part, should be performed on a corporate-wide basis.

[The] s specific [contract administration functions in 1-406] to be performed by the CACO items shall be determined by majority vote among the Departments concerned. When agreement cannot be reached or an appeal is desired against a majority decision, the matter shall be referred to the Office of the [Deputy] Assistant Secretary of Defense (Installations and Logistics) [Procurement] for resolution.

(b) The CACO shall be responsible for the negotiation and [procurement] determination of [final] corporate or home office overhead rates for cost reimbursement type contracts (3-700) [;] [the establishment of advance agreements or recommendations on corporate/home office expense allocations] and [] for

the negotiation of advance agreements for independent research and development costs and bid and proposal costs (15-107, 15-205.35, and 15-205.3) except when this responsibility is assigned in the master list published annually in a Defense Procurement Circular for Tri-Service Departmental negotiation. Departmental Tri-Service contracting officers [activities] may delegate such negotiations to established CACOs. ~~The corporate or home-office overhead rates negotiated and dollar amounts allocated in accordance with the negotiation to lesser organizational segments of the contractor such as groups, divisions, and plants are not subject to further negotiation or audit determination by Government representatives at these levels.~~ The CACO shall make full use of the Defense Contract Audit Agency financial and advisory accounting services by [including] (i) maintaining close liaison with his audit counterpart, the Contract Audit Coordinator (CAC), especially with [when] the acceptability of corporate-wide policies are concerned; and (ii) utilization of advisory audit reports as contemplated by 3-705.

(c) The CACO shall keep divisional ACOs and tri-service groups [and DCAA] advised of important matters under consideration, determinations made and shall solicit their advice and participation when appropriate. [In addition, the CACO shall solicit advice and consultation from the Indirect Cost Monitoring Office to assure consistent treatment of individual cost issues.]

SECTION XX -- ADMINISTRATIVE MATTERS

Add the following new Part 10:

Part 10 - Monitoring Contractors' Costs

20-1001 Scope. This part sets forth guidelines for monitoring the policies, procedures, and practices used by contractors to control direct and indirect costs related to Government business. There is no intent in the following coverage to diminish the position of the ACO.

Rather, the procedures are intended to eliminate duplication in monitoring contractors' costs.

20-1002 Purpose. To ensure the most efficient and economical performance of DoD contracts, it is essential that contract costs be managed effectively. Contractors are responsible for managing and controlling their direct and indirect costs. However, DoD components need to systematically monitor the management of such costs to assure that contractors are fulfilling their responsibilities and Government work is, in fact, being performed in the most economical and efficient manner.

20-1003 Application. A formal program of Government monitoring of contractor costs should be conducted at all major contractor locations that are (1) expecting to have sales to the Government exceeding \$50,000,000 during the next 12 months on other than firm fixed-price and fixed-price-with-escalation contracts, (2) Government's share of indirect costs for such sales is at least 50% of the total of such indirect costs, (3) a DoD Plant Representative has been established at the location, and (4)

the location is not CWAS qualified (see 3-1000), or at other critical locations with significant Government business where specifically directed by the HPA.

20-1004 Designation of a Cost Monitor Coordinator. The head of the contract administration service organization cognizant of a contractor location qualifying for application under 20-1003 shall designate an individual on his staff to perform as cost monitor coordinator (CMC) for that location. The individual should be assigned no later than 60 days after the location becomes qualified. Decisions to implement or terminate cost monitoring should be based upon sound estimates of Government business for the coming year and not upon minor interim volume fluctuations. This does not preclude action to start or stop the program during a given year where there is a significant change in volume and the anticipated new level of business is expected to remain stable for a reasonable period of time.

20-1005 Responsibilities of the Cost Monitor Coordinator.

(a) In performing his assigned contract administration duties, the Plant Rep/ACO acts as a high-level manager calling upon the various specialists established within DoD to review and report on those areas that fall within their respective areas of expertise. It is not intended that the Plant Rep/ACO duplicate the functional capabilities or work of such specialists. Likewise, cost monitor coordinators in the contract administration service organization will fully utilize the work of these

specialists in monitoring contractor costs through coordination with their various organizations.

(b) The CMC shall be responsible for:

(i) Preparing and maintaining an annual consolidated written plan and schedule for reviewing contractor operations from coordinated long-range plans established by each team member including the DCAA auditor. This composite plan and schedule will assure cost monitoring responsibilities are being fully implemented and that the technical and professional expertise of various organizational units of the Contract Administrative Service (CAS) organization and the Defense Contract Audit Agency (DCAA) auditor are used without duplication of effort or skills.

(ii) Coordinating the performance of the cost monitoring effort of the organizational units of the CAS organization.

(iii) Coordinating the cost monitoring efforts of the CAS organization with those of the DCAA auditor.

(iv) Advising the head of the CAS organization of situations where the contractor should correct conditions, policies, or practices which are not considered the most economical and efficient for the performance of Government contracts, and recommending corrective action, including issuance of formal written notices to the contractor advising of specific costs which will not be allowed if incurred.

(v) Coordinating CAS actions to assure that the procuring contracting officer, project manager, the head of the procuring activity, DCAA, and other responsible officials are informed of relevant matters significantly affecting the most economical and effective performance of Government contracts.

(vi) Coordinating actions to assist the CAS organization, DCAA, and other Government personnel in obtaining access to pertinent contractor policies, procedures, and related data, and obtaining the assistance of the head of the CAS organization when such access is being denied or impaired.

(vii) Maintaining an inventory of CAS, DCAA, and other Government reports on significant issues relating to monitoring costs.

(viii) Continuously monitoring the status of recommendations made to the contractor concerning cost performance stemming from all Government reports. This responsibility includes insuring that all outstanding recommendations are recognized in pricing actions. While the contractor is responsible for managing their direct and indirect costs, the CMC monitors the contractors' effort through this task. In the event the contractor fails to take timely action, the monitor should prepare for the ACO's signature a formal notification that the Government will as of a specified date disallow all costs that would not be incurred had the recommendation been implemented (see 15-206).

(ix) Maintaining current organizational charts of the contractor's operations compatible with the contractor's budgetary system.

(c) The plan required by (i) above must be tailored to the contractor, taking into account the extent of competition in awarded contracts, the contractor's operating methods, the nature of work being done, procurement cycle stage, business and industry practices, types of contracts involved, degree of technical and financial risk, ratio of Government/ commercial work, and extent that performance efficiencies have been previously demonstrated. The plan should stress the importance of anticipating potential problems and provide a means of calling them to the attention of the contractor at an early stage so that preventive action can be taken. Reviews required by ASPR and the contracting officer must be included in the plan.

20-1006 DCAA Auditor Responsibility. DCAA audit offices are responsible for performing all necessary contract audit for DoD and providing accounting and financial advisory service regarding contracts and subcontracts to all DoD components responsible for procurement and contract administration. The auditor is responsible for submitting information and advice based on his analysis of the contractor's financial and accounting records or other related data as to the acceptability of the contractor's incurred and estimated costs, as well as for reviewing the financial and accounting aspects of the contractors' budgetary systems. The auditor is also responsible for performing that part of reviews and such analysis which requires access to the contractor's financial and accounting records supporting proposed costs or pricing data, regardless of the dollar

amount involved. This does not preclude the Program Manager, PCO, Plant Rep/ACO, or their technical representatives from requesting any data from, or reviewing records of, the contractor (such as CSCS/C data, lists of labor operations, process sheets, etc.) necessary to the discharge of their responsibilities.

Contract administration services organizations will utilize the auditor's services whenever such expertise is needed, particularly regarding the contractor's financial management reports, books, and records.

20-1007 Procedure

(a) Selecting Operations for Review. It is not possible to review all elements of a contractor's entire operation each year. Therefore, the CMC, together with the auditor, is to select for review those operations that have the greatest potential for charging Government contracts with significant amounts of unacceptable costs such as those resulting from inefficient and uneconomical operations. To select these cost-risk areas on a sound and orderly basis, an overview must first be obtained of the contractor's entire operation. Before the beginning of each Government fiscal year, the CMC should arrange for a joint meeting between CAS personnel, the DCAA auditor, and other directly interested Government representatives to coordinate selection of the areas to be reviewed during the coming year. The following data will be used in the selection process:

(i) Contractor's total budget package broken down by functions for the coming year and the latest survey of the budgetary system (DCAA auditor responsibility).

(ii) Detailed organizational charts for the contractor's entire operation (CAS responsibility).

(iii) An outline of the contractor's accounting system to understand the flow of costs by function (DCAA auditor responsibility).

(iv) The determination of Government participation in the dollars attributable to the operations and cost accounts under consideration (DCAA auditor responsibility).

(v) A complete list of recent reviews and audits performed by CAS, the DCAA auditor, and other Government representatives that would effect the selection of areas to be reviewed in the current year. This listing should show outstanding weaknesses and deficiencies in the contractor's operations (CAS responsibility).

(vi) Evidence of under and overstaffing (CAS-DCAA auditor responsibility).

(vii) Significant departures from established contractor productivity standards (CAS responsibility).

(viii) Major financial variances from budgets in prior years (DCAA auditor responsibility).

(ix) Evidences of idle or underused capacity (CAS-DCAA auditor responsibility).

(b) Planning for Reviews. The primary purpose of the joint meeting described above is to develop a mutually acceptable annual plan for reviewing the contractor's operation. The plan should provide coverage for each significant operational area of the contractor over a period of 2 to 3 years

and should be modified to reflect any changed conditions during subsequent meetings. The schedule and resource limitations of participating organizations will be considered in preparing the annual plan.

The plan will identify the organizations having the primary responsibility for performing the reviews:

(i) CAS will review the technical aspects of contractor operations requiring minimal or no access to contractors' financial and accounting records and will sign reports on these reviews.

(ii) DCAA will review the financial and accounting aspects of contractor operations requiring minimal or no technical considerations and will sign reports on these reviews.

(iii) CAS and DCAA will jointly perform reviews requiring significant CAS and DCAA expertise. Reports resulting from these reviews will be signed by the heads of the respective local organizations.

Some operations reviews such as the purchasing (CAS) and estimating system reviews (DCAA) are assigned to the responsible reviewing organization by ASPR. These assignments will continue to be recognized. All others will be performed according to the above criteria. The annual plan will be formally approved by both the head of the local CAS organization and the head of the local DCAA resident office.

(c) Joint Review

(i) Objective. The objectives of joint CAS-DCAA auditor reviews of contractor operations are:

(1) To optimize the utilization of DCAA-CAS personnel in performing selected operations reviews.

(2) To generate joint reports of the reviews that contain findings, conclusions, and recommendations mutually agreed upon by the DCAA auditor and the CAS organization to improve the effectiveness and economy of contractor operations.

(ii) Exit Conference with Contractor. During the course of the review, there may be several informal briefings with contractor management personnel to exchange information. Every opportunity should be afforded each party, to either update the information provided or to conduct additional reviews to preclude misconceptions that could develop as a result of obtaining incomplete or inaccurate data. An exit conference with contractor management personnel provides the opportunity to explain CAS/DCAA findings, conclusions and recommendations. On joint reviews, the ACO or his representative shall arrange the exit conference with the contractor which is consistent with the one face to industry concept. Both CAS and DCAA will be represented at the exit conference.

(d) Reports. All reports prepared separately or jointly by DCAA or CAS personnel will be forwarded through the ACO to the contractor. While these review reports are advisory to the ACO, the ACO has responsibility to assure that (i) appropriate recognition is given to the results of such reviews in any contract negotiations and (ii) that the contractor implements appropriate corrective actions. In event of any dispute with the contractor, the ACO has the ultimate responsibility and authority to effect final settlement.

PROPOSED ASPR 7-203.XX.7-203.XX Notice of Intent to Disallow or Not Recognize Costs

In accordance with 15-206(a), insert the following clause in all cost-reimbursement type and flexibly priced contracts.

NOTICE OF INTENT TO DISALLOW OR NOT RECOGNIZE COSTS ()

(a) Notwithstanding any other provision of this contract, the Contracting Officer may, at any time, issue to the Contractor a written notice of intent to disallow or not recognize costs. This notice will indicate the Contracting Officer's intent to take exception to specified costs being incurred, or planned for incurrence, which he has determined not to be allowable in accordance with the terms of this contract.

(b) The Contractor may, within thirty (30) days of receipt of such notification, submit written objections to the Contracting Officer, together with justification therefor, against the proposed cost exception.

(c) In the event the Contractor does not file any such written objection within the thirty (30) day period in (b) above, the notice shall serve as the Contracting Officer's final decision under the provisions of the clause herein entitled "Disputes."

(d) The Contracting Officer shall, within sixty (60) days of receipt of any written objection, either withdraw the notification or issue a final decision thereon under the provisions of the clause herein entitled "Disputes."

(e) Pending final resolution, the Contractor shall not be reimbursed or paid for costs which are the subject of this notice.

(f) Failure to issue a notice pursuant to this clause shall not alter the Government's rights with respect to exception to incurred costs.

(End of clause)

7-104.XX Notice of Intent to Disallow or Not Recognize Costs

Insert the clause in 7-203.XX in all fixed price incentive contracts and contracts providing for price redetermination.

7-402.XX Notice of Intent to Disallow or Not Recognize Costs.

Insert the clause in 7-203.XX.

7-605.XX Notice of Intent to Disallow or Not Recognize Costs.

Insert the clause in 7-203.XX.

7-702.XX Notice of Intent to Disallow or Not Recognize Costs.

Insert the clause in 7-203.XX.

7-703.XX Notice of Intent to Disallow or Not Recognize Costs.

Insert the clause in 7-203.XX.

7-704.XX Notice of Intent to Disallow or Not Recognize Costs.

Insert the clause in 7-203.XX.

7-706.XX Notice of Intent to Disallow or Not Recognize Costs.

Insert the clause in 7-203.XX.

7-1909.XX Notice of Intent to Disallow or Not Recognize Costs.

Insert the clause in 7-203.XX.

PROPOSED ASPR 15-20615-206 Notice of Intent to Disallow or Not Recognize Costs

(a) Purpose. The clause entitled "Notice of Intent to Disallow or Not Recognize Costs" is a required clause for all cost-type contracts and fixed price incentive contracts and contracts providing for price redetermination (see 7-203.XX). A Notice of Intent to Disallow or Not Recognize Costs provides the basis under a contract for the contractor to appeal, prior to final settlement of costs of the contract, a determination of exception to costs either incurred or to be incurred. It thereby provides a vehicle for disputes to be settled in a more timely fashion.

(b) At any time during the performance of the contract, the cognizant contracting officer may issue a Notice of Intent to Disallow or Not Recognize Costs stating his intent to take exception to specific costs or portions thereof, under the contract. Usually, the decision to issue a Notice of Intent to Disallow or Not Recognize Costs results from activities performed through monitorship of contractors' indirect cost (see Section XX, Part 10), or on advice of auditors or technical personnel. Also, the decision to issue a Notice of Intent to Disallow or Not Recognize Costs shall only be made after oral discussion between the contracting officer and the contractor. The notice should be specific as to the type of cost to which exception is taken, the amount of such exception (if applicable), reasons for exception, applicable time period of the exception, and should reference the Notice of Intent to Disallow or Not Recognize Costs clause of the contract. When such notification involves elements of indirect

costs, the approval of the contracting officer having authority for final settlement of overhead shall be obtained prior to issuance of the notice except that a Corporate Administrative Contracting Officer (CACO) need not obtain the approval of local cognizant ACOs for items of corporate expense. When the Notice of Intent to Disallow or Not Recognize Costs is issued, the originating contracting officer (CACO or ACO) will distribute information copies to all administrative contracting officers cognizant of that corporation. The notice will allow the contractor sixty days in which to contest the exception in writing and provide justification why the proposed expenditure is justifiable and reasonable. The ACO will then consider the contractor's position and shall within sixty days either modify his original position or issue a decision under the Disputes clause of the contract. When elements of indirect cost are involved, such decision will be rendered by the contracting officer with authority for final overhead settlement (see 3-700). A contractor shall not be paid for indirect costs upon which the ACO has served such notice until the final question has been resolved.

(c) As a minimum the Notice of Intent to Disallow or Not Recognize Costs should contain the following information:

- (i) contractor identification;
- (ii) contract(s) affected;
- (iii) description of cost(s) exception(s);
- (iv) estimated dollar value by item;
- (v) reason(s) for the exception;
- (vi) applicable time period(s) involved;

- (vii) impact on billing rates and FPRAs;
- (viii) effective date of notice;
- (ix) provision for acknowledgement of receipt;
- (x) date when formal reply must be received; and
- (xi) recipients of copies of notice.

APPENDIX III



OFFICE OF THE DIRECTOR OF DEFENSE RESEARCH AND ENGINEERING
WASHINGTON, D. C. 20301

20 OCT 1977

Senator William Proxmire
Chairman
Committee on Banking, Housing and Urban Affairs
Room A-421, Senate Annex III
Washington, D. C. 20510

Dear Senator Proxmire:

I am pleased to provide answers to the eight questions attached to your letter of October 7th. With regard to the information for the record requested in the body of your cover letter concerning our plans for the sale of government-owned plants and the termination settlement of the B-70 program, please be advised that this was provided on October 14th with our return of the corrected transcript of the Joint Committee on Defense Production hearings. As indicated in the information provided for the record on the B-70 question, program files have been retired. In order to respond to the additional requirements of Question 2 in your cover letter the Air Force will have to withdraw the B-70 files from storage. The Air Force estimates that the search of the files for the requested information will require 45 to 60 days.

The answer to Question 3 in your cover letter, pertaining to the Defense Department's activities with respect to Title III of the Defense Production Act, is appended to the answers to the eight questions previously mentioned.

Thank you again for the opportunity to appear before the Joint Committee to discuss how the Department of Defense procurement policies affect the industrial base of the United States. I look forward to the continuation of the advice and support of you and your Committee members and staff under the Banking Committee.

A handwritten signature in dark ink, appearing to read "Dale W. Church".

Dale W. Church
Deputy Director (Acquisition Policy)

Joint Committee on Defense
Production
Subject: DoD Procurement Practices
Hearing Transcript, September 30, 1977
Supplemental Question

1. Senator Proxmire: What are the seven plants which are currently under negotiation to be sold?

Mr. Church: The seven plants where negotiations are being conducted with the using contractors are:

Air Force Plant #3 - McDonnell Douglas Corp., Tulsa, OK

Air Force Plant #13 - Boeing, Wichita, KA

Air Force Plant #28 - General Electric Co., Everett, MA

Air Force Plant #29 - General Electric Co., Lynn, MA

Air Force Plant #36 - General Electric Co., Evandale, Ohio

Air Force Plant #65 - Teledyne, CAE, Neosho, MO

CGI Aerospace Corp (Marquardt) Van Nuys, Calif.

Joint Committee on Defense
 Production
 Subject: DoD Procurement Practices
 Hearing Transcript, September 30, 1977
 Supplemental Question

2. Senator Proxmire: What is the planned method for disposal for these plants?

- a. Are the plants being declared surplus to the government's need?
- b. Are competitive bids being solicited?
- c. Are bids being solicited from other than defense contractors (e.g., machinery dealers, developers, state and local governments or industrial development authorities, non-defense industrial firms)?
- d. Are the disposals being made in compliance with the federal Surplus Property Act?
- e. Are minimum acceptable bid levels being established below which bids will not be considered? If so, in such cases, will the government retain ownership of the plant and equipment, or will such equipment be scrapped?

Mr. Church: Before responding to this question, I believe it appropriate to define a few terms of reference. These are:

- Excess to ownership: Plants required for defense production. Private ownership is preferred to government ownership.
- Excess to need or requirement: Plants no longer required for defense production. They are available for transfer to other Government Agencies or for declaration as excess by the GSA and disposal in any possible manner.
- Surplus to Government needs: Plants declared surplus after negative response to GSA screening of all appropriate Government Agencies. These plants are then offered for sale on the open market by the GSA.

I will now respond to your questions:

- a. These seven plants were declared excess to DoD ownership. Since the plants were being operated by defense contractors to support Government contracts, they were turned over to the GSA for disposal by negotiated sale to the using contractor, provided this could be accomplished under existing laws. It is our understanding that the GSA clears these properties for sale through appropriate Congressional Committees and attempts to sell them to the using contractor - with a provision that the contractor will retain the production capacity to support defense needs.

b. As indicated in answer a., we are pursuing negotiated sale to the using contractors. Competitive bids are not being solicited.

c. As discussed in answer a., we are attempting to sell these plants via negotiation to the using contractors. We are aware that GSA has sold some plants to local governments that have established a lease back arrangement with the using contractors.

d. The General Services Administration conducts these negotiated sales under the authority of the Federal Property and Administrative Services Act of 1949 (Surplus Property Act). Each sale is then cleared by the House Committee on Government Operations and the Justice Department.

e. If GSA and a contractor cannot arrive at a mutually acceptable price, the property is returned to the DoD for retention of ownership. GSA establishes its negotiation price based on a fair market value plus a user's value. If a plant is determined excess to DoD needs or requirements it is turned over to GSA for disposal in any manner.

3. Senator Proxmire: In reference to the Department's finding that 75 percent of the cost associated with idle capacity can be attributed to idle or unnecessary personnel, what plans does the Department have to minimize this problem? Does or can DoD set absolute or percentage of sales limits on cost reimbursement for administrative, government relations or marketing staffs? Are such costs subject to challenge on the grounds of reasonableness?

Mr. Church: We believe that the establishment of a formal program of monitoring contractors' costs at major contractor locations will be a significant step in minimizing unnecessary personnel costs associated with idle capacity. This new program is now being reviewed by industry and other interested organizations to obtain their comments prior to its inclusion in ASPR in a new Part 10 to Section 20.

The DoD has established limits on contractors overhead rates in very limited contract situations, but this has disadvantages; because such limitations, determined in advance, often do not provide equitable cost allowance, and contractors are seldom willing to accept contracts with such limitations. On the other hand such costs are subject to challenge on the grounds of reasonableness. By advising contractors of intent to disallow costs, as provided in the proposed new ASPR Part 10 to Section 20 we believe effective control of these costs can be attained.

4. Senator Proxmire: Has the productivity improvement reward clause contained in the new profit policy been used yet? If so, please provide details as to the company and project involved, the amount of the reward, and the details of the improved productivity which led to the reward.

Mr. Church: We are currently analyzing data gathered during the first year's implementation of the new profit policy, and special attention is being given to the use of the productivity reward provision. A list of contractors, projects, and productivity improvements will be included in a report on profit policy implementation to be issued by January 31, 1978.

5. Senator Proxmire: Please describe the details of the special termination buy-back program. How much equipment is potentially subject to government re-purchase; under what conditions would it be re-purchased; what office or person would be responsible for determining whether to re-purchase the equipment?

Mr. Church: The provisions of the special termination buy-back program are contained in a proposed change to ASPR which states special provisions may be included in contracts for R&D and/or production of weapon systems or materiel to provide incentives to contractors to invest in fixed capital assets. Such provisions may permit the Government to acquire specific capital investments at no more than the depreciated value. The provisions become operative if the contract or program is terminated or funds are not provided in subsequent fiscal years to procure sufficient end items that would enable the contractor to recover his investment through the combination of investment incentives, income tax credits or incentives, and allowable depreciation costs pursuant to the ASPR XV cost principles.

The limitations include:

- The capital investment that may be covered by the special provisions is limited to severable plant equipment, including associated accessories that would be capitalized in accordance with the contractor's disclosed accounting practices, but excluding real property.
- The program which uses the end items requiring the capital investment must be listed in the DoD Five Year Defense Program (FYDP).
- The capital investment would not be made by the contractor except to meet the requirements of the program involved.
- The amount of contingent Government liability by fiscal year must be authorized by the Secretary of Defense.
- The contracting officer must advise the appropriate fiscal authority of the amounts of contingent liability to be contracted for by fiscal year.
- If it becomes apparent that a contingent liability resulting from the use of this technique will become an actual obligation, the Secretary shall be notified and immediate steps taken to obtain sufficient funds to cover the obligation.

-- A formula has been devised for pricing each item based upon the depreciated value at the time the contractor requests that the Government acquire the individual capital investment(s).

-- An assessment of the impact on the make-or-buy structure and upon the competitive environment in the industry involved has been made.

-- These provisions for capital investment shall not apply if the contract is terminated for default.

The Special Termination Buy-back provision has been authorized for use on three programs, the ammunition portion of the GAU-8, 30 mm cannon for the A-10, the B-1, and the F-16.

As of June 30, 1977 North American Rockwell had made capital investments of approximately \$16 million for the B-1 using the Special Termination Buy-back technique. This amount represents the maximum contingent liability and as of this date we have not determined how much of this equipment the government would re-purchase.

Approximately \$6.6 million of capital equipment has been bought under this provision to support the ammunition portion of the GAU-8 program.

Although authorization to use the Special Termination Buy-back provision has been given to the F-16 program, as of this date no equipment has been purchased using this technique.

If the contract or program is terminated or funds are not provided in subsequent fiscal years to procure sufficient end items which would enable the contractor to recover his investment through the combination of investment incentives, and allowable depreciation costs pursuant to cost principles established in ASPR Section XV, the contractor through the contracting officer determines the equipment that he wants the government to re-purchase. Providing the contract provisions described above are met, and that it has become "...apparent that a contingent liability resulting from this technique will become an actual obligation, the Secretary (Service) shall be notified and immediate steps shall be taken to obtain sufficient funds to cover the obligation." Proposed ASPR 8-212(b)(6)7.

6. Senator Proxmire: On page 8 of your prepared statement, you referred to a pending ASPR revision which "will result in closer monitoring and control of contractor indirect costs." During the hearings, it was stated: "So what we are talking about is not any one particular part of the ASPR being changed so much as it is a charge to our people to do a better job of monitoring the day-to-day big program organization that we have throughout the United States." Besides the improved guidance to audit and administrative personnel, are any ASPR modifications under consideration which would deal with the question of indirect costs?

Mr. Church: We have provided for the record the proposed ASPR provisions for the monitoring of indirect costs. There are no other ASPR modifications under consideration at this time.

7. Senator Proxmire: In your prepared statement, you remark that the department is "encouraging the primes to make subcontractual arrangements which are no less favorable than those incorporated into the prime contract."

- a. In what ways do primes currently make arrangements less favorable than the terms in the prime contracts?
- b. Is such harsh contractor treatment of subcontractors relatively common?
- c. What effect would more favorable prime contractor treatment of subcontractors have on contract costs?

Mr. Church: Traditionally, the administration of subcontracts has been the sole responsibility of the prime contractor, the theory being that the Government has hired the prime to make business judgments and provide management services in selecting subcontractors and administering the contracts. Accordingly, the Government has claimed lack of privity. Because of this and the subcontractor's fear of attribution there is little documentation to substantiate the degree of harsh treatment received by subcontractors. We have reason to believe the problem may be real. Accordingly, we have initiated a study to determine the nature of the problem and the need for acquisition policy changes.

a. The preponderance of ways that prime contractors make arrangements with subcontractors less favorable than the terms in the prime contract usually hinge around the type of contract and the transfer of risk. For example, a prime contractor may have a cost type contract with the Government because of risk considerations, but the subcontractors who share many of the same risks are awarded subcontracts on a firm fixed price basis.

Furthermore, prime contractors with escalation clauses in their contracts do not necessarily extend escalation provisions to the subcontractor level.

b. The frequency of harsh treatment cannot be assessed as discussed above.

c. Likewise, the same considerations prevent at this time a realistic assessment of cost impact of more favorable treatment of subcontractors. In any event, in adopting any new policies on subcontracting, consideration will have to be given to factors other than contract cost. For

example harsh treatment of subcontractors could be contributing to the diminution of the lower-tier defense supplier base, which in turn could be lessening competition, thereby causing higher prices, and creating an inadequate industrial mobilization surge capability. We have some indications of adverse trends with regard to the viability of the lower-tier defense supplier base and intend to study the matter.

8. Senator Proxmire: What is the likely effect on the industrial base of extensive relocation of U.S. component production facilities in developing countries? Does the Department have plans to minimize negative effects of this relocation?

Mr. Church: Should an extensive relocation of U.S. component production facilities to developing countries take place, the DoD could find itself becoming fully dependent upon foreign sources of supply for parts and components of Defense systems. The enormous and rapidly growing labor surpluses in the developing countries offer to the multinational corporations an almost inexhaustible market for low cost production labor. Mexico, for example, will have to find almost three times the number of jobs for new young workers in each year between now and 1990 than it ever created in any previous year. Even with significant investment in cost reducing plant and equipment, U.S. industry will find it difficult to compete with these low cost labor markets. Additionally, the general absence of EPA/OSHA type restrictions in the developing countries offers a very favorable environment for low cost investment in production facilities by the multinationals. In our defense procurement, we have experienced a trend toward the relocation of production facilities to the developing countries for electronic parts and components. This trend has been particularly evident for those components which have been obsoleted in the commercial market (but still required for defense systems) by the rapid pace of technological change in the industry. The Defense Electronics Supply Center estimates for example, that of the 700,000 electronic items it manages, about 50 to 65% may be dependent upon foreign production sources (not exclusively in developing countries) to some degree. This dependency encompasses solid state products, passive devices and classes of electronic tubes.

The Department of Defense as well as other Government Agencies have been concerned about this trend for some time. During peacetime, we strongly encourage competition to strengthen the industrial base and reduce our defense material acquisition costs. If competition from foreign sources helps to achieve that goal, we are in favor of it. On the other hand, if foreign competition threatens our economic and political interests and adversely affects the viability of our domestic base to meet emergency defense requirements, then there is cause for concern. We have recognized the potential for injury to the defense related segment of the industrial base and have taken positive steps to minimize the negative effects of this potential. These steps include:

- . Provisions in the ASPR to protect critical defense industries from foreign competition.
 - .. Buy American Act - ASPR Clause 6-100
 - .. Restrictive Purchases for Preservation of Domestic Industrial Base - ASPR Clause 1-2207

- Establishment of an early warning system for diminishing sources of materials and critical components and parts supply (DoD Directive 4005.16, copy enclosed).
- Encouragement of wider recognition of the potential of appropriations authorization under Title III of the Defense Production Act of 1950, as amended, to remedy materials shortages and deficiencies in production capacity.
- Encouragement of modern technology advances through the DoD Manufacturing Technology Program to make U.S. industry more competitive with foreign production sources.



December 3, 1976
NUMBER 4005.16

ASD(I&L)

Department of Defense Directive

SUBJECT Diminishing Manufacturing Sources and Material Shortages
(DMSMS)

- Refs.:
- (a) DoD Directive 4005.1, "DoD Industrial Preparedness Production Planning," July 28, 1972
 - (b) DoD Instruction 4400.1, "Priorities and Allocations - Delegation of DO and DX Priorities and Allocations Authorities, Rescheduling of Deliveries and Continuance of Related Manuals," November 16, 1971
 - (c) DoD Instruction 4140.26, "Integrated Materiel Management of Consumable Items," February 26, 1972
 - (d) DoD Instruction 4210.4, "Studies on the Availability of Materials," October 6, 1971

I. PURPOSE

This Directive establishes policies and assigns responsibilities within each DoD Component to assure timely action is initiated when essential end item production capabilities are endangered by the loss or impending loss of manufacturing sources or by material shortages.

II. APPLICABILITY AND SCOPE

- A. The provisions of this Directive apply to the Office of the Secretary of Defense, the Military Departments, and the Defense Agencies (hereinafter referred to collectively as "DoD Components").
- B. Its provisions encompass items and materials used and managed by DoD Components and by contractors supporting DoD peacetime, surge and mobilization requirements, and all items for which a critical manufacturing/material source of supply no longer exists or potentially will not exist, or we are reduced to a single source, within the scope of this Directive.

III. DEFINITIONS

As used in this Directive, the definitions in enclosure 1 apply.

IV. POLICY

DoD Components shall assure that timely actions are initiated when a development program or an end item production or support capability is endangered by the lack, or impending lack, of manufacturing sources for items and material. Implementing procedures to achieve the objectives listed in section V., below, shall be developed by each DoD Component. These procedures shall apply to each item until:

- A. The applicable end items have been replaced, modified, phased out of the inventory, or
- B. Sufficient item assets or manufacturing/supply capabilities are available to ensure support through the forecasted end item life cycle.

V. OBJECTIVES

- A. Minimize the impact of diminishing sources and material shortages upon Defense Programs by the initiation of prompt and timely actions to assure the availability of critical materials and manufacturing capabilities to support current and planned Defense requirements.
- B. Improve operational readiness by undertaking prompt action to identify and implement the most effective solution consistent with overall mission requirements.
- C. Improve timeliness of response in diminishing source and material shortage situations by developing methods which ensure the integration of DoD's Diminishing Manufacturing Sources and Material Shortages System and procedures with other Government agency systems and ensure rapid exchange of information between DoD Components, Department of Commerce, Energy Research and Development Administration, State Governments, industry and other interested Government activities.
- D. Improve communications, coordination, problem analysis and solution by establishing a single organizational focal point within each DoD Component responsible for dealing with material shortage and diminishing source problems.

VI. RESPONSIBILITIES

- A. The Assistant Secretary of Defense (Installations and Logistics) (ASD(I&L)) shall be responsible for:
 - 1. Overall policy and guidance in matters pertaining to the management of items and material when a critical source has discontinued, or is projected to discontinue production or supply.

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2. Resolving proposed actions which do not have the concurrence of all affected DoD Components.
 3. Developing policies and providing review for those resources identified in DoD Component budget submissions that relate to diminishing manufacturing sources and material shortages relative to both U.S. and International Logistics Support requirements.
 4. Establishing and maintaining a single organizational focal point to deal with material shortage and diminishing source situations within DoD and between other agency headquarters.
- B. DoD Components on a normal working basis shall coordinate with operational activities within other Government agencies on the identification of critical items and possible solutions, and action criteria for items affected by the loss or potential loss of critical manufacturing source, or supplier of material. Implementation will be in accordance with the policies, plans, programs and guidance provided by the Assistant Secretary of Defense (Installations and Logistics), and this Directive. This responsibility includes:
1. Establishing and maintaining a single organizational focal point to monitor all material shortage and diminishing source situations.
 2. Developing plans and simplified coordination mechanisms to deal with existing and potential diminishing manufacturing sources and material shortages, including interaction with Department of Commerce, Environmental Protection Agency, Occupational Safety and Health Administration, and other Government activities.
 3. Taking rapid remedial action when faced with a material shortage or manufacturer phaseout. Action alternatives include:
 - a. Finding new sources. (In exceptional cases foreign sources can be considered, except where Industrial Preparedness Planning (IPP) is involved and foreign source would be the sole source.)
 - b. Encouraging industry to continue production.
 - c. Effecting excess redistribution.
 - d. Finding substitutes to include commercial items.
 - e. Redesigning.
 - f. Cannibalization.

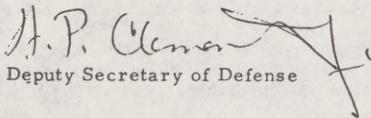
- g. Modifying equipment and/or repair part.
 - h. Utilizing Secretarial determination and findings (D&F) to ensure that appropriate procurement actions are taken to preserve the industrial source necessary to meet industrial preparedness requirements. Also joint DoD Component D&Fs will be established where procurement must be allocated to preserve the base.
 - i. Invoking Defense Production Act authorities (Special Priorities Assistant) where applicable.
 - j. Initiating life of type buy. Where the items are secondary items and the alternative is determined as necessary and the buy will exceed \$500,000 in any one fiscal year, prior approval must be obtained from Office of the Assistant Secretary of Defense (Installations and Logistics) before funds are committed.
 - k. Ensuring that a cost/availability tradeoff determination is accomplished between support alternatives for existing end item and possible replacement by a new or substitute end item.
4. Initiating actions to reduce reliance on sole source manufacturers and suppliers through the development of additional sources or coordination of substitute items with equipment users.
 5. Maintaining close contact with industrial/scientific and engineering organizations and industry through a system of followups to discern future trends.
 6. Using engineering, standardization and technical organizations to assure that the most current standard or preferred parts are used in systems design and development.
 7. Reviewing the efforts of other Government departments in the area of material shortages and production phaseouts. Use output from their system where possible and ensure that a compatible data interchange method is established. Communicate DoD-related data directly to all concerned DoD Components, and through Office of Assistant Secretary of Defense (Installations and Logistics) to other Government agencies.
 8. Developing compatible management techniques through coordination with other DoD Components and ensure that adequate information and controls for material shortage and diminishing source situations.
 9. Ensuring that diminishing manufacturing sources and material shortages are recognized in the DSARC proceedings.

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4005.16

10. Developing a technique where feasible to identify "end item application" for those critical or weapon system essential items affected by shortage/phaseout conditions.
11. Seeking manufacturers and suppliers commitments to provide maximum advance notice prior to phasing out production or supply of material.
12. Advising using Military Departments and other users of date(s) beyond which support will no longer be provided for item(s). The DoD Components are responsible for notifying International Logistics (IL) customers.

VII. EFFECTIVE DATE AND IMPLEMENTATION

This Directive is effective immediately. Two copies of implementing regulations shall be forwarded to the ASD(I&L) within 120 days.


Deputy Secretary of Defense

Enclosure - 1
Definitions

DEFINITIONS

- A. Items. Material that is raw, in process, a manufactured commodity, equipment, component, accessory, part, assembly, or product of any kind including prime and subcontractor items.
- B. Life of Type Buy. A one-time procurement, when all other alternatives have been exhausted for a quantity of an item no longer to be produced. Procurement quantity will be based upon demand and/or engineering estimates of mortality, sufficient to support the applicable equipment until phased out of the system.
- C. Life Cycle. The total life span of an end item commencing with the concept formulation phase and extending through the operational phase up to its removal from the DoD inventory and ultimate disposal, to include inventories of other nations participating in the Security Assistance Program.
- D. Not Available from a Manufacturing Source or Supplier. Items which cannot be procured from any known manufacturing source. These items are not to be regarded as "currently" or "temporarily" nonprocurable. They are items no longer manufactured because of advancing technology, loss of commercial markets, or the total DoD requirement is insufficient to make continued operation of a minimum manufacturing facility economically feasible for the manufacturer, or other difficulties.
- E. Potentially Not Available from a Manufacturing Source or Supplier. This applies to items for which any known manufacturing source, including privately owned and Government-owned manufacturing capability intends to, or is likely to, cease production permanently prior to the forecasted completion of the life cycle of the using end item.
- F. Material Shortage. Lack or shortage, or impending lack or shortage of any raw, in process, or manufactured commodity, equipment, component, accessory, part, assembly, or product of any kind.

Joint Committee on Defense
Production
Subject: DoD Procurement Practices
Hearing Transcript, September 30, 1977
Supplemental Question

Senator Proxmire: Please describe the Department's activities with respect to Title III of the Defense Production Act.

Mr. Church: We are in the process of adapting our materials policies and programs to more fully recognize and respond to the dynamics and economics of the international supply and demand for metals, minerals and industrial materials in their basic and upgraded forms to support defense production. In this connection, we are planning for increased utilization of the expansion of production capacity and supply authorities of Title III of the Defense Production Act of 1950.

In the recent past, the DoD has developed and submitted several proposed Title III projects to the Federal Preparedness Agency (FPA) of the General Services Administration for financial support. For example, three DoD proposals have addressed means by which we could reduce our dependence on foreign sources for chromium by (a) mapping and mining U.S. chromium resources, (b) developing silicon-base substitutes for chromium, and (c) developing substitutes for chromium in superalloys. As a result of coordination of these proposals with others developed by the Department of the Interior, the FPA has received \$1,100,000 in FY1978 under Title III for the development of substitutes for chromium and the recovery of chromium from metallic waste materials.

In Fiscal Year 1978, we intend to place more emphasis on examination of the need for expansion of production capacity and supply for end items and component parts for DoD systems and equipment in addition to raw materials and semi-finished commodities.

APPENDIX IV



Corporate Office:
6 Jacob Way, Reading, MA 01867, tel. 617-944-6850
Washington Office:
1730 N. Lynn St., Arlington, VA 22209, tel. 703-243-6100

October 20, 1977

EX-117-21 RM 12

Senator William Proxmire
Chairman, Committee on
Banking, Housing, and Urban Affairs
United States Senate
Washington, DC 20510

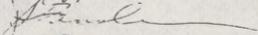
Dear Senator Proxmire:

Thank you for your letter of October 7, and for the opportunity to appear again before the Joint Committee on Defense Production, on September 30, 1977. As I indicated at that time, I feel that your hearings into the state of the U.S. defense industry are particularly important and timely.

In the attachment I have given my initial response to your three follow-up questions; however, I must point out that these, as well as other questions raised during the course of the hearing, are, in my opinion, extremely complex and undoubtedly require far more study to be adequately answered. In fact, in many cases I believe that the data base does not adequately exist to provide the full answers at this time. However, I am optimistic that with the combination of your continued questioning and the new initiatives which the Department of Defense has recently instituted, in the area of analysis into the defense industry, there will be data made available and corrective actions implemented for improvement in this very critical portion of the U.S. defense posture and the overall U.S. economy.

Please do not hesitate to call on me if I can be of any further assistance.

Sincerely,


Jacques S. Gansler
Vice President

JSG/lm
Enclosures

FOLLOW UP QUESTIONS TO THE TESTIMONY
OF J. S. GANSLER BEFORE
The JOINT COMMITTEE ON
DEFENSE PRODUCTION
ON SEPTEMBER 30, 1977

Question No. 1

In your oral testimony, you suggested that one way to minimize the additional costs associated with excess capacity in the aircraft industry would be a "much tighter rein on the overhead not only in terms of percent but also in terms of the type of charges that are allowable against it. That is in terms of the labor portion." Mr. Church testified that it is extremely difficult to determine unnecessary staffing. Do you have any proposals for formal procurement regulation changes or less formal procedural changes which could control these types of costs ?

Answer:

I believe that the A.S.P.R. provisions covering this area are adequate to cover the intent of disallowing excess capacity charges -- both in terms of facilities and labor. The problem, however, rests in the specifics of the implementation at the individual plants. First, in terms of facilities, the guidance from the Department of Defense and the Congressional legislation is very unclear as to how much additional capacity beyond the current usage should be provided for the future possibility of surge or mobilization. However, clear definitions of "requirements" would minimize this uncertainty.

In the case of labor, it is even more difficult to provide general guidance, other than the obvious steps that the Department of Defense has begun to take in terms of emphasizing to its procurement people and to its auditors the strong desire to eliminate unacceptable overhead labor charges. The difficulty is in defining which workers are, in fact, excess and which are not. Here, detailed floor audits are probably required, in addition to setting very tight percent overhead controls; so that as direct labor falls, the allowable overhead percent stays constant. (Data over the past ten years in the defense industry has clearly shown that this percentage is rising significantly, and thus far greater control is required; and is being initiated.)

Question No. 2

What is the probable effect on the U.S. industrial base of extensive relocation of U.S. manufacturing firms in developing countries? Is this common enough now to become a matter of concern? Can the trend be reversed?

Answer:

Clearly, the internationalization of U.S. industry is becoming a common phenomenon, and the defense industry is no exception to this. However, the difficulty in determining the extent of the impact is the fact that in the defense area the primary relocation is taking place at the sub-contractor and/or part-supplier levels, and there is little data available on defense suppliers at these levels in order to determine whether or not the affect is significant - either in terms of manufacturing in the developing countries or even in terms of the growing dependency on component and sub-contract suppliers in the developed countries; including those with whom we are now instituting "co-production" and "offset agreements."

My personal opinion is that the problem is not yet serious, but that the trends indicate a potential future problem area; however, there are already a significant number of areas in which the U.S. is totally dependent upon foreign sources for many critical defense parts; and, on a case-by-case basis, corrective action is clearly warranted. Additionally, I am personally quite concerned about the technology transfer - particularly of manufacturing technology - which is taking place out of the U.S. today in an almost totally uncontrolled fashion. Here again the multi-national corporations serve a significant role as "transfer agents."

Question No. 3

What are the major Congressionally-imposed restraints to disposition of government-owned plants and equipment ?

Answer:

The National-Industrial Security Act requires that the Defense Department retain "an essential nucleus of government-owned facilities." Additionally, the Arsenal Act requires that much of the Army's munitions work be performed "in-house." However, there are many opinions both within the legislative and executive branch that indicate that in spite of these constraints, the Department of Defense, through the General Supply Agency, is probably free to dispose of a considerable portion of the government-owned plants and equipment. However, I have been frequently told that, whenever such steps are proposed, the most desirable method, from the viewpoint of maintaining the viability of an existing defense production line, is by "negotiating" for the sale of the plant and equipment with the current producer at a "fair market value"; and that this negotiation -- rather than a closed-bid auction - has been questioned by members of Congress. Obviously this technique raises the question of what is "fair market value" (currently this is viewed as market price plus a "use value"), with no reduction for the cost (if there is no sale) of the government's costs for carrying the facility or equipment. Perhaps some flexibility here would help.

In my opinion this is an area which should be clarified by joint effort on the part of the Executive and Legislative Branches, and a clear policy established as the "intent of Congress" and the methodology to be utilized for the sale, should this position be desired. Perhaps all that the latter would require is a slight modification to the Federal Property and Administrative Services Act of 1949.

APPENDIX V

Chairman of the Board and
Chief Executive Officer

MAILED 10 11:45 AM DEC 10 11:54

7 December 1977

Senator William Proxmire
Chairman, Committee on Banking,
Housing, and Urban Affairs
Senate Office Building
Washington, D. C. 20510

Dear Mr. Chairman:

Thank you for your letter of October 18, 1977. I very much appreciated the opportunity to present my views to the Joint Committee on Defense Production.

Before responding to the specific questions in your letter, let me first clarify my statement regarding "allowing recovery of certain elements of cost which may tend to increase those costs while the price the Government pays may be unchanged or even increased" as it pertains to Mr. Church's subsequent testimony relative to personnel costs. My statement was made in the context of the use of preferential cost allowance as an incentive, such as the allowability of interest to stimulate investment in plant and equipment. It is the price to the Government that counts--not some particular element of cost. I stated, therefore, that contractor incentives should be based instead on product performance, schedule, and price within a truly competitive, fixed price type contracting environment.

With regard to the so-called excessive personnel in industry, it is very hard to identify without a full understanding of the types of contracts involved, management practices, facility ownership, and other factors that vary among individual companies and government programs. In non-competitive programs employing cost type contracts, the environment is created for retention of personnel. However, within a competitive, fixed price type contract environment the contractor, himself, is motivated to eliminate any unnecessary cost, including excess personnel. His job is to achieve the balance among all elements of cost which will result in the lowest price to the Government.

Senator William Proxmire
Page Two
7 December 1977

Concentration on only one element of cost can sometimes lead to erroneous conclusions with respect to price. For example, as capital is invested in equipment to reduce direct manhours, the overhead ratio may go up while the price is reduced through overall efficiency. The discipline enforced by a competitive fixed price type contract environment in which the Government holds industry to its commitments provides the best means of controlling all elements of cost.

My responses to your specific questions are as follows:

Question A: Does your experience bear out Mr. Church's statement that there may be a high level of excessive personnel in the aircraft industry?

Response: It is my understanding that Mr. Church's statement related to an earlier DOD Aircraft Industry Capacity Study which concluded that there currently exists excess capacity in both plant and equipment, and employment. It is also my understanding that the report's conclusion regarding "excess" personnel was based upon a statistical analysis of the changing ratio of production and non-production employment in the industry over the past 15 years, without identifying the elements that make up or caused the increase, or analyzing specific reasons for such increases.

I am in no position to draw generalized conclusions on the basis of such ratios without an assessment of the factors involved. This can only be done by analyzing the individual companies and government programs encompassed in the survey.

The real test is the price to the Government, and it has been my experience that a competitive environment where the incentives are based upon product performance, schedule, and price provides the necessary discipline and motivation for industry to properly balance personnel and other elements of total cost.

Senator William Proxmire
Page Three
7 December 1977

Question B: What implications would such overstaffing have for defense production efficiency?

Response: If there truly is overstaffing, it would have an impact on the cost of production. However, while it is essential that a company maintain the necessary personnel to provide for research and engineering, forward planning, and understanding customer needs for new products, these must be kept in balance with current production programs in order to remain competitive. If overhead elements are allowed to become excessively high, then it becomes correspondingly difficult to effectively compete for new business. In order to enforce this discipline, it is of course essential that Government procurement practice ensure a truly competitive procurement environment.

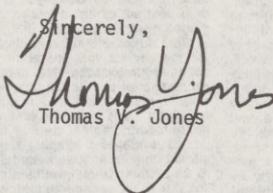
Question C: What steps would you recommend to control this element of cost?

Response: As I stated in my earlier testimony, it is price to the Government that really counts -- not some particular element of cost. Competition on the basis of product performance, schedule, and price, using fixed price type contracting and holding the contractor to his commitments, provide the essential discipline needed to control all elements of cost.

I am also enclosing a copy of a recent article from the editorial page of the 25 November 1977 Wall Street Journal, expressing essentially the same views I presented to your Committee.

Please let me know if I can provide any further information.

Sincerely,



Thomas Y. Jones

Enclosure

THE WALL STREET JOURNAL, FRIDAY, NOV. 25, 1977

The Flaws in Defense Contracting

By THOMAS V. JONES

Cost overruns are having a major impact on national defense.

During the last 10 years, excessive costs have wiped out as much as 30% of the aircraft, ships, tanks and other major weapons that the Department of Defense had planned to acquire.

An analysis of Defense Department reports shows, for example, that seven key aircraft programs, which were originally planned to provide 3,200 aircraft, will actually deliver only 2,200 aircraft. These Department of Defense reports to Congress indicate that, even after adjusting for inflation, the United States taxpayers will pay 25% more than originally planned and get 1,000 fewer aircraft in the armed forces.

The conditions and the means exist that will permit us to correct this situation, but it will require bold action and, more importantly, self-discipline from both government and industry.

The conditions in which we plan and provide for defense today are a far cry from the cyclical "boom or bust" pattern that characterized defense preparation for most of the nation's history. Unconstrained budgets in time of danger and virtually no budget in peacetime has given way to a general understanding that for the foreseeable future a substantial amount of our resources must be dedicated to defense.

This understanding gives the defense industry a basis for long-range planning and a reasonably stable and predictable budget—in short, a reliable market environment.

Erratic Budget Traditions

Yet the defense procurement process in many respects is still based on the erratic budget traditions of the past. Only when defense companies are required to assume the kind of management responsibility demanded elsewhere in the private sector will our national security benefit from the advantages of the market system.

Government, for example, must evaluate defense companies the way companies in any other sector of our economy are evaluated—on the basis of the quality of their products, their performance record, their ability and willingness to make binding financial commitments. Large prime contractors place these demands on their subcontractors, but the government doesn't always impose the same demands on prime manufacturers. It is this lack of discipline that leads to the expediency of government loan guarantees or, worse, increasing contract prices to cover cost overruns.

The most serious flaw that has developed in the relationship between government and the defense industry is an insufficient respect for the binding nature of the contract. The sanctity of the contract between the government and the manufacturer must be understood and believed in

by both sides. Some of the worst cases of runaway costs and schedule slippages have occurred when both sides began making changes in the program before the ink had dried on the contract, without defining the scope of those changes and negotiating their effect on the terms of the contract. The disputes between the government and shipbuilding companies over the production of several different kinds of vessels are, of course, among the best known examples.

Holding a company to the terms of its contract does not necessarily mean that we should expect every contract to be written

Only when defense companies are required to assume the kind of management responsibility demanded elsewhere in the private sector will our national security benefit from the advantages of the market system.

on a fixed price basis. The Defense Department and the defense industry must explore new concepts and technologies and contracts should be written to provide adequate freedom for such creativity.

What it does mean is that decisions to buy quantities of aircraft, ships or other major items of military hardware for deployment with our armed forces should be made only when the government has defined the product it expects to get and has in hand firm and binding contracts with companies that are prepared to stand behind them. If neither industry nor government is willing to undertake such obligations, it should be considered clear evidence that not enough is known to buy a weapon system in quantity.

What is needed is enforced discipline in the procurement and budgetary process and in implementation. The Defense Department must present the Congress with realistic requirements and reliable cost projections based upon firm commitments by the industry. This is the way to insure that there will be a complete meeting of minds among these three essential groups on the characteristics, quantities, schedule and cost of the systems being counted on by our armed forces. Once the Department of Defense, the Congress and the industry are in agreement and are committed, every effort must be made to adhere to the basic plan and abide by the contractual commitments that have been made. Any changes along the way should be made only after the cost and other impacts of

such changes are fully understood and new commitments are accepted by all parties.

It will not be easy to alter the present attitude toward contracts. It is in the nature of institutions to avoid commitment. Bureaucrats tend to want to retain direction of a project by keeping its requirements incompletely defined and subject to change, and many companies prefer to go along with them since loose arrangements present less business risk than a well-defined commitment. Only strong and uncompromising direction from the top will change this situation.

One of the first steps to take in placing more responsibility on the industry should be for the government to withdraw from its role as landlord of much of the plant and equipment used by a number of companies in the defense industry. Some of these facilities were designed for one product and are being used for another simply because they exist and are provided by the government. With programs awarded solely on technical quality, schedule and price, inefficient plant and equipment in the industry would quickly be eliminated or replaced by the companies themselves.

Private Sector Productivity

With stability and the opportunity for long-term planning, there is no longer any reason why well-managed defense companies cannot undertake investments in the high-productivity plant and equipment needed to meet military requirements effectively and efficiently. Productive capacity is an important resource of the private sector; it should be financed by the private sector, not provided by the government at taxpayer expense.

When such steps have been taken, it will become clear that the government means what it says, and a profound change will take place in the attitude and business character of the defense industry. Boards of directors will become vitally concerned with such matters as technical risk and the resulting effect on product performance, schedule and cost commitments. Decisions on modernizing plant and equipment will be driven by the need to compete in terms of productivity, combined with the financial and legal obligation to deliver under the terms of the contract. Decisions to bid on long production runs will be understood to entail binding commitments in which the future of the corporation is at stake. The contract will carry genuine force as an instrument of faith between the parties to it.

The result will be to eliminate the waste created by past practices, to produce a stronger, more efficient defense industry, and thus to increase the effectiveness of our armed forces.

Mr. Jones is chairman and chief executive of Northrop Corp.