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C-5A AND AIR FORCE DEFENSE PROFITS POLICY

HEARINGS

BEFORE THE

SUBCOMMITTEE ON INTERNATIONAL TRADE FINANCE, AND SECURITY ECONOMICS

OF THE

JOINT ECONOMIC COMMITTEE

CONGRESS OF THE UNITED STATES

NINETY-EIGHTH CONGRESS

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CONTENTS

WITNESSES AND STATEMENTS

TUESDAY, NOVEMBER 1, 1983

THURSDAY, NOVEMBER 10, 1983

SUBMISSIONS FOR THE RECORD

TUESDAY, NOVEMBER 1, 1983

THURSDAY, NOVEMBER 10, 1983

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TUESDAY, NOVEMBER 1, 1983

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON INTERNATIONAL TRADE, FINANCE,
AND SECURITY ECONOMICS
OF THE JOINT ECONOMIC COMMITTEE,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10 a.m., in room 628, Dirksen Senate Office Building, Hon. William Proxmire (vice chairman of the subcommittee) presiding.

Present: Senators Proxmire and Mattingly.

Also present: Richard F. Kaufman, assistant director-general counsel.

OPENING STATEMENT OF SENATOR PROXMIRE, VICE CHAIRMAN

Senator PROXMIRE. The meeting will come to order.

The Joint Economic Committee's interest in government contracting and defense procurement dates back to the 1950's when, under the leadership of Senator Paul Douglas, who was then chairman of the committee, hearings were held to look into the wasteful spending practices associated with these activities. Senator Douglas' path-breaking investigations led to his conviction that the goal of economy in government could not be attained until economic principles are applied to government contracting.

The Joint Economic Committee has continued the work begun by Senator Douglas through numerous hearings concerning specific procurements, as well as inquiries into the effects of defense spending and procurement policies on the economy and the defense industrial base. Indeed, it was understood at the time of the abolition of the Joint Defense Production Committee that the Joint Economic Committee would continue its efforts and expand them so as to assist the banking committees in their monitoring of the Defense Production Act.

Today's hearing is another in a series of inquiries into the Air Force C–5A cargo plane program held under the auspices of the Joint Economic Committee. Our first hearings into this program were conducted in 1968, when the huge cost overrun on the C–5A was uncovered.

The present series began in 1976 with a review of the role of the C–5A. When the full dimensions of the problem of the defective wings became known, we turned our attention to this new facet of perhaps the most disastrous weapons procurement in modern history.

The Air Force originally planned to buy 120—that is 120—C–5A's at a cost of $3.4 billion. That allowed for inflation. Or $23 million each. Due to cost overruns in the production of the aircraft by Lockheed, the quantity was reduced to 81 planes and the cost of producing them increased to $5 billion, or $62 million each. In other words, there was an increase from $23 million to $62 million per copy. The failure of the wings is adding another $1.5 billion to the overall cost, bringing the total unit cost to about $82 million for each C–5A, nearly three times the original estimate.

In 1980, I asked the GAO to do a study of the C–5A wing cracking problem and the Air Force program for making the repairs. In its report, issued March 22, 1982, GAO found that the wing problem occurred because Lockheed had deviated from the original contract specifications, but that it was not financially liable because the contract had been converted from fixed price to cost plus in the course of a bailout of the company arranged by former Deputy Secretary of Defense David Packard.

One of the questions I raised in my request to GAO was reserved for more time-consuming analysis. This question asked whether Lockheed was entitled to make a profit on the wing repair contract. GAO has now completed its study of this question and its report forms the basis for this hearing.

The GAO report presents Congress with one of the most ridiculous situations I have seen as a U.S. Senator, and I have been in this body for more than 26 years. On the one hand, GAO concludes that Lockheed was legally obligated to do much or most of the wing repairs without a profit and that the Air Force was incorrect in failing to recognize this obligation. The Air Force proceeded to award contracts to Lockheed with profits totaling about $150 million.

On the other hand, GAO concludes that there is no legal basis to avoid paying the profits. In other words, the taxpayer, who was required to pay the cost of correcting the contractor's mistake because of a bailout agreement engineered by the Pentagon, is now being required to pay the same contractor a profit for correcting that contractor's mistake of a faulty Air Force legal decision.

So I think the question must be asked whether this suggests that if a contractor wants to increase his profits, one of the best ways is to build defective equipment. The more defects he has to correct, the more money he makes.

We used to argue that there was a disincentive for cutting costs because the higher the cost, the greater the profit. But now, we are in a new area where the bigger the mistake, the higher the profit.

The Air Force seems to be rewarding failure.

Our witness this morning is Milton J. Socolar, Special Assistant to the Comptroller General, Mr. Socolar, before you introduce your associates and testify, I am going to ask my good friend, Senator Mattingly of Georgia, to say whatever he would like to say.

OPENING STATEMENT OF SENATOR MATTINGLY

Senator MATTINGLY. Thank you, Senator. I regret that this subcommittee and the GAO have seen fit to revive previously discredited assertions relating to the C–5A wing modification program, and I wish

to register my strong objection to these proceedings. It is very difficult to understand why this issue is of any current interest. The operative facts are more than 10 years old and there have been ample opportunities in the past to consider the GAO's belated assertions regarding this matter.

For example, in 1976, the Senate Research and Development Subcommittee of the Committee on Armed Services raised the question as to whether the original contractor could be held responsible for fixing the wing problem under the original contract terms. In response, two opinions of the Air Force General Counsel were provided for the record, both of which preceded the wing modification contracts. These opinions and more recent opinions of that office concluded that:

There is no evidence in the original C–5A contract or in the specifications that the 30,000-hour life goal constituted a firm contractual requirement.

Two, to translate the goal into a requirement would expand or extend the general scope of the contract and thus require payment of fee.

Third, even if a deficiency existed, notice requirements of the correction of deficiencies provision of the contract had not been satisfied by the Government.

The 30,000-hour goal cannot legally be construed as contractor's warranty.

If a service life deficiency existed, it would have been waived under the restructured C–5A contract which imposed a $200 million loss and other punitive measures on Lockheed in May 1971.

These opinions, with which I completely agree, articulate thoroughly and expertly, I believe, the correct legal analyses of the rights of the parties relating to the wing modification.

Significantly, I understand that these Air Force opinions were not opposed by the then General Counsel of the GAO. This fact is regrettably omitted from the GAO letter.

If the GAO, Air Force, or Congress had disagreed, there was ample opportunity to further explore the issues of compelling Lockheed to perform the wing modification effort with no profit before the new contract was signed.

Plainly, all parties at that time were in agreement with the conclusions reached in the opinions of the Air Force General Counsel. Since that time, the Armed Services and Appropriations Committees have consistently recommended funding for the C–5A wing modification program, supporting the Air Force legal conclusion.

The current GAO letter acknowledges that the original C–5A contract and specifications did not establish an absolute requirement or warranty that each C–5A production aircraft would perform for 30,000 service hours. Repeatedly throughout the contract and specifications, service life is addressed as a goal or expectation, rather than as a firm requirement.

At the time the C–5A contract was restructured in May 1971, the wing problems had already surfaced and the Air Force, which at that time had virtually unlimited leverage over Lockheed, could very easily have removed any perceived ambiguity.

In sum, I believe that the GAO report is unsound and factually incomplete and that the whole matter has long since lost its relevance in any contractual or legal context.

Thank you, Senator.

Senator PROXMIRE. Thank you, Senator Mattingly. And I very much appreciate your statement. Frankly, I have worked with the GAO all the time that I have been in the Senate and I have found the GAO to be extraordinarily careful, accurate, and I must have seen hundreds and hundreds of their reports and I have never seen one that was seriously in error.

So if this is in error, it will be a first, and I doubt very, very much if it is.

You said in the course of your remarks that this is an old and discredited charge. The fact is that this GAO report is brand new, just out, No. 1. No. 2, the wing repairs will not be completed until 1987. In fact, only 9 out of 77 repairs have been completed so far. Of course, no payment has been made for the job and will not be, I presume, until the repairs are done.

So the notion that this is an out-of-date charge just does not stand up in view of the fact that this is an ongoing project, still underway, and it will not even be completed for 4 years.

Now I would like to ask Mr. Socolar—is that the way you pronounce it, sir?

Mr. SOCOLAR. That is correct.

Senator PROXMIRE. To introduce your colleagues and proceed.

STATEMENT OF MILTON J. SOCOLAR, SPECIAL ASSISTANT TO THE COMPTROLLER GENERAL, GENERAL ACCOUNTING OFFICE, ACCOMPANIED BY SEYMOUR EFROS, ASSOCIATE GENERAL COUNSEL, PROCUREMENT; AND CHARLES KRATZER, ATTORNEY-ADVISER

Mr. SOCOLAR. Thank you, Senator Proxmire. Good morning, Senator Mattingly.

On my right is Seymour Efros, who is our Associate General Counsel in charge of the procurement area at GAO. And on my left is Charles Kratzer, attorney-adviser.

Senator Proxmire, Senator Mattingly, I am pleased to be here today to discuss our opinion of September 27, 1983, to you, Senator Proxmire, as to whether the Department of the Air Force was correct in concluding that the Lockheed Georgia Co. was not legally responsible for correcting a design defect in the wing of the C–5A aircraft. I would like to submit our full opinion for the record and briefly summarize it here this morning.

In 1965, the Air Force entered into a contract with Lockheed for the design, development, testing, and production of 120 C–5A aircraft. At the time, the estimated cost for the program was $3.4 billion, or $28.4 million per aircraft. In 1969, a static test failure on the C–5A wing gave the Air Force its first significant indication that serious deficiencies might exist in the wing.

In May 1971, because of cost overruns, numerous technical problems, and a dispute concerning the number of aircraft that the Air Force was required to order, the Air Force and Lockheed executed a supplemental agreement to the contract. The agreement fundamentally restructured the original contract, converting it from a fixed price incentive contract to a cost reimbursement contract with a fixed loss of $200 million.

The earlier indicated wing problem was confirmed in 1971 when fatigue test failures indicated that the wing would not meet the contractually specified useful life goal of 30,000 service hours. After considerable study of the problem, Air Force officials determined that the appropriate fix would be an essentially new wing for all the C–5A aircraft. While some parts of the old wing could be used, the inner, center, and outer wing boxes which make up most of the wing were to be rebuilt. The Air Force concluded that Lockheed was not legally obligated to correct the wing problem without fee under the 1971 supplemental agreement and it awarded Lockheed new contracts which included fees of $150 million to fix the wings.

The Air Force position was premised on the original contract not having contained a firm requirement for any stated aircraft service life; on the conclusion that the waiver and release clause contained in the 1971 supplemental agreement eliminated any rights or claims relating to the wing defect; and on the fact that notice requirements set out in the 1971 supplemental agreement had not been satisfied.

We disagree with the Air Force. First, the C–5A contract clearly sets forth firm requirements relating to fatigue testing and service life. While it is true that the service life was stated as an overall goal rather than a firm requirement, the contract specifically required corrective action at cost without fee for defects manifested under test conditions prior to a simulated life of half the contract goal. The wing failure occurred well within the critical time period.

Second, although the supplemental agreement does contain a general release and waiver clause, as the Air Force points out, the agreement expressly reserves and excepts the wing design defect from operation of the clause.

Finally, based on information available to us, it does not appear at the time the Air Force determined how to approach repair of the defects, that notice requirements would have precluded all repair at no fee. A contractual time limitation on the correction of defects would have limited Lockheed's responsibility to the repair of the test specimen and between 15 and 59 aircraft, with an eventual fee attributable to this effort of between $38.5 million and $120 million.

In our view, the Air Force could have called upon Lockheed to continue its efforts to correct the wing problem under the supplemental agreement, at least with respect to a significant portion of the defective aircraft. Because the new contracts altered the rights and obligations of the parties, however, we see no legal basis upon which the fee may now be avoided.

Senator, this concludes my prepared statement and I will be happy to respond to any questions either you or other members of the committee may have.

[The full opinion of the Comptroller General follows:]

COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON D.C. 20548

B-201347 September 27, 1983

The Honorable William Proxmire
Vice Chairman
Subcommittee on International Trade,
Finance and Security Economics
Joint Economic Committee

Dear Mr. Vice Chairman:

This concerns our review of the Air Force's C-5A wing modification program, which was the subject of our audit report "C-5A Wing Modification: A Case Study Illustrating Problems in the Defense Weapons Acquisition Process" (PLRD 82-38, March 22, 1982).

As you know, a draft of the report included a chapter that responded to your query as to whether the Air Force properly exercised its responsibility for requiring Lockheed-Georgia Company, the C-5A contractor, to assume the financial burden of correcting the wing defect. We omitted the chapter from our final report because of an ongoing review by our Office and the Air Force Office of General Counsel. After careful study of the matter, we conclude that Lockheed was legally obligated to perform a substantial portion of the correction on a cost reimbursement, no fee basis under the C-5A contract. The Air Force, however, did not recognize this obligation; consequently, it awarded Lockheed new contracts to correct the defect and obligated itself to pay fees of about $150 million.

BACKGROUND

In 1965, the Air Force entered into contract No. AF33 (657)-15053 with Lockheed-Georgia Company for the design, development, testing and production of 120 C-5A aircraft. At the time, the estimated cost for the program was $3.413 billion, or $28.4 million per aircraft. By June 30, 1972, the estimated program cost was $4.426 billion, with the quantity of aircraft to be delivered having been decreased from 120 to 81. Thus, cost per aircraft increased from $28.4 million to $54.6 million.

Because of cost overruns, numerous technical problems, and a dispute concerning the number of aircraft the Air Force was required to order, the Air Force and Lockheed on May 31, 1971, executed Supplemental Agreement 1000 to the basic C-5A contract 15053. The Supplemental Agreement fundamentally restructured the original contract, converting it from a fixed-price incentive contract to a cost-reimbursment, fixed loss contract. The loss was fixed at $200 million. Additionally, the agreement generally released both parties from claims arising from the contract prior to the execution of the Supplemental Agreement.

In July 1969, a static test failure on the C-5A wing gave the Air Force its first significant indication that serious deficiencies might exist in the wing. The situation was confirmed in subsequent fatigue test failures which indicated that the wing would not meet the contractually specified useful life goal of 20 years or 30,000 service hours. After considerable study of the problem, Air Force officials concluded that the appropriate fix would be an essentially new wing for all the C-5A aircraft. While some parts of the old wing could be used, the inner, center, and outer wing boxes, which make up most of the wing, were to be rebuilt.

In December 1975, the Air Force awarded contract F-33(657)-75-C-0178 to Lockheed. This contract provided for the design of the new wing and the construction of two test articles. In November 1979, the Air Force awarded contract F-33(657)-80-C-0001 to Lockheed for the production and installation of the new wing on 77 C-5A aircraft. The wing modification program, known as "H-mod," is expected to be completed in July 1987 at a cost of about $1.5 billion, including a contractor profit of about $150 million.

THE AIR FORCE LEGAL OPINION

Prior to awarding the initial H-mod contract, the Air Force sought an opinion from its General Counsel on whether Lockheed legally could be required to perform the work of the H-mod program under a provision of the Supplemental Agreement that requires the contractor to remedy deficiencies at cost with no fee. An Assistant General Counsel concluded, in a memorandum dated November 22, 1974, that Lockheed had no legal obligation to perform the effort on a

no-fee basis, citing two reasons for this conclusion. First, the Assistant General Counsel asserted that since the 30,000 hour useful life the Air Force desired for the C-5A aircraft was stated in the contract as a goal rather than a requirement, no contract deficiency existed if the goal was not met by the aircraft. Second, the Assistant General Counsel concluded the notice requirements of the Supplemental Agreement had not been met and the contractor could successfully defend a Government demand on that basis alone. In its more recent review of the matter, the Air Force General Counsel proffered a third reason why Lockheed had no obligation to perform the repair at no fee. In his view, any claim by the Air Force concerning the design defect was precluded by a release and waiver of claims clause contained in the Supplemental Agreement.

GAO ANALYSIS

We find that, contrary to the Air Force's assertions, the contract contained a firm requirement to continue efforts to repair without fee both the test specimen and production aircraft in the event of a fatigue test failure. Moreover, neither the release and waiver clause nor the notice provisions foreclosed the prospect of remedial action without fee. Consequently, we believe that at the time the Air Force decided to adopt the H-mod plan to correct the wing deficiencies, it could have required Lockheed to perform at least part of the project at cost under the Supplemental Agreement.

Service Life and Fatigue Test Specifications

The Air Force reached its conclusion that Lockheed had no firm contractual obligation to supply aircraft with a service life of 30,000 hours on the basis of the following specifications:

> "The design goal useful life of the air vehicle shall be twenty (20) years or 30,000 hours of service life with six (6) percent low level flight capability and 12,000 landings * * *". Specification No. CP40002-1B, para. 3.1.2.3. (Emphasis supplied.)
>
> "* * * the design life goal exclusive of design factors shall be as follows: service life 30,000 Flight hours * * *". Specification No. CP4002-2B para. 3.1.1.1.3.2. (Emphasis supplied.)

The Air Force contends that the underscored language merely establishes a service life level which is to be "strived for" by the contractor, but which is not a firm requirement. Since there is no requirement concerning service life, in the Air Force's view, the fatigue test failure of the wing does not constitute a deficiency under Part XVI of the Supplemental Agreement, "Inspection of Supplies and Correction of Defects," which requires Lockheed to replace or correct without fee only those supplies or aircraft which are "defective in design, material or workmanship, or otherwise not in conformity with the requirements of this contract."

We agree with the Air Force that the specifications do not establish an absolute requirement to produce aircraft capable of performing for 30,000 service hours or create a warranty that each C-5A production aircraft will actually perform for 30,000 hours. We do not agree, however, that the service life requirement is purely aspirational and that Lockheed was utterly unaccountable for the wing defect. Rather, we believe that certain contract provisions relating to the service life goal clearly set forth Lockheed's responsibilities and obligations in this matter.

The contract requires Lockheed to conduct a structural fatigue test program to verify that the aircraft is capable of meeting repeated loads criteria over the course of its service life. To demonstrate compliance with the 30,000 hour service life goal the contract requires the structure to be tested for four lifetimes, that is, 120,000 test hours. Significantly, the contract sets forth the contractor's responsibility in the event a test article fails during fatigue testing:

"4.1.3.4.2.7.5 Repair of Failures

"4.1.3.4.1.7.5.1 Failures Before 60,000 Hours or 24,000 Landings - In the event that a fatigue failure due to a deficiency in fatigue resistance occurs in one of the qualification specimens during the first 60,000 simulated flight hours or 24,000 simulated loadings, the failure shall be repaired and the testing of the specimen continued. The repair which is installed

shall be shown by test of a component specimen to have the equivalent of 120,000 simulated flight hours. If the repair is redesigned before being incorporated into the production air vehicle, the redesigned repair shall be shown by test to have the equivalent of 120,000 simulated flight hours. Simple, minor repairs such as stop drilling of cracks may be verified for adequacy on the qualification articles.

"4.1.3.4.1.7.5.2 Failures After 60,000 Hours or 24,000 Landings - If a failure due to a deficiency fatigue resistance occurs after 60,000 simulated flight hours or 24,000 simulated landings have been applied to the fatigue qualification articles, the repair shall be installed on the articles and the testing continued. The repair shall be tested in the manner described above. The Contractor's responsibility for deficiencies in fatigue resistance shall be limited to those occurring during the first 60,000 equivalent flight hours of the full-scale structural fatigue qualification test." Specification No. CP40002-2B

Lockheed Category I Test Plan (Document 3-17) which was incorporated by reference in both the initial contract and the Supplemental Agreement contains language similar to this specification, but adds with respect to any failure that occurs before 60,000 test hours:

"[T]wo component test specimens containing the area of the failure will be constructed if the failure area is in a complex structure and the failure cause is difficult to determine. One specimen will be a duplicate of the qualification specimen repair; the other will be of the original configuration. The original configuration will then be fatigue-tested * * *. The repair configuration will be similarly tested to demonstrate that the repair will increase the life of the qualification article sufficient to meet the

> 120,000 simulated flight hour goal. On simple structures where the cause of the premature fatigue failure and the test life are easily determined, the control specimen will be omitted. If the production version of the repair is different from the repair tested as described above, a third component specimen, with the production repair incorporated, will be similarly tested to demonstrate a life of 120,000 simulated flight hours. For each repair accomplished on the fatigue qualification articles, the procuring agency will be consulted to determine the necessity of correction to all C-5A aircraft."

Concerning failures after 60,000 test hours, the plan states that Lockheed will repair the test articles and continue testing, but the repair of all other C-5A aircraft will be negotiated.

We believe these provisions clearly establish a firm requirement to repair the test specimen in the event of a test failure in fewer than 120,000 test hours, the equivalent of 30,000 actual hours. Additionally, in the event the specimen fails prior to 60,000 test hours, the equivalent of 15,000 actual flight hours, the contract requires Lockheed not only to repair the specimen, but also to repair similarly all production aircraft if necessary.

Both of the fatigue test articles that Lockheed produced and subjected to fatigue tests failed well before the 60,000 hour level. Wing test article X-998, the primary test article, failed after 24,000 hours and test article X-993, an incomplete article built for the purpose of accelerating the diagnoses on X-998 defects, failed after 30,000 hours. Thus, the test articles and, by inference, the production aircraft, were deficient under the Correction of Defects clause of the Supplemental Agreement in that they were "defective in design" and/or "not in conformity with the requirements of the contract."

Releases and Waiver of Claims

As the Air Force points out, the Supplemental Agreement was intended to resolve outstanding contract disputes and develop a more effective contractual relationship between the parties. Toward this end, Part VII, "Releases and Waiver of Claims," provides:

> "* * * the parties hereby unconditionally waive any rights or remedies for actions or failures to act under Contract AF33 (657)-15053 prior to its conversion under this Supplemental Agreement and unconditionally release each other from liability for all claims asserted or which could arise as a result of said contract prior to its conversion, including but not limited to claims for or relating to changes; terminations; COD directions; * * * implied or express warranties; * * * failure of the Contractor to perform or comply with contract requirements; disagreements reflected in Contracting Officer's letters or directions or in Contractor letters. * * *"

The Air Force contends that despite knowledge by both parties of a design defect in the wing prior to the negotiation of the Supplemental Agreement, there is no discussion of it in the Agreement and there is no reservation which would preserve the Air Force's rights, remedies or claims relating to the defect. Thus, the Air Force concludes that the release would have precluded it from obtaining correction of the defect without fee.

We believe, however, that other provisions of the Supplemental Agreement indicate an intent to reserve the Government's rights concerning the wing defect. Specifically, Part XXXV, "Incorporation of Previously Issued Documents," provides that:

> "Notwithstanding the statement on the cover page hereof concerning the supersession of previous documents, and notwithstanding the provisions of Part VII of this Schedule [Releases and Waiver of Claims] the following shall apply:

> "(a) All direction contained in the Contracting Officer Letters and Correction of Deficiency Notices identified in Exhibit 'C' attached hereto and made a part hereof, remains in full force and effect. Such letters and notices * * * shall be deemed to have been issued under this Supplemental Agreement No. 1000."

Exhibit C lists numerous correction of deficiency letters, including letter No. 243, dated May 24, 1971. That letter formally notifies the contractor of the wing problem and requires the contractor to recommend corrective action to meet the contractually specified service life. A problem sheet incorporated in the letter provides the following information:

> "CONTRACT REQUIREMENT: CP-40002-2B, para. 3.1.1.1.2 & 4.1.3.4.1.7. 120,000 cyclic test hours and 48,000 landings required to demonstrate fatigue life.
>
> "PROBLEM: Cracks have been discovered on the wing and wing/fuselage interface on X-998 and on X 993 at numerous locations. These cracks are grouped as to type and structural assembly and are listed on the attachment to this sheet. This sheet will be updated as more cracks are discovered.
>
> "EFFECT: The wing does not have the contractually required life at the locations of those cracks.
>
> "CORRECTIVE ACTION RECOMMENDED: Fix the areas on all aircraft to achieve the contract specified life. Develop and install modifications on all aircraft to achieve the contract specified life.
>
> "END ITEMS AFFECTED: Air Vehicle 2 thru 81."

We therefore do not understand the Air Force's assertion that there is no discussion of or reservation concerning the wing design problem in the Supplemental Agreement. The fact is that a document containing

detailed discussion of the wing deficiency and directing the contractor to remedy the problem was incorporated by reference in the Supplemental Agreement and explicitly excepted from the Release and Waiver provision. We are constrained to interpret the "Incorporation" clause and Letter No. 243 as indicating a clear intent to reserve from the operation of the Release and Waiver clause all rights, remedies and claims relating to the wing defect.

Notice and Time Limitations

The 1974 Air Force memorandum states that even if the wing failure constituted a deficiency, the notice requirements of the Supplemental Agreement had not been satisfied and the contractor could have successfully defended a Government demand on that basis alone. The memorandum does not specify which notice requirements have not been met, nor does it detail facts to support the position.

We do not believe that at the time the Air Force decided on the H-mod alternative, an attempt by the Government to secure a correction at no fee would have been foreclosed by failure to meet notice requirements. The scope of the work that Lockheed could have been required to perform, however, was limited by a time limitation contained in the Correction of Defects clause.

The Correction of Defects clause, quoted in part above, sets forth the following notice requirements:

> "(c) If it is determined by the Procuring Contracting Officer (PCO) that a deficiency exists in any of the supplies accepted by the Government under this contract, he shall so notify the Contractor, in writing within 45 days of first discovery of the deficiency. The Contractor shall promptly furnish its recommendations and the estimated cost thereof. If the Contractor shall become aware that a deficiency exists in any accepted supplies, it shall promptly communicate such information in writing to the PCO

> together with its recommendations for corrective action and the estimated cost thereof. The information required to be furnished by the Contractor shall be in sufficient detail to enable the PCO to determine what corrective action, if any, shall be undertaken. * * *
>
> "(d) Within 30 days after receipt of the Contractor's recommendations together with adequate supporting data, the PCO will notify the contractor in writing of the corrective action the Government requires. If the PCO determines that the deficiencies shall be corrected, the Contractor shall take the necessary action to bring the supplies and/or data into compliance with the requirements of the contract at the time and place directed by the PCO. * * *"

The requirement in paragraph (c) to provide notice of deficiency is the first provision to come into play. In our view, this provision posed no obstacle to requiring a remedy of the defect since Lockheed performed the fatigue tests on X-998 and X-993 on its own premises. The Government's knowledge of the test was gained through reports on the testing submitted by Lockheed. Clearly, these circumstances are governed by the second sentence of paragraph (c), since it was the contractor that first became aware of the deficiency. Thus, it was Lockheed's duty to communicate the deficiency to the Government together with its recommendations for corrective actions and estimated cost; the Government was not required to provide notice to Lockheed, since the firm itself discovered the deficiency in the first place.

Nonetheless, the Government did provide notice to Lockheed that the wings did not have the contractually required life in Correction of Deficiencies Letter No. 243, dated May 24, 1971, quoted above. We believe the notice was sufficient to disclose the fatigue test inadequacies; indeed, the contractor appeared to regard it as such. Prior to the time it became apparent the fatigue problem resulted from a major design flaw, the contractor submitted

numerous engineering change proposals to remedy the problems that had arisen. Once the scope of the defect became fully known, Lockheed conducted an extensive study, entitled the Wing Life Improvement Program, under the terms of the Supplemental Agreement. The study was completed in March 1973 and recommended several alternative solutions. We do not believe Lockheed plausibly could have refused to go forward with a correction at that point on a theory of lack of notice of the deficiency.

It is more difficult to determine with certainty, on the basis of the record developed in the course of our review, whether Lockheed could have defended a demand based on the requirement in paragraph (d) to notify the contractor of the corrective action required within 30 days after receipt of the contractor's recommendations. We point out that not only does the 1974 Air Force Assistant General Counsel memorandum fail to set forth the specifics upon which the conclusion concerning notice is based, but the Air Force's more recent review, in which it defends its 1974 determination, does not even mention failure to provide notice as an obstacle to obtaining correction without paying a fee.

We are not aware of any instance after the scope of the defect became fully apparent in which Lockheed supplied a comprehensive recommendation of a correction under the Supplemental Agreement that was in sufficient detail to allow the contracting officer to decide on the needed corrective action or which was supported by adequate data and cost estimates as contemplated by paragraph (d). Thus, it does not appear that the Government would have been barred from requiring correction based on this notice requirement. Moreover, given the complex nature and broad scope of the correction, and the fact that it took years of study and deliberation by Lockheed and the Government to develop a solution to Lockheed's failure to meet contract requirements, it would seem unreasonable to require the Government to evaluate a correction recommendation in 30 days to preserve its right to remedial action.

We conclude that Lockheed's contractual responsibilities were not relieved by noncompliance with the notice requirements of the Correction of Defects clause.

One other paragraph of the clause, not mentioned by the Air Force, might have operated to limit the scope of Lockheed's responsibility for correction at the time the Air Force settled on the H-mod solution. Paragragh (b) of the clause provides as follows:

> "At any time during performance of this contract, but not later than six (6) months (or such other period as may be provided in the Schedule) after acceptance of the supplies or lots of supplies last delivered (except as to aircraft, six months after the acceptance of the aircraft last delivered) in accordance with the requirements of this contract, the Government may require the Contractor to remedy by correction or replacement, as directed by the Contracting Officer, any supplies or lots of supplies which are or were deficient at time of delivery thereof or become deficient within the period stipulated herein. * * * The cost of any such replacement or correction shall be included as an allowable cost hereunder, * * * but no fee shall be payable with respect thereto."

The extent to which this clause would have limited Lockheed's responsibility to repair the production aircraft is difficult to determine. To our knowledge, the Air Force first required Lockheed to remedy the problem in May 1971, and the requirement to repair would reach back to aircraft accepted 6 months prior to that time, November 1970. Under this interpretation, Lockheed would be responsible to repair or replace the test specimen and to effectuate the repair on 59 production aircraft. The fee attributable to this effort under the current H-mod contracts is about $120 million.

We observe, however, that Lockheed may have fulfilled the May 1971 request for correction with a number of local wing repairs it made before the parties realized (in September 1971) that a major redesign and modification of the wing was necessary. If so, the next request by the Air Force to fix the wing of which we are aware was Correction of Deficiency Letter No. 344, issued in May 1973. (We note that between May 1971 and May 1973 other such requests may have been issued; moreover, requests and direction during

this period by the Air Force for Lockheed to conduct extensive studies on remedying the problem could be construed as engaging paragraph (b).) With May 1973 as the starting point, Lockheed would have been obligated to repair the specimen and 15 aircraft. The pro rata fee for this effort is approximately $38.5 million.

Effect of H-mod Contracts

In 1975 and 1979, based at least in part on advice from its Office of General Counsel that Lockheed could not be required to repair the aircraft under the C-5A contract, the Air Force awarded Lockheed two contracts to perform the H-mod effort. The contracts substantially altered the obligations and rights of the two parties. The contracts obligated the Government to pay a fee eventually estimated at $150 million. They also required Lockheed to repair significantly more aircraft than it was previously obligated to repair, committed Lockheed to new inspection procedures to insure against drilling errors in fatigue-critical areas, and created the following warranties which did not exist under the C-5A contract: a 1-year flight test warranty to insure proper reinstallation of components not altered by the modification; a flying hour design warranty to insure the adequacy of tooling and production processes; and a materials and workmanship warranty for 1 year on each aircraft.

CONCLUSION

At the time the Air Force decided to proceed with H-mod, it could have required Lockheed to perform a substantial part of the wing modification without fee under the initial C-5A contract and Supplemental Agreement 1000. First, although the basic C-5A contract and the Supplemental Agreement do not contain a warranty that the aircraft will actually perform for 30,000 service hours, the contracts do require Lockheed to perform fatigue tests on the wing-fuselage specimen for 120,000 test hours, the equivalent of 30,000 service hours. Moreover, the contract documents require Lockheed to correct any failure of the test specimen prior to 60,000 test hours and to incorporate the correction in all production aircraft. A design defect caused the wing specimen to fail well before 60,000 test

hours. Thus, the test articles and the aircraft were deficient in design and/or not in conformity with contract requirements; consequently, the defect was redressable under the Correction of Defects clause which provides for corrections without fee.

Second, the Release and Waiver clause in the Supplemental Agreement does not affect the obligation to repair at cost since the parties expressly reserved and excepted the wing design defect from the clause.

Third, it does not appear that the Air Force failed to meet contractual notice requirements contained in the Supplemental Agreement that would bar relief on the basis of the deficiency. A time limitation on the correction of deficiencies, however, would have limited somewhat Lockheed's obligation to repair the production aircraft. Nonetheless, it appears that had the Air Force acted promptly after it selected the H-mod alternative, it could have required Lockheed to perform a substantial portion of the effort on a cost-reimbursement, no fee basis.

Nevertheless, by entering new contracts for the repair of the wing, the Air Force obligated itself to pay a fee of $150 million to Lockheed, and we perceive no legal basis upon which the fee may be avoided.

Sincerely yours,

for Milton J. Socolar
Comptroller General
of the United States

Senator PROXMIRE. Thank you very much, Mr. Socolar. Mr. Socolar, on the second page of your prepared statement, it seems to me that you come to the essence of the situation. You say, first:

The C–5A contract clearly sets forth firm requirements leading to fatigue testing and service life. While it is true that service life was stated as an overall goal, rather than as a firm requirement, the contract specifically required corrective action at cost, without fee, for defects, manifested under test conditions prior to a simulated life of half the contract goal.

And you conclude:

The wing failure occurred well within the critical time period.

So the bottom line of your report is that Lockheed should have been required to fix most or many of the defective wings at cost, without a profit, that the Air Force failed to assert its right under the contract, but that the taxpayer has to pay the $450 million profit, in addition to the cost of repairs.

Is that right?

Mr. SOCOLAR. That is essentially correct, yes, sir.

Senator PROXMIRE. Essentially. In what way, if any, is it not correct?

Mr. SOCOLAR. I suppose I would have to say that in responding to your request for an opinion, what we did was conclude that the Air Force could have insisted upon repair of these wings at cost without fee. The contract itself was in serious difficulty for a lot of reasons, and we are not expressing an opinion as to what precisely the Air Force should have done at the time that it renegotiated these contracts.

Senator PROXMIRE. Well, let me ask a question that I raised in my opening statement. Does not this case suggest that a contractor can increase his profits by producing defective equipment?

Do you agree that the Air Force seems to be rewarding failure?

Mr. SOCOLAR. I suppose I would have to answer that by saying that there were lots of things that were done wrong, at least as far as we have been able to determine, by both the contractor and the Air Force, as this contract proceeded.

Senator PROXMIRE. That was not my question. My question was whether or not this suggests that a contractor can increase his profits by producing defective equipment?

In other words, after all, if you produce a defective part and you get, as Lockheed did, the sole source right to fix it up, why not? Why not make it defective? Is there not an incentive to do it if you want to increase your profits?

Mr. SOCOLAR. In terms of the implications that you draw, I would say, yes, in answer to your question. I am not sure that the incentive is there in reality.

In other words, I would not want to go so far as to say that the contractors would deliberately produce faulty equipment for the purpose of increasing their profits.

Senator PROXMIRE. Well, they may or may not. We do not know. But this certainly would encourage that. It would not discourage it. If you make a profit, after all, our whole economic system operates on the basis of income and gain. It is true that we assume that people are honorable people and that they would not do a dishonorable act. But the precedent we establish here and the effect that you could expect is

that if you reward people with a profit for making a mistake, that it tends to do that. It tends to encourage it.

Mr. SOCOLAR. It provides for a looser arrangement, yes sir.

Senator PROXMIRE. Now does it not seem unfair to you from the Government's and the taxpayer's point of view that these enormous profits, unfair that these enormous profits have to be paid, even though the Air Force should have required that the work be done without a profit?

Mr. SOCOLAR. I suppose I would answer that in the affirmative, particularly in light of the entire arrangement with Lockheed. A $400 million loss was recognized and the supplemental agreement was entered into to provide for Lockheed absorbing $200 million of that loss. Certainly, by subsequently paying profits the Air Force altered the concept of the $200 million fixed loss arrangement.

Senator PROXMIRE. Particularly the loss that the taxpayers suffered when a $28 million plane costs almost three times as much, over $80 million per copy.

Can you explain briefly why the Government should have to pay the cost for repairing the wings when it is Lockheed's fault that they are defective?

Mr. SOCOLAR. You mean at this point, with the new arrangements having been entered into?

Senator PROXMIRE. Yes. What is the justification for the Government having to pay the cost of repairing the wings when it is Lockheed's fault?

Mr. SOCOLAR. I think the justification for concluding that there is no basis for coming back to Lockheed at this time is tied up in the arrangements that the Air Force entered into with Lockheed. At the time that—in our opinon—it could have insisted upon repair of a number of these aircraft at cost without a fee, the Air Force established additional requirements that Lockheed agreed to undertake in a totally new contractual arrangement that, again, in our opinion, cannot be separated for purposes of——

Senator PROXMIRE. Well, I am going a little deeper, I think, than your response. I am not asking now about the profit. I was asking about that earlier. I am saying, can you explain briefly why the Government should have to pay the costs of repairing the wings when it is Lockheed's fault that they are defective? The cost. Profit is something else. I think that is really outrageous, but I would like to ask you about the cost, why we should pay the cost.

Mr. SOCOLAR. Well, I think that there you are getting into the contractual arrangements that were entered into and the kind of plane that was being designed. At the time that the contractor ran into difficulty wtih the airplane, it was recognized that some very large fixes would be required, and if the Air Force was to acquire these airplanes, there was not going to be any other way to get them but to pay for the cost of making those repairs.

Senator PROXMIRE. Well, then, what you are saying, as I understand it, is the extraordinary relief authorized by Public Law 84–805, the contractors, when they are in financial difficulty, provides, really, a Pentagon bailout for Lockheed.

Is that correct?

Mr. SOCOLAR. That is correct.

Senator PROXMIRE. Now when the bailout agreement was entered into, didn't the Air Force already know about the wing cracking problem? And doesn't this mean that those responsible for the bailout knew that it meant the Government was going to get stuck with the cost of the wing repairs?

Mr. SOCOLAR. There was a general release of all prior claims that was made a part of the 1971 supplemental agreement. However, with regard to the repair of the wings, a special note was taken in the agreements preserving the rights to have Lockheed proceed with those repairs on a cost-reimbursement basis without fee.

Senator PROXMIRE. Now let me ask you this: What are the current estimates for the full costs of the program? I would like you to state the costs separately for the production of the 81 C–5A aircraft that were built, and then for the cost of the wing modification program, including the profit.

Mr. SOCOLAR. I do not know that these are thoroughly accurate figures, but based on the work that we have done, it is my understanding that the cost of the aircraft rose from $3.4 billion initially for 120 aircraft to $4.4 billion for 81 aircraft in 1972 after the renegotiation of the contract, and that the cost of the wing modification program is $1½ billion, in addition to the $4.4 billion.

Senator PROXMIRE. And that latter figure includes the profit.

Mr. SOCOLAR. That is correct.

Senator PROXMIRE. What is the status of the wing modification program with respect to the production schedule, any technical problems in the installation schedule and the costs?

I will go through those one after the other.

Mr. SOCOLAR. Yes.

Senator PROXMIRE. First, the status of the wing modification program with respect to the production schedule.

Mr. SOCOLAR. Based on information provided to us from the Air Force, that program is on schedule.

Senator PROXMIRE. Any technical problems?

Mr. SOCOLAR. Minor technical problems, as I understand it, but the cost is coming in somewhat below the original estimates.

Senator PROXMIRE. How about the installation schedule?

Mr. SOCOLAR. That is on schedule also. Five were supposed to be introduced into the program in 1982, 15 in 1983, and 9 have been delivered, which is in accordance with the schedule.

Senator PROXMIRE. When you say under cost, how much under cost?

Mr. SOCOLAR. About $1.55 billion was originally estimated and actual costs are running at $1.51 billion.

Senator PROXMIRE. You said that they were on schedule. They were supposed to deliver 15, but they only delivered 9; is that not right?

Mr. SOCOLAR. My understanding is that the nine that have been delivered is in accordance with the schedule as of September 30 of this year.

Senator PROXMIRE. Is that a revised schedule?

Mr. SOCOLAR. I am advised that that is the original schedule.

Senator PROXMIRE. Well, now, I have a table here for your report on page 72. It shows 1983, installed 15 this year. You have nine. Does that mean there will be six in the 2 months that remain?

Mr. SOCOLAR. No. Those are the original figures that I gave you. In 1982, 5 were to be put into the program and 15 were to be inducted into the program in 1983. But that is not deliveries.

Senator PROXMIRE. My time is up. Senator Mattingly.

Senator MATTINGLY. Thank you, Senator.

Mr. Socolar——

Mr. SOCOLAR. Yes.

Senator MATTINGLY. Is it not true that this case is 8 years old?

Mr. SOCOLAR. Yes.

Senator MATTINGLY. I was not here then. Were you?

Mr. SOCOLAR. Yes.

Senator MATTINGLY. You were here then?

Mr. SOCOLAR. Yes, I was.

Senator MATTINGLY. OK. Can you tell me why the GAO has decided to look into this matter now, 8 years later?

Mr. SOCOLAR. We were asked to by Senator Proxmire.

Senator MATTINGLY. The GAO, as Senator Proxmire said, is one of our better agencies. It is difficult to find an agency with a better reputation.

Senator PROXMIRE. The best.

Senator MATTINGLY. Where was the GAO in the last 8 years in reference to this matter and why has the report been issued now?

Mr. SOCOLAR. At the time that the modifications were entered into, we were given some documents to render some opinion as to whether the way the Air Force was proceeding was correct. At that time we were not given all of the documentation and on the basis of what we were advised by the Air Force and on the basis of the examination that we made of the documents that were furnished to us, it appeared to us that the Air Force was proceeding correctly with regard to the legal conclusion that it had reached.

Senator MATTINGLY. With all the resources that the GAO has, then, year after year, it has never contradicted its original position until this year; right?

Mr. SOCOLAR. I do not know that we tried.

Senator MATTINGLY. One point needs to be emphasized. I am not sure whether it was made very clear—the wing modification that has been going on is under the estimated cost; correct?

Mr. SOCOLAR. That is corréct.

Senator MATTINGLY. Right. It is erroneous to state, wouldn't you think, that the original wing problem is only Lockheed's fault? The historical record clearly reflects the fact that the Air Force, and presumably, the oversight committees of the Congress, were also involved; is that not correct?

Mr. SOCOLAR. That is correct.

Senator MATTINGLY. The earlier consideration of the issue by GAO was at a time when something still could have been done if the Air Force's position was wrong. Since the question is now moot, which is essentially stated in the last paragraph of your recent statement, why has the GAO decided to change its position on the legal issues?

Mr. SOCOLAR. I think it is important to keep in mind that we were asked to provide an opinion on what the legal rights and obligations of the Air Force and Lockheed were under the agreements that had been entered into. We were asked to provide an opinion as to what those rights were at the time the agreements were entered into.

We responded, as we would respond to any request from a Member of Congress for an opinion of that kind.

We reviewed the documentation, as I said before, at the time these agreements were entered into. We were asked informally by the Air Force for our opinion. And at that time, it appeared on the basis of information that we were provided that the Air Force was proceeding correctly.

Upon the request for this latest opinion, we made an independent, thorough search of the contract documentation and came to the conclusion, as we felt we had to on the basis of the contractual provisions, that the Air Force did, in fact, have a right at that time to have required the wings to be modified and fixed by Lockheed without——

Senator MATTINGLY. You referred to "independent." What do you mean by independent?

Mr. SOCOLAR. We did not simply rely on documentation, partial documentation that the Air Force submitted to us. We thoroughly searched the full provisions of the contract.

Senator MATTINGLY. So you are saying that there was not any research in the other 8 years up until now.

Mr. SOCOLAR. The first time it was handled informally between someone in the Air Force and someone at a lower level in the organization on the basis of documents that were provided by the Air Force. Those documents did not contain the complete clauses that we had access to at this time.

Senator MATTINGLY. Is it not true that Lockheed was under no warranty agreement when the wing modification program was initiated 8 years ago?

Mr. SOCOLAR. That is correct.

Senator MATTINGLY. And is it not true that there are now warranty agreements that in the newest C–5 contracts?

Mr. SOCOLAR. That is correct.

Senator MATTINGLY. As an investigative arm of the Congress, does your organization believe that the House and Senate Armed Services Committees and the Appropriations Committees were legally in error in supporting the C–5A wing modification program?

Mr. SOCOLAR. I am not sure that that is a correct way to phrase it. I am not sure——

Senator MATTINGLY. Well, it sounds pretty correct to me.

Mr. SOCOLAR. I am not sure at all that the issue there would be whether they were legally correct. They supported the wing modification program and could have done so, irrespective of what the——

Senator MATTINGLY. Well, they rely upon counsel. Do you think that the respective counsels of the Armed Services Committees and the Appropriations Committees gave them bad advice?

Mr. SOCOLAR. As far as we can determine at this point in time, we think that the conclusion that we have expressed is the correct one.

Senator MATTINGLY. I am not saying that. I am asking you do you think that the counsel, the legal counsel, that we use in our Appropriations Committee and on the Armed Services Committee gave those committee Senators or Representatives bad advice?

Mr. SOCOLAR. I really cannot comment on that, Senator, because I don't know what advice they gave or what advice the committee members acted on.

Senator MATTINGLY. Do you think maybe your counsel gave you bad advice?

Mr. SOCOLAR. You mean back in 1974?

Senator MATTINGLY. Yes.

Mr. SOCOLAR. I was not involved at that time.

Senator MATTINGLY. How about 1976, 1977, 1978, 1979, 1980, and 1981?

Mr. SOCOLAR. The first time——

Senator MATTINGLY. 1982 and 1983?

Mr. SOCOLAR. The first time I became involved in the legal conclusions that we are dealing with was with regard to the opinion that we introduced into the record today, and I agree with this opinion.

Senator MATTINGLY. Why did it take, then, GAO nearly 10 years to reach its current conclusion on the legal issues involved in these contracts, long after it would have been pertinent?

Mr. SOCOLAR. The legal opinion that we have reached is with regard to the review that we were asked to make by Senator Proxmire. Apart from that, we were not pursuing it.

Senator MATTINGLY. I think that is very pertinent. As a result of GAO's new conclusions, now, on the C–5A wing modification program, has the Air Force changed its position?

Mr. SOCOLAR. Not to my knowledge.

Senator MATTINGLY. Have you, your department, attempted any analysis of the performance of the C–5 in fulfilling its combat mission during the recent conflict in Grenada?

Mr. SOCOLAR. Not to my knowledge.

Senator MATTINGLY. Would it not be more constructive for GAO to focus on the present performance and mission-readiness of the C–5 than to go back 8 years to analyze a matter that is, for all legal and practical purposes, moot?

Mr. SOCOLAR. I suppose the answer to that question could be "Yes."

Senator MATTINGLY. Would you mind doing a report on the C–5 performance during the Grenada operation?

Mr. SOCOLAR. I would certainly agree to get back to you, Senator, after conferring back at the office with respect to what we can and cannot do in that regard.

Senator MATTINGLY. You said that you would do a report by any Member of the Congress.

Mr. SOCOLAR. We would do any report that we were capable of and had the expertise for doing.

Senator MATTINGLY. Well, you are capable of going back 10 years on the C–5. I am sure that you are capable of researching something that happened last week. And I would request that you do that. It should not take you too long to do that report.

Mr. SOCOLAR. I am reluctant to commit the office without having any idea at this time of what that would entail and what kind of expertise would be required. But I would be happy to get back to you in very short order with regard to whether we can make that kind of a commitment.

Senator MATTINGLY. Thank you. I see my time is up and I have some more questions.

Senator PROXMIRE. Mr. Socolar, in January 1982, the Armed Forces Journal reported that there was a fuel leak problem in the new C–5A

wings and the leakage was so bad that flight tests had to be halted until the problem was corrected.

To the best of your knowledge, was the problem corrected and have there been any more fuel leaks or other problems in the new wings?

Mr. SOCOLAR. We are not aware of that problem.

Senator PROXMIRE. You are not aware of that problem?

Have you made any inquiry with respect to that situation?

Mr. SOCOLAR. No, sir.

Senator PROXMIRE. Well, if defects turn up in the new wings, such as fuel leakage, are there warranties and other provisions in the wing modification contracts sufficient to protect the Government's interest, or is it possible that the taxpayer will again get stuck with the bill?

Mr. SOCOLAR. We would have to look at that on a case-by-case basis. The warranties that are in the new contractual arrangements have time limitations on them and I do not know at all how those contractual provisions would relate to——

Senator PROXMIRE. Do you know whether or not the warranties cover 30,000 hours of service life for each modified C–5A or only 1 year of use?

Mr. SOCOLAR. No, they do not.

Senator PROXMIRE. They do not cover 30,000 hours of service life?

Mr. SOCOLAR. That is correct.

Senator PROXMIRE. And they do cover—what do they cover?

Mr. SOCOLAR. Could I have Mr. Kratzer answer that question?

Senator PROXMIRE. Yes, sir. Mr. Kratzer, go right ahead, sir.

Mr. KRATZER. There is a fatigue article warranty.

Senator PROXMIRE. There is a what?

Mr. KRATZER. A fatigue article warranty.

Senator PROXMIRE. Yes, sir.

Mr. KRATZER. Which covers the fatigue article for 45,000 hours of testing. There is a flight test warranty which insures the proper reinstallation of components which were not altered by the H modification. That warranty lasts 1 year from the acceptance of a flight test article, or 1,000 flight hours, whichever comes first.

In the 1980 contract, there is a flying hour design warranty which covers design defects within the scope of the modification effort. That warranty lasts for 12 months after the acceptance of the very first aircraft, or 5,000 cumulative flying hours.

And last, there is a material and workmanship warranty which covers material and workmanship on all aircraft for 1 year after the acceptance of each aircraft.

Senator PROXMIRE. Now Lockheed received two sole-source contracts to repair the wings. One was an R&D contract and one was for the construction of the new wings. What was the amount and the rate of profit negotiated on each of the new contracts?

Mr. SOCOLAR. Phase I of the contract, which was the design part, provided for a total cost of $37.2 million with a fee of $1.4 million. For the testing phase, the fee was $9.7 million with a total cost of $109.1 million. The total percentage rate of profit for the contract was 7.8 percent.

Senator PROXMIRE. Now I understand that the production contract—when you are saying "total," you are not talking about the entire contract.

Mr. SOCOLAR. I am talking about the design and testing. That is correct.

Senator PROXMIRE. Just the design and testing alone.

Mr. SOCOLAR. Yes. For the production, the cost was $1.023 billion, with a fee of $141.2 million, or a 13.8-percent rate of profit, for a total cost of $1.164 billion.

Senator PROXMIRE. 13.8 percent.

Mr. SOCOLAR. That is correct.

Senator PROXMIRE. Now was that not considerably higher than the average Air Force profit negotiated on similar contract types during fiscal 1980?

Mr. SOCOLAR. My understanding is that the Air Force was going in seeking about a 12½-percent rate of profit, and wound up with the 13.8, and that——

Mr. PROXMIRE. So it was higher. It was 13.8 compared to 12 point——

Mr. SOCOLAR. Five.

Senator PROXMIRE. 12.5. In your judgment, should a wing modification contract have a higher or lower than average profit, in view of the amount of risk and investment involved?

Mr. SOCOLAR. The contract was converted at that point in time from a cost contract to a fixed-price incentive fee contract. 13.8 percent, I suppose I would have to conclude, is somewhat high, based on averages of the total Air Force contracts.

Senator PROXMIRE. So they not only made a profit on the wings for which they were responsible for the defect, but they made a higher than average profit on it.

Do you have any idea or possible explanation of why the Air Force gave Lockheed a higher than average profit on this contract?

Mr. SOCOLAR. No, I do not.

Senator PROXMIRE. Now in your discussions and those of your staff with Air Force officials, did you get the idea that the Air Force tried to negotiate a somewhat lower rate of profit, but that Lockheed adopted a take-it-or-leave-it attitude as the sole-source contractor and the Air Force gave in to Lockheed's demands?

Mr. SOCOLAR. I am advised that we really do not know what the animus of Lockheed or of the Air Force was. It was a sole-source contract and how the parties ultimately arrived at the 13.8-percent figure, we just do not know.

Senator PROXMIRE. Is it correct that the wing repair contract was modified recently and that it provides now for even higher profits?

Mr. SOCOLAR. Would you mind repeating the question?

Senator PROXMIRE. Yes. Is it correct that the wing repair contract was modified recently and that it provides for even higher profits?

Mr. SOCOLAR. Under the incentive arrangements, that would be correct. As the cost goes down, the rate of profit would go up because both the contractor and the Air Force would share in those savings.

Senator PROXMIRE. What is the new arrangement?

Mr. SOCOLAR. A fixed-price incentive fee.

Senator PROXMIRE. Under the modified version.

Mr. SOCOLAR. Excuse me?

Senator PROXMIRE. Under the modified version.

Mr. SOCOLAR. I am not sure that——

Senator PROXMIRE. You just said that it was modified.

Mr. SOCOLAR. In 1980?

Senator PROXMIRE. 1983, just modified.

Mr. SOCOLAR. No, I am not aware of any modification in 1983.

Senator PROXMIRE. Mr. Adams [in the audience], is that right? Do you have any information on this?

Mr. ADAMS. Sir, I think they are referring to a new contract for the installation. Is there a new contract for the installation on the wing?

Mr. SOCOLAR. Do you have something specific in mind that you are referring to, Senator? As far as we are aware, or as far as I am aware——

Senator PROXMIRE. Let me ask Mr. Kaufman. Go ahead, Dick.

Mr. KAUFMAN. Mr. Socolar, we are informed that the modification contract has been just recently modified in the last few weeks and that this contract, as you said earlier, provided for a different share arrangement, which had the effect in the case of cost underruns of further increasing the profit rate.

Mr. SOCOLAR. I am not familiar with any modifications that have been made within the past couple of weeks.

Mr. KAUFMAN. I wonder if Mr. Adams has any information about this matter.

Mr. ADAM. The only information that I have is that I believe there is a 50/50 share ratio on the installation of the wings. And that is the original contract. But it is a 50/50 share ratio.

Senator PROXMIRE. You seem puzzled by that, sir. What is the problem?

Mr. SOCOLAR. No.

Senator PROXMIRE. OK.

Mr. SOCOLAR. I am puzzled by simply not being aware of the modifications that you might be referring to.

Senator PROXMIRE. My time is up. Senator Mattingly.

Senator MATTINGLY. I would be interested to know who said that new contracts have been signed. Is that the Air Force? Or is it just something that we read in the papers? I wonder where that information came from.

The vice chairman asked a question about some adjustments that are being made in the wing program. I would like to read a comment from Aerospace Daily. It says that Lockheed-Georgia reported that 9 C–5 aircraft would undergo minor rework in the field on some nonsafety items discovered by the company's quality control procedures. Rework on the initial deliveries would be conducted with a minimum of downtime, so that the nine undelivered C–5's would continue to fly routinely in Air Force service with no loss of omission capability and no cost would be charged to the Government by Lockheed.

Now, is that also your understanding, Mr. Socolar?

Mr. SOCOLAR. Yes, my understanding is that the current efforts of Lockheed are on schedule and within the cost estimates.

Senator MATTINGLY. All right. Are any of the GAO witnesses aerospace experts, especially on aerospace contracts?

Mr. SOCOLAR. I do not think that we would want to call ourselves aerospace experts.

Senator MATTINGLY. OK.

Mr. SOCOLAR. Certainly, not without knowing what the question is. [Laughter.]

Senator MATTINGLY. Hallowe'en was yesterday, so maybe the witch-hunt ought to be over. We are talking about renegotiating 10-year-old contracts, which I do not think is very productive. Oversight mechanisms are now in place. I think that is evident in the awarding of the C–5B contract with fixed-price contracts, with warranties, that have been signed. Would you agree with that, Mr. Socolar; that some of the new contracts contain provisions that protect the taxpayer?

Mr. SOCOLAR. Yes. I think it is fair to state that in terms of the new procedures and new relationships that are being formed between the Air Force and the contractors, that more oversight is being provided.

Senator MATTINGLY. I would say even the Army and the Navy.

A comment was made that the wing-modification contract had a higher than average profit. You responded to that question by saying that the average, I believe, was, what, 12½ percent at the time, or something. I believe that was it.

Mr. SOCOLAR. I have figures for 1978, 1979, and 1980.

Senator MATTINGLY. Which were?

Mr. SOCOLAR. In 1978, they were 12.5.

Senator MATTINGLY. 12.5. And the contract that was awarded was at what rate of profit? 13.8?

Mr. SOCOLAR. 13.8.

Senator MATTINGLY. Were there contracts given out in the Air Force that were higher than 13.8?

Mr. SOCOLAR. I would assume that if we are speaking of a mean average of 12.5 or 12.9, that that would be the case.

Senator MATTINGLY. Well, that is a fact, is it not? It is a fact, even though some were lower, there were some that were higher.

So what I am saying is that I do not believe that we ought to be prejudicing the issue by intimating that the average in this contract is out of line. That is not the case.

Mr. SOCOLAR. That is correct.

Senator MATTINGLY. Has the Air Force commented on your most recent report?

Mr. SOCOLAR. On the report or on the opinion?

Senator MATTINGLY. Opinion.

Mr. SOCOLAR. On the opinion, no.

Senator MATTINGLY. How about on the report?

Mr. SOCOLAR. On the report, we did not get formal comments, but we did discuss the contents of the report and were advised by Air Force officials that it constituted a fair summation of the activities related to the C–5A.

Senator MATTINGLY. To recap just one point, do I understand, then, that the GAO believes that the House and Senate Appropriations and Armed Services Committees, as well as the Air Force and the DOD counsels, have been in error for the past 12 years?

Mr. SOCOLAR. I can only state in response to that that it is our conclusion that at the time that the contract was restructured, Lockheed could have been required legally, under its contractual arrangements, to repair some significant portion of the aircraft.

Senator MATTINGLY. Would that not be the case in probably any contract that the Government signs?

Mr. SOCOLAR. No. What I am saying is that if the particular clauses that we are relying on had not been in the contract, then the Air Force would have been correct in its legal conclusion, in our opinion. It is those contract clauses which preserve for the Government the right to require, as I said, a significant portion of those aircraft to be repaired.

Senator MATTINGLY. You know, it just sort of seems to me that no one, not Lockheed, not the Air Force, not the DOD, and certainly not Congress, should be spared a portion of the blame for the problems with the original contract.

Do you agree with that?

Mr. SOCOLAR. There was blame to go around, yes, I would agree.

Senator MATTINGLY. Then you agree with my statement. You know, we have a lot of issues to deal with today. I guess one is going to be the debt ceiling, to which we have to return. You know, if we can reform that, we would be doing the taxpayer a real favor. I wish you would do a report on that.

So, to me, it is about time for us to get on with more current issues. I look forward to receiving your report on Grenada and the C–5, though, just as soon as possible.

Mr. SOCOLAR. We will be in touch with you, Senator.

Senator MATTINGLY. Yes. In writing, please.

Mr. SOCOLAR. OK.

Senator MATTINGLY. Thank you.

Senator PROXMIRE. Thank you, Senator Mattingly. It seems to me that when we talk about a 10-year-old case, the important thing here is that we prevent this from being a precedent, that we take action that will make it clear that if people make mistakes of this kind, the Congress is going to look into it and the GAO is going to play its part in exposing the mistake. That is the way we prevent them.

As I understand the hearings that are being held, that were held yesterday in the Senate and that will be held today in the House with respect to the Beirut situation, for example—it has happened now. I suppose some people could say, you are going over something that has already occurred. You cannot do anything about it.

The important thing is that what they are trying to do is to prevent a recurrence, and that is what we are doing here. I think this is critical to that purpose.

If we ignored something as outrageous as this, it seems to me that we would be really neglecting our job of oversight.

Now, Mr. Socolar, in 1976, the Defense Department issued a report on the defense profits entitled, "Profit '76." Following this, a new policy of higher defense profits was adopted under the theory that the higher profits would induce greater private investment in more efficient and less costly defense production.

Let me ask you, were the high defense profits awarded to Lockheed in this case in line with the new profit policy? And did it have the effect of inducing greater investment and reduced costs?

Mr. SOCOLAR. We are now in the process of doing a study of the Department of Defense profits policy. In response to your question, I would only be able to hazard a guess, without any specific information to back that guess up, that the 13.8 percent might have been a little high in terms of the profit policies of the Department of Defense.

Senator PROXMIRE. Well, particularly since I think you could challenge the notion that they should have any profits on this kind of work, when I think you could even challenge whether or not the Government ought to bear the cost, let alone the profit.

Let us assume that this was an ordinary consumer purchase. Supposing you bought a new car and after you had been driving it, learned that it had a major structural defect which would reduce its useful life by 75 percent.

You brought it back to the dealer and the dealer told you that you would have to pay the cost of repairing the defect, and in addition, you would have to pay him a profit of 13 percent.

What would your reaction be and how would your reaction differ from the way the Air Force behaved in this case?

Mr. SOCOLAR. I am not sure that one can relate warranties under an automobile——

Senator PROXMIRE. Well, why not? You know, this is the kind of thing we can understand. We talk about these other things. Very few people have had any experience with defense contracting, the billions of dollars—people get lost with that.

I think most of us understand what would happen when we buy a car. I cannot understand, for the life of me, why a relationship as a consumer in buying a car is not similar to the relationship of the Federal Government in buying a plane. The quantity is different, of course, but why should there not be the same obligation, the same liability, the same responsibility?

Mr. SOCOLAR. Well, without making any apologies for Lockheed or any other company, I think there is a rather great difference between designing and building a plane to specifications and putting out an automobile, of which millions of copies are made, and without the stringent performance requirements that would be associated with an aircraft.

Senator PROXMIRE. Well, sure, there is a big difference. But, as you know, there are also problems involved in automobiles. They have structural defects. They have recalls. They have warranties that are honored. And the burden has been in our system on those who produce and make profits out of selling a product. They are responsible for that product.

Mr. SOCOLAR. I think that there certainly is a recognized responsibility and, indeed, the Congress, itself, in terms of the Lockheed situation, considered that responsibility in terms of the action it took with regard to the so-called bailout.

Senator PROXMIRE. Now if your lawyer told you that you were obligated to pay the profit under the original sales contract in the case of buying a car and you agreed to pay it based on his advice. But then you later learned that the legal advice that you got was incorrect, which is true in this case, and based on a very superficial analysis. Would you conclude that your lawyer was guilty of negligence and incompetence?

Mr. SOCOLAR. I would have to know more about the situation. Are you asking me whether the Air Force was incompetent in this particular case?

Senator PROXMIRE. I am asking you—first, I am asking you about the hypothetical. You buy a car and you find that it is defective. And you feel that the people who sold you the car should not make a profit

out of it. And your lawyer says, yes, they can make a profit. Then you find that your lawyer was wrong, which you say the lawyer was in this case, the Air Force lawyer was wrong. The Air Force counsel was wrong. That was your conclusion.

Would you not conclude that in the case of buying a car, and if the lawyer gave you the wrong advice, that he was guilty of negligence and incompetence?

Mr. SOCOLAR. I would prefer to say that I would conclude that he was wrong, that he had made a mistake, rather than that he was guilty of negligence or incompetence, without——

Senator PROXMIRE. Well, let me ask you this. Wasn't the Air Force decision to pay a profit to Lockheed to fix its own mistake based on a superficial analysis?

Mr. SOCOLAR. It was based on an analysis of various clauses without reference to particular clauses that had a bearing, yes.

Senator PROXMIRE. So it was superficial.

Mr. SOCOLAR. If you wish to characterize it that way, yes.

Senator PROXMIRE. Is it not correct that the legal opinion drafted by the Air Force Counsel General was only 1½ pages long—I have got it right here, 1½ pages—and discussed two reasons why Lockheed was entitled to a profit, only two reasons, both of which were legally incorrect?

Mr. SOCOLAR. I am not sure that they were legally incorrect. The reasons that were stated in that initial opinion, without more, without these other clauses that I have been referring to this morning, may well have been correct.

Senator PROXMIRE. But those clauses were a fact. They were a fact. They were there. So they were legally incorrect. Is that not right?

Mr. SOCOLAR. In that context, yes.

Senator PROXMIRE. Why, of course. And that is the context in which they gave an opinion.

Mr. SOCOLAR. No, I meant that when that initial memorandum opinion was issued, it was correct to say that there was no specification requirement for 30,000 hours, that that was, indeed, a goal. It was in that context.

Senator PROXMIRE. Now both Senator Mattingly and the 1974 Air Force legal opinion which he repeated said that the reason offered was that the 30,000-hour useful life the Air Force desired for the C–5A was only a goal.

Mr. SOCOLAR. Correct.

Senator PROXMIRE. Rather than a contractual requirement. And therefore, when the goal could not be met because of the defective wings, Lockheed was not legally liable. Explain briefly what is wrong with that argument.

Mr. SOCOLAR. That argument, as far as it goes, is correct. Based on that requirement alone, the Air Force would have been correct. What is wrong with the argument is that there are other clauses which require testing under simulated flight conditions and there are specific requirements under those clauses to make the required repairs upon discovery of defects. Moreover, in the supplemental agreement, although there was a general release of all prior claims at the time that agreement was entered into. there were specific provisions which preserved the obligations of Lockheed to make repairs under the test failure discoveries, provided proper notice requirements were met.

And it is in connection with the notice requirements that a question arises as to precisely how many aircraft Lockheed would have been required to repair.

Senator PROXMIRE. OK. Now is it not correct, Mr. Socolar, that—oh, I beg your pardon. Yes, sir.

Mr. EFROS. I was just going to say that it is true that 30,000 hours was the goal. But the Air Force had a right to require Lockheed to keep trying to meet it.

Senator PROXMIRE. Say that again?

Mr. EFROS. 30,000 hours was a contract goal. But the Air Force had a right, a legal right, to make Lockheed continue its efforts to meet it. That is essentially where we differ with the Air Force.

Senator PROXMIRE. And did they exercise that right?

Mr. EFROS. They did not.

Senator PROXMIRE. They did not. Now is it not correct that based on the Air Force argument, even if the wings had failed after 100 hours or 1 hour, for that matter, the Air Force would have to pay Lockheed a profit for making the repairs?

Is that not the logic of their argument?

Mr. SOCOLAR. That is the logic of their argument, yes.

Senator PROXMIRE. In your reading of the Air Force 1974 legal opinion, 1974, and the 1982 legal opinion, or in the discussions that have taken place between your staff and Air Force officials, is there any recognition that the fatigue tests provisions discussed in your report established a legal obligation for Lockheed to make the necessary repairs if the wings failed to meet the 30,000-hour useful life specifications? And if not, can you explain this omission?

Mr. SOCOLAR. The Air Force, to my knowledge, has never formally recognized the particular repair requirements after discovery of defects in the testing and I have no explanation as to why that is the case.

Senator PROXMIRE. Now the second argument made in the 1974 Air Force legal memorandum was that the Air Force did not meet the notice requirements in the contract. Would you state briefly your position on this issue?

Mr. SOCOLAR. Our position is that, fundamentally, it was Lockheed, itself, that became aware of the failures indicated in the testing. And certainly with regard to the aircraft to be furnished, Lockheed was on notice of the requirements.

There was another provision that required Lockheed to repair any aircraft that were in the possession of the Air Force for no longer than 6 months, provided that the Air Force gave notice within a prescribed time period to Lockheed that those deficiencies were discovered.

Senator PROXMIRE. What significance do you place on the fact that in its 1974 legal memorandum, the Air Force failed to set forth any specifics upon which its conclusion concerning notice was based, and that in its 1982 legal memorandum, the Air Force does not even mention failure to provide notice as an obstacle to getting the work done without paying a profit?

Mr. SOCOLAR. As I recall the 1982 letter, that introduced a third element, which was the waiver of all prior claims and a release of all prior claims. The only explanation I would have at this point would be that it was concluded in the Air Force that that was enough, in and of itself, to remove any liability from Lockheed.

Senator PROXMIRE. Now as you mentioned in your report, in its 1982 legal memorandum, the Air Force brought up a new argument, and this is that the bailout agreement entered into in 1971 contained a release and waiver of claims clause that bars the Air Force from asserting any rights relating to the wing defect.

Briefly state your response to that argument.

Mr. SOCOLAR. The response is the one that I have already stated, which is that despite that release clause, provisions were contained in the agreement specifically exempting the wing failures from the release clause.

Senator PROXMIRE. Now the clause which you cite which reserves the Government's rights concerning the wing defect seems so clear cut and so obvious, that it is hard to understand how the Air Force could have overlooked it. As you say in your statement, the agreement expressly reserves the wing design defect from operation of the general release and waiver clause.

Can you offer any explanation as to how the Air Force could have overlooked that provision?

Mr. SOCOLAR. No, I cannot.

Senator PROXMIRE. Does it seem to you that the Air Force 1982 legal—I have already asked that question.

A point that needs to be clarified in your report is the amount of the profit the Air Force should not have agreed to pay. Under one interpretation, you say that the figure is $120 million. Under another interpretation, the figure is $38½ million.

In your view, what is the best interpretation from a legal perspective?

Mr. SOCOLAR. It is not a question of which is the best interpretation. It is a factual issue that needs to be resolved. What we were saying in our opinion is that based on the documents that we had, the notice could have occurred as early as the earliest date and no later than the latest date that we cite, and that there may have been other notices in between.

So the figures that we have provided are the outside figures.

Senator PROXMIRE. Now one of the most discouraging, the most discouraging aspect of your report, I should say, is toward the very end, where you say, "We see no legal basis upon which the fee may now be avoided."

In other words, you conclude that they were wrong, but there is nothing that we can do about it now.

Now, let me press you directly on that. Is it your opinion that there is no legal basis on which the Government can avoid paying what I consider an excessive, unnecessary profit as a result of the Air Force's decision to award a profit, even though it was based on a superficial and incorrect legal opinion?

Mr. SOCOLAR. That is correct.

Senator PROXMIRE. Well, does this not force on the taxpayer a gross injustice and does this not suggest something is wrong with Government contracting procedures?

Mr. SOCOLAR. It suggests, again, in terms of the conclusion that we have reached after our analysis, that the Air Force erred when it wrapped up the requirement for repair of the wings with a lot of other obligations that——

Senator PROXMIRE. Well, looking at this entirely prospectively, should the Congress change the law? Or is it——

Mr. SOCOLAR. I do not see any law that needs to be changed.

Senator PROXMIRE. Well, it seems to me that an injustice has been done here. You say that this was a mistake, an error on the part of the Air Force counsel. Should we permit contractors to benefit on the basis of this kind of an error?

Mr. SOCOLAR. If the mistake had been isolated in terms of the repair issue being dealt with by itself, I suppose that there might be some further recourse. However, the situation here is that that issue, in terms of the new arrangements that were made with Lockheed, was wrapped together with a number of other requirements, and we feel that those agreements cannot be opened to begin to sort out one part from another. In the parlance of the contract lawyer, sufficient consideration was obtained for the new arrangements that were entered into to make it a legal and binding contract.

Senator PROXMIRE. Well, this is very, very frustrating. You are telling me that the Air Force erred. In other words, there is a wrong being done to the taxpayer. There is no remedy to right this wrong. And furthermore, you are not only telling me that. You cannot do it in the Lockheed case. I am asking you what can we do to change the situation so that if this happens in the future, we can protect the taxpayer.

Mr. SOCOLAR. We have to recognize that when the Government enters into contractual arrangements, it is entering into those arrangements in a proprietary capacity, just like anyone else entering into contracts. It is not functioning in its sovereign capacity, and it is bound, as virtually——

Senator PROXMIRE. Yes, but what you have over and over again told me, that the contract provisions would have protected the taxpayer if the Air Force had acted properly. But they did not.

Mr. SOCOLAR. They made a mistake, in our opinion.

Senator PROXMIRE. They made a mistake, so the Government and the taxpayer has to benefit—has to be punished.

Mr. SOCOLAR. Well, let me backtrack a moment. When I say that the Air Force made a mistake, all I really mean is that to the extent that their actions were motivated by the conclusion that they had no legal rights under the contract, I think they were wrong. Whether they made a mistake in terms of the entire contractual arrangements that they entered into, in terms of getting the C–5A into the inventory, is something that I really cannot comment on.

Senator PROXMIRE. What would be the consequence if Congress just flatly refused to appropriate the funds to pay for the profits in this case?

Mr. SOCOLAR. I suppose that Lockheed could move into court and possibly get a judgment.

Senator PROXMIRE. Possibly.

Mr. SOCOLAR. I do not know how the court would handle whatever the complaint might be.

Senator PROXMIRE. Does this case demonstrate a need for changing defense profits policy or for improving or the monitoring of defense profits policy?

In other words, is there anything that we can do to avoid a recurrence of this situation? I get the impression from you that there is nothing we can do.

Mr. SOCOLAR. Well, I think that this case, along with any number of other cases that should be reviewed in the course of any study of defense profits policy, would constitute part of the data that would allow for a considered judgment to be rendered as to what the future course should be.

I am not sure that one can look at one specific case and fashion a policy out of that case.

Senator PROXMIRE. Earlier, I mentioned the fact that the purpose, one purpose, and value of this hearing—these hearings, I should say, because I am going to indicate in a minute that we are going to have subsequent witnesses at a little later date—is to provide oversight and to try to prevent this kind of mistake, this very costly kind of mistake, from recurring in the future in procurement.

But in this particular case, with respect to the C–5A, itself, it seems to me that to say that the C–5A is a moot case does not square with the facts. The plane operates under weight restrictions and will have a very limited service life until the wings are repaired. In addition, the repairs will not be completed until 1987, as I indicated. Technical problems with the new wings have been reported. The bulk of the funds for the new wings have not yet been appropriated.

The case has wide implications as a precedent for other procurement, which I indicated before.

Mr. Socolar, and gentlemen, I want to thank you very, very much for appearing. I think your testimony has been most helpful. I want to congratulate you on your report. I want to also announce that the Air Force has agreed to appear before this committee on November 10, at 10 a.m., in this room. And the Lockheed Corp. has also been invited to appear at the same time.

Mr. SOCOLAR. Thank you, Senator.

Senator PROXMIRE. Thank you. The subcommittee will stand recessed.

[Whereupon, at 11:20 a.m., the subcommittee recessed, to reconvene at 10 a.m., Thursday, November 10, 1983.]

C-5A AND AIR FORCE DEFENSE PROFITS POLICY

THURSDAY, NOVEMBER 10, 1983

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON INTERNATIONAL TRADE,
FINANCE, AND SECURITY ECONOMICS
OF THE JOINT ECONOMIC COMMITTEE,
Washington, D.C.

The subcommittee met, pursuant to recess, at 10 a.m., in room SD-628, Dirksen Senate Office Building, Hon. William Proxmire (vice chairman of the subcommittee) presiding.

Present: Senators Proxmire and Mattingly.

Also present: Richard F. Kaufman, assistant director-general counsel; and Christopher J. Frenze, professional staff member.

OPENING STATEMENT OF SENATOR PROXMIRE, VICE CHAIRMAN

Senator PROXMIRE. The subcommittee will come to order.

The C-5A program has had so many things go wrong that it has become a classic study in how not to conduct weapons procurement from a financial, technical, and contractual perspective. It also says much about what is wrong with defense production and the defense industrial base.

The C-5A has incurred huge cost overruns which led to the Government's granting of extraordinary financial relief to Lockheed and the restructuring of the original contract from fixed price to cost plus. That decision in retrospect was a $1.5 billion mistake as it shifted the financial liability for fixing the wings from Lockheed to the taxpayer. The unit costs of the C-5A have risen from $28 million to about $82 million per copy, including the costs of the wing fix.

The program has experienced numerous technical problems. The defective rear cargo hatch, which led to a fatal crash, and the defective wings are the two outstanding examples.

It has been a contractual nightmare for the taxpayer, involving reverse incentives which have run up the costs and shifted liability from Lockheed to the Government. The latest instance of this was the Air Force decision to award Lockheed a profit to fix the wings.

Last week the General Accounting Office presented a report concluding that the Air Force decision was wrong on legal grounds. GAO testified that the Air Force should have required Lockheed to do most or much of the repairs at cost and without a fee or profit. This was not a temporary, tentative decision based on partial evidence. That was a decision based on when they had all the evidence. Earlier I understand they had made a decision based on partial evidence the

GAO had in which they tentatively made a different decision and when the final evidence was in it was clear that they disapproved of the Air Force action.

Again, the contractor would have had to pay the costs of the repairs if the Government had not changed the contract from fixed price to cost plus.

One of the questions we have to ask is what lessons have been learned from all this. We hope we will not repeat our mistakes financially, technically, or contractually, on the remainder of the wing modification program, on the new C–5B program, or on any other program.

Appearing before us today are spokesmen for the Air Force and Lockheed. The principal Air Force witness is Dan Rak, Assistant General Counsel. Mr. Rak, we are glad to have you.

Before you begin, I am going to ask Senator Mattingly if he would like to say whatever he wants.

OPENING STATEMENT OF SENATOR MATTINGLY

Senator MATTINGLY. Thank you, Senator Proxmire.

Last Tuesday during the hearing held by the subcommittee I made it clear in my opening statement the reason why it was unnecessary to resurrect and rehash the long resolved contractual issues relating to the C–5A wing modification program. However, we did proceed to take testimony from the GAO on the C–5A contractual matters, and now, in fairness, the subcommittee must give the Air Force and Lockheed an opportunity to testify.

Frankly, I just feel that the time of the subcommittee will be spent on nothing more than the issues which were thoroughly reviewed by the jurisdictional committees of Congress at the time the C–5A wing modification program was originally approved.

In the course of the hearing on November 1, Mr. Vice Chairman, the GAO admitted under questioning from me that the opinion expressed in their September 27 letter to you on these matters is a contradiction of the position taken by the GAO at the time of the Air Force decision to proceed with the new contract for the C–5A wing modification in 1974.

At that time, the GAO concurred with the Air Force's legal conclusion that the contractor could not be held liable for the structural improvement to the wing under the original C–5A contract.

Finally, GAO acknowledges that even if one were to agree with their new position, the issue is moot since a valid contract for the C–5A wing modification program was signed years ago and the program is well underway.

In summary, as I said last week, I see little purpose in having the subcommittee dredge through this issue again. However, fairness dictates that the Air Force and Lockheed be given the opportunity to testify on this issue.

Thank you, Mr. Vice Chairman.

Senator PROXMIRE. Thank you.

Mr. Rak, would you like to go ahead and introduce the gentlemen who are with you; and we will be delighted to hear your statement.

STATEMENT OF DANIEL S. RAK, ASSISTANT GENERAL COUNSEL, PROCUREMENT, C–5A WING MODIFICATION PROGRAM, DEPARTMENT OF THE AIR FORCE, ACCOMPANIED BY ROBERT SANDS, CHIEF, PRICING AND FINANCING; CHARLES COX, CONTRACTING PROGRAM MANAGER, C–5A WING MODIFICATION CONTRACT; AND HENRY FRASER, CHIEF ENGINEERING AND TECHNICAL SPECIALIST, C–5A WING MODIFICATION PROGRAM

Mr. RAK. Thank you, Senator Proxmire and Senator Mattingly. Let me introduce the gentlemen who are seated here with me. I have on my right Mr. Robert Sands, who is the chief of pricing and financing, headquarters, U.S. Air Force, and on the farther right, Mr. Charles Cox, who is the contracting program manager on the C–5A wing modification contract; to my left, Mr. Henry Fraser, who is the chief engineering and technical specialist on the C–5A wing mod program. I have these gentlemen with me because I understand that you have asked, in addition to responding to those legal issues which the GAO has raised in its earlier report, that you had some questions regarding policy and the status of the C–5A wing mod contract, and we will be prepared to respond to your questions.

Senator PROXMIRE. Very good.

Mr. RAK. I would like to read my prepared statement. It is brief and it may help.

Senator PROXMIRE. That is fine. Go ahead.

Mr. RAK. I am certainly pleased to be here today to respond, on behalf of the Air Force, to the letter supplement of September 27, 1983, issued by the GAO to its earlier March 22, 1982, report on the C–5A wing modification. I should inform you that, in an effort to be responsive to your request for our participation at this hearing, the review of the letter supplement to the GAO report has not yet been completed by the Office of the Secretary of Defense. That review is presently ongoing. In this letter supplement, the GAO ultimately concluded that there is no legal basis upon which the fee in the 1975 and 1979 wing modification contracts can be avoided. We agree with this ultimate conclusion. The GAO also concluded that, at the time the Air Force decided to proceed with H-Mod, the Air Force could have required Lockheed to perform a substantial part of the wing modification without fee under the correction of defects clause in SA 1000. We do not agree with this conclusion. In arriving at this conclusion, the GAO was critical of a 1974 opinion by the Office of the Air Force General Counsel. As we did by written opinion in April 1982, we again affirm the position in our 1974 opinion that Lockheed did not have a contractual obligation to perform at cost with no fee that work which would result in an aircraft with a guaranteed service life of 30,000 hours. We would also note at the outset, as Senator Mattingly and you, Mr. Vice Chairman, have noted, that the General Counsel of the GAO in 1974 concurred with that opinion.

In its September 27, 1983, letter supplement, the GAO agreed with us that the specifications do not establish an absolute requirement to produce aircraft capable of performing for 30,000 service hours or create a warranty that each C–5A production aircraft will actually perform for 30,000 hours. Nevertheless, the GAO, relying on the re-

pair of failures provision and the correction of defects clause in SA 1000 concluded that the contract as supplemented contained a requirement to continue to repair without fee the test specimen and—by inference only—production aircraft thus requiring Lockheed to effect the H-Mod work on production aircraft at no fee. We simply do not agree on this point. A requirement to test and repair and test again to demonstrate the design useful life does not convert a design goal into a firm requirement.

The GAO, apparently inferring that there was a firm requirement to provide a 30,000-hour wing, then concluded, in effect, that there were no time limitations to enforcing the correction of defects clause to effect the H-Mod work in 1975. Our office in 1974 considered the time limitations of the clause and we have done so again. We again conclude that there were time limitations which would have precluded the Air Force from directing the H-Mod work under this clause if it had been a requirement.

The GAO disagreed with our conclusion that there was little or no chance that the work later encompassed in H-Mod survived the release in SA 1000. Its position was that letter No. 243, dated May 24, 1971—referred to in exhibit C of SA 1000—reserved the Government's rights with respect to the late H-Mod work. Although letter No. 243 did survive SA 1000, we do not agree with the GAO's sweeping conclusion that letter No. 243 indicated a clear intent to reserve from operation of the release all claims relating to the wing defect if that encompassed redesign and installation of the magnitude of the H-Mod work. Under the circumstances leading to SA 1000 such a conclusion would be a clear case of the tail wagging the dog.

In summary, having considered the September 27, 1983, letter supplement, the Office of the Air Force General Counsel continues to be convinced that under the provisions of SA 1000, Lockheed had no preexisting or surviving contractual obligation to perform work of the nature of the H-Mod without fee.

This concludes my statement.

Senator PROXMIRE. Thank you, Mr. Rak.

I am going to ask the staff to keep track of the time and Senator Mattingly and I will each alternate questioning for 10 minutes at a time.

Mr. Rak, how do you respond to the conclusion that can be drawn from this case that a contractor can increase his profits and provide himself with years of additional business by producing defective equipment, and that the Air Force seems to be rewarding failure?

Mr. RAK. Well, that question presupposes that there was a requirement to accomplish and provide a 30,000-hour useful life airplane, and since there was none, in our view, in the existing contract, I would say that we are not rewarding failure in those terms.

Senator PROXMIRE. Well, but you had defective wings. Do you concede that or not? Do you think the wings were okay? Do you think the fact that they constructed wings that lasted as brief a time as they did was something that could be expected? You do not believe that this kind of a contract and this kind of action on the contract rewards failure when they can come back and make $150 million profit?

Mr. RAK. I could only say——

Senator PROXMIRE. If they had done it right, they would not have made that $150 million profit.

Mr. RAK. There were numerous requirements in the C–5A contract which they had to meet and they had described for a goal 30,000 useful hours of life. There obviously was an expectation on everybody's part that they would attempt to reach that goal. That the goal was not reached cannot—in terms of contractual requirements—be considered to be a failure.

Senator PROXMIRE. Well, if the goal had been reached, they would not have made $150 million, so they had an incentive the way the contract was drafted—I am not saying they did this deliberately, of course, I presume and assume that they did not—but there is a clear incentive in this kind of action for a defense contractor to build a defective system because he can count, under these circumstances on the basis of this precedent, that if the weapon system that he builds cannot perform he will have an opportunity to repair it and be able to make a profit on it.

Mr. RAK. Well, I think, on the contrary, there is a clear incentive under the contract, a fixed price incentive contract, to hold the contractor to the requirements of the contract. This is an extraordinary instance and is not customarily found in defense contracts.

Senator PROXMIRE. Considering the full cost of the wing modification program and the time it has taken to complete it, has the Air Force ever experienced as great a problem with defective design and construction affecting an entire production run or aircraft? Is the C–5A unique or can you cite examples of comparable problems in other aircraft programs or any other major Air Force weapon system?

Mr. RAK. I am not in a position to respond to the question.

Senator PROXMIRE. Well, you have three distinguished colleagues with you. Can any of you gentlemen cite another example in which we have had as great a problem with defective design and construction?

Mr. SANDS. Well, we are certainly not prepared for that. We will provide that for the record. We do not have the total corporate Air Force knowledge at the table.

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

FULL COST OF WING MODIFICATION PROGRAM

The C–5A program is unique in that a major design deficiency was found during production and a correction (wing modification) initiated after production was completed.

Although similar problems have occurred in other Air Force aircraft procurement programs, no one problem approaches the magnitude that the C–5 wing defect has imposed.

Senator PROXMIRE. Well, you certainly have a lot more than anybody in the U.S. Senate has, and that is not saying very much, but I would think that you could give us some examples of something that was worse. Apparently, on the basis of what you have told us now off the top of your head at any rate, this is a record; we have never had anything quite as shockingly defective and as costly as this was. Is that right?

Mr. RAK. In the Air Force you say?

Senator PROXMIRE. Yes, sir.

Mr. RAK. I am unaware of ever using the 85804 extraordinary relief provisions in another contract of this magnitude.

Senator PROXMIRE. Are there any C–5A contract closeout costs that remain to be paid and, if so, what is the amount?

Mr. RAK. I guess we are in the process of closing out the contract. We are presently in litigation regarding some of the costs that were incurred in the portion of the contract prior to restructuring.

Senator PROXMIRE. Well, my question is, How much is involved in litigation? What is the amount of the closeout costs that remain to be paid?

Mr. RAK. Let me check. I will verify this for the record. My understanding is that there is about $94 million out of a $1.5 billion contract remaining in dispute under the litigation.

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

CLOSE-OUT COSTS TO BE PAID

Should Lockheed be completely successful in its appeal, the Air Force will have to pay Lockheed $23,143,024. Should the Air Force be completely successful, Lockheed will have to pay the Air Force $42,997,963 plus interest.

The amount of close-out costs remaining to be paid cannot be determined at this time for two reasons. First, the amount of close-out costs prior to contract restructure, except for direct material costs, is dependent on the outcome of the litigation. Second, the amount of close-out costs subsequent to contract restructure and the amount of the direct material costs prior to contract restructure will be determined after Lockheed submits a final voucher for these costs and after the Government audits these costs.

Senator PROXMIRE. Now say that again. There is $94 million——

Mr. RAK. $94 million out of a $1.5 billion contract.

Senator PROXMIRE. Out of $1.5 billion.

Mr. RAK. Remaining in dispute prior to the contract closeout time.

Senator PROXMIRE. What does the $1.5 billion represent?

Mr. RAK. It represents labor and labor-related costs prior to——

Senator PROXMIRE. Have you made all your payments on the original aircraft?

Mr. RAK. On the original aircraft?

Senator PROXMIRE. Yes, sir.

Mr. RAK. To the extent that we have not closed out the contract, we have not made all the payments on the original contract.

Senator PROXMIRE. Then what would the full cost of the C–5A be?

Mr. RAK. I am sorry. I am not in a position to answer that.

Senator PROXMIRE. All right. Give us that for the record if you can.

Mr. RAK. All right.

[The information referred to follows:]

FULL COST OF C–5A

The full cost of the C–5A cannot be determined until the claimed costs in litigation are resolved and until the remaining items of cost are formally claimed by the Lockheed's submission of a final voucher and statement of cost, audited by the Government, and finally resolved by agreement or litigation, if necessary. However, a qualified estimate of the full cost of the C–5A can be made. It is estimated that the full cost will be $4,434,600,000 (then year dollars) which amount does not include the wing modification. However, it is estimated that the cost of the wing modification will be $18–$20 million per aircraft.

Senator PROXMIRE. What is the status of the wing modification program with respect to production schedule, costs, and any technical problems that have been encountered so far?

Mr. RAK. I would like Mr. Fraser to respond to that.

Senator PROXMIRE. Mr. Fraser, go right ahead, sir.

Mr. FRASER. At the present time, we are on schedule and we are right at projected costs and our projections for the future are that we will end up slightly under the budget figures for the modification. So, in summary, we are on schedule and just about on costs at the present time.

Senator PROXMIRE. And you have not encountered any additional technical problems?

Mr. FRASER. We have had some recent quality problems with nondelivered aircraft which we have worked with Lockheed in coming up with a quick resolution and repair. There were seven defects. Five of these have aleady been corrected. Four are being reworked.

Senator PROXMIRE. Let me ask you about a particular specific problem that developed. In January 1982, almost 2 years ago, the Armed Forces Journal reported that there was a fuel leak problem in the rebuilt C–5A wings and the leakage was so bad that the flight test had to be halted until the problem was corrected.

My question is, Was the problem corrected, and has there been any more significant fuel leaks or other problems in the wings?

Mr. FRASER. I believe, Senator, that it was even earlier than that. It was in the time——

Senator PROXMIRE. It was reported in January 1982. It could have been earlier.

Mr. FRASER. In December 1980, we delivered the prototype aircraft. In January 1981, there were severe fuel leaking problems and it was returned to the contractor. It was determined to be due to poor workmanship in sealing what we call the seal clip which is a structural sealing element that prevents fuel from moving out of the tanks from one tank to another or from the tanks into what we call the dry-bay area of the wing. All the seal clips on the aircraft were removed and the people were retrained. Adhesive promotors were added. The sealing procedure was optimized. We reinstalled all clips, resealed. That airplane was redelivered to the Air Force and since that work was done the aircraft has accumulated right at 2,000 flying hours with no recurrence of that problem.

Senator PROXMIRE. Now I am informed that one of the modified C–5A's developed a major fuel leak during a recent flight to Cairo, Egypt. Temporary repairs were made on the aircraft on its return during a stopover in Spain and it was then returned to Dover Air Force Base where further repairs were made.

Can you fill us in on this incident and state what the problem was and whether it has been fixed, the cost of repairs, and who paid for them?

Mr. FRASER. Yes, sir. That fuel leak was due to an assembly quality control problem wherein the man who installed a bolt through what we call the torque box, which is an attachment on the trailing edge of the wing, did not put sufficient washers under the nut so that he bottomed the nut down on the unthreaded portion of the bolt and the bolt would not clamp up. Consequently, the sealing on the bolt worked free and started to leak, and that problem was identified. It was suspected as existing on as many as nine aircraft, the five aircraft I told you had

been reworked and the four that are being reworked now include inspection and rework of that particular bolt.

Senator PROXMIRE. My time is up, but let me just ask if Senator Mattingly will permit, you telling us you did not really solve the fuel leak problem.

Mr. FRASER. Yes, sir, we solved the fuel leak problem.

Senator PROXMIRE. Then how did the nine aircraft have this problem?

Mr. FRASER. The original problem was with seal clips. This problem was singular in nature associated with poor workmanship quality during assembly of the aircraft, and it was a totally different problem, totally separate.

Senator PROXMIRE. Who assembled the aircraft? Lockheed assembled the aircraft?

Mr. FRASER. Yes, sir.

Senator PROXMIRE. Then it is still a problem with the contractor.

Mr. FRASER. Yes, sir. It is a quality control problem on the assembly of the aircraft and we have had I think somewhere around 30 total, of which about 7 were on delivered aircraft, and we think that is a very reasonable number of quality defects for startup of a program of the magnitude that we are into; that is, replacing the wing on the largest aircraft in the world.

Senator PROXMIRE. I will be back. My time is up.

Mr. RAK. I think it is not unusual that we have some quality problems during the beginning of a program and during the learning period of a program of this magnitude.

Senator PROXMIRE. Who paid for that? You said it was defective workmanship on the part of the contractor. Did they pay for it?

Mr. FRASER. The contractor put out teams to the Air Force at no charge.

Senator PROXMIRE. No charge to the taxpayer?

Mr. FRASER. That is correct.

Senator PROXMIRE. Hallelujah. It is about time. OK.

Senator MATTINGLY. Mr. Rak, in your statement you noted the position taken by the GAO in 1974 on the question of Lockheed's contractual obligations do not contradict that taken by the Air Force at that time.

Prior to the release of its September 27 letter, did the GAO ever indicate to the Air Force that the 1974 opinion was in error?

Mr. RAK, No; not to my knowledge.

Senator MATTINGLY. Is the term "design goal" common in contracts covering development of weapons? Is that a common term to you?

Mr. RAK. In the development of weapons systems of this nature, it is; yes.

Senator MATTINGLY. Is the term "design goal" commonly and universally understood as not creating binding contractual obligations to achieve that goal?

Mr. RAK. To my understanding and knowledge, it is; yes, sir.

Senator MATTINGLY. Are the agreed-upon profit percentages in the wing modification contract in line with similar fixed price contracts entered into by the Air Force during the same general period of time?

Mr. RAK. I would like Mr. Sands to respond to that question.

Mr. SANDS. Yes. I would say, given the technical problems of this complex acquisition. I reviewed the determination of the profit and I would say it is a normal profit rate for an effort this complex, and complexity is one of the things that you use to determine what the profit should be.

Senator MATTINGLY. In response to another question that was asked by the vice chairman, Mr. Rak, more than 10 years have passed since the initial restructuring of the C–5A contract. Do you have any knowledge of any incident where a defense contractor has purposefully created deficiencies in a weapon system in an effort to secure more profits and restructure the contract?

Mr. RAK. I do not have any knowledge of that.

Senator MATTINGLY. Well, I think we need to repeat that. In other words, you have no knowledge of anybody that has intentionally created deficiencies?

Mr. RAK. No.

Senator MATTINGLY. Another comment was made about the—by the way, referring to the Senator's other question about the leaks, how was the so-called recent leak problem discovered? Who discovered it?

Mr. FRASER. The Air Force. The first leak which was associated with the prototype airplane was first noticed when the aircraft was delivered to Dover Air Force Base by the Air Force and responded to immediately by Lockheed.

Senator MATTINGLY. Have there been any other problems and who were they discovered by?

Mr. FRASER. The only other leaking problem that we have had of any significance is the one that Senator Proxmire referred to on the Cairo mission. That was attributed to the torque box attachment bolt.

Senator MATTINGLY. Who discovered that?

Mr. FRASER. The Air Force discovered that during that mission.

Senator MATTINGLY. Were there any problems that developed that have been discovered by Lockheed?

Mr. FRASER. Yes. Most of the quality defects, except for those two leakage problems, have been discovered and reported to the Air Force by Lockheed.

Senator MATTINGLY. But they were found by Lockheed?

Mr. FRASER. Yes.

Senator MATTINGLY. Somebody made the comment before about this being the largest overrun. Was there not a project involving a wind tunnel constructed several years ago in Tennessee or thereabouts that had enormous cost overruns? Do you all remember that?

Mr. RAK. The aerospace testing propulsion facility at Arnold Air Force Base had an overrun, yes.

Senator MATTINGLY. That is right. I think that overrun was close to $150 million.

Mr. RAK. I honestly do not know, Senator.

Senator MATTINGLY. I honestly do. I will get the figures for you because I was on the committee when it came up.

Now a question has been asked about whether there is incentive for a defense contractor to build a defective system in order to increase profits and you answered that question, no, there was not.

Has anybody in the Air Force ever paid anybody not to build wings for C–5A's?

Mr. RAK. I do not quite know how to answer that question.

Senator MATTINGLY. Do you give contracts out to pay people not to build wings?

Mr. RAK. No. We expect them to meet the requirements of the contract.

Senator MATTINGLY. Well, you know, we are looking for defects in our own Government and it may well be that we should broaden the scope beyond the Air Force. We have some agricultural problems where we pay people to produce stuff or not to produce various dairy products. I do not have anymore questions at this time.

Senator PROXMIRE. Mr. Rak, is it correct that the wing modification contract provides that the cost of correcting deficiencies in the new wings are to be shared 50–50 by the Air Force and Lockheed? And does that mean if there are major deficiencies in the new wings and it costs $50 million or $100 million to correct them, that the Government must pay half the repair bill?

Mr. RAK. The effect of the type of contract is to accomplish that sharing arrangement. In other words, there is no specific 50–50 sharing arrangement specified in the contract provisions themselves, but because of the nature of the contract, which is a fixed price incentive contract with a 50–50 share ratio, the Government and the contractor would share in either an overrun or an underrun that might be accomplished under the contract.

So the effect is that there would be a sharing of that, but no specific provision.

Senator PROXMIRE. But the real consequences are that half the cost is paid by the taxpayer of these defects that Lockheed is responsible for, and half are paid by Lockheed?

Mr. RAK. But you have to look at that in the overall context of the entire contract and that contract was designed to incentivize the contractor to perform the wing mod in an efficient and effective manner, and that is the reason that the fixed price incentive type of arrangement was chosen.

Senator PROXMIRE. Now I understand that there were hundreds, if not thousands, of deficiencies in the aircraft completed thus far which fell under five categories of engineering and manufacturing problems, and the cost of correcting them is estimated at $1.5 million per aircraft.

Can you tell us how many deficiencies there are on the completed aircraft and how much it will cost to correct them?

Mr. RAK. Are you speaking of the wing mod program, sir?

Senator PROXMIRE. Yes, that is right.

Mr. FRASER. In the aircraft that have been delivered, there have been a total of seven deficiencies found. I think the deficiency rate——

Senator PROXMIRE. That is seven types of deficiencies?

Mr. FRASER. Seven deficiencies, not types.

Senator PROXMIRE. Seven occasions in which you have found that there was a defect?

Mr. FRASER. Yes, sir.

Senator PROXMIRE. A single defect?

Mr. FRASER. In the recent aircraft, not counting the fuel leak we discussed on the seal clips which occurred when the prototype aircraft was delivered.

Now the quality defects——

Senator PROXMIRE. So there was one missing washer, not hundreds of missing washers; is that right?

Mr. FRASER. Not one, sir. We suspected and have inspected—and I do not have a rundown now—but each 1 of the torque boxes of which there are 16 on the trailing edge of the wing, has these bolts, and each 1 of them was suspected as having a shortage of washers and was inspected and on those that did have a shortage of washers the bolts were reworked, proper washers were installed, and the bolts retorqued.

Now the only thing I can think of that has anything on the order of magnitude you are referring to in the numbers of defects would be the quality action documents in the plant where these have been worked and they very well demonstrate the learning curve problem of startup of production of this magnitude. On the first aircraft we did have over 1,100 of what we called quality action documents. They were special dispositions by engineering.

Senator PROXMIRE. That is 1,100 on the first plane; is that right?

Mr. FRASER. Yes, sir, and that has come down to a recent figure of 120, and that curve is very typically learning curve geometry.

Mr. RAK. I think these are actions——

Senator PROXMIRE. How does that compare to the seven you just mentioned?

Mr. FRASER. The thing that makes the seven that I mentioned unique is they are the only ones that have been in the aircraft after they were delivered to the Air Force. All the others were found in plant and corrected prior to delivery of the aircraft.

Mr. RAK. These are actions that we discovered during the quality process that goes on during the manufacturing of the aircraft.

Senator PROXMIRE. Now let me ask you this. Is it correct that due to the Air Force reaction to disclosure of these deficiencies the plan for correcting them was changed and that Lockheed has agreed to do the repairs at its own expense with a company team that is traveling to the Air Force bases where the aircraft are located? And can you explain why the decision was made for Lockheed to pay the full cost of the repairs?

Mr. RAK. I cannot speak for Lockheed. It is correct that they are traveling to the bases at which these aircraft are located and accomplishing the repair at no charge.

Senator PROXMIRE. But the fundamental point of my question is, is it correct that due to the Air Force reaction to the disclosure of the deficiencies the plan for correcting them was changed and that Lockheed agreed to do the repairs at its own expense?

Mr. RAK. I think there were discussions that went on between both the parties and I am not so sure that there was a change in plans. I do not know.

Senator PROXMIRE. Is it correct that under the terms of the contract which provides that the Air Force is to pay half the cost of correcting deficiencies, any future costs will be divided between the Air Force and Lockheed? Is it possible that the Air Force will agree to offset the cost involved in correcting deficiencies in the first 9 or 10 aircraft?

Mr. RAK. I do not understand the question, Senator.

Senator PROXMIRE. Well, I will ask it again. Is it correct, under the terms of the contract which provides that the Air Force is to pay half

the cost of correcting deficiencies, any future costs will be divided between the Air Force and Lockheed; and is it possible that the Air Force will agree to offset the cost involved in correcting deficiencies on the first 9 or 10 aircraft?

Mr. RAK. I would not see why we would agree to offset those costs.

Senator PROXMIRE. You do not think it is possible that the Air Force will agree to that; is that correct? Is that the answer?

Mr. RAK. I think that the contracting officer would be very concerned with that and very knowledgeable of that and watch for it.

Senator PROXMIRE. Well, let me ask you, why did the Air Force agree to accept financial liability for half the cost of correcting the deficiencies on the modified wings, and do you believe that this is a fair arrangement from the taxpayers' point of view?

Mr. RAK. I was not present in the negotiations. I know that during the negotiations it was the intention of the Air Force to structure a contract which would incentivize the contractor to produce a high quality wing effectively and efficiently, and it was considered that this type of contract, fixed price incentive firm contract, with 50–50 share ratio and 120-percent ceiling, would do that. And I believe that that would be in the interest of the taxpayer.

Senator PROXMIRE. Well, let me ask you this. I understand that under the contract the Government must pay to correct any design deficiencies as distinguished from the workmanship deficiencies which the Government pays half. The material and workmanship warranty only covers each aircraft for 12 months and if any correction of workmanship deficiencies take less than 200 man-hours the Air Force makes them at its own expense and the Government pays all the cost of correcting deficiencies once they exceed $40 million.

Can you tell us whether my understanding is correct and explain whether it is a general Air Force policy in which they agree to pay for a contractor's deficiencies.

Mr. RAK. The question is extremely complex, Senator. I would prefer to provide that answer for the record.

Senator PROXMIRE. Well, before you do that, let me just read this again because it seems to me it is pretty direct and you have eight very formidable people sitting here from the Air Force and I am sure a very competent and intelligent team. It seems to me that among the eight of you you should be able to answer this. Let me ask it again.

Under the contract the Government must pay to correct any design deficiencies—design as distinguished from workmanship deficiencies—which the Government pays half of workmanship deficiencies but pays all of the design deficiencies. The material and workmanship warranty only covers each aircraft for 12 months and if any corrections of workmanship deficiencies take less than 200 man-hours the Air Force makes them at its own expense, and that the Government pays all the costs of correcting deficiencies once they exceed $40 million.

Now is that correct? Can you tell me if any part of it is correct? I will go through these clauses one at a time.

Mr. RAK. My recollection is that there is a design warranty and we are not required under the wing mod contract to pay all of the expenses of design deficiencies.

Senator PROXMIRE. For the design deficiencies, you say my understanding is wrong on that?

Mr. RAK. I believe there is a design deficiency clause.

Senator PROXMIRE. Will you for the record indicate the extent to which Lockheed would share in the design deficiencies?

Mr. RAK. Yes; I would.

[The information referred to follows:]

DESIGN DEFICIENCIES

The C-5A wing mod contract (F33657-80-C-0001) contains a flying hour design warranty for one year after delivery of the first aircraft (28 Feb. 83) or 5,000 cumulative fleet flying hours, whichever occurs first. All corrective design effort would be performed under the provisions of the prototype contract (F33657-75-C-0178). The determination of required corrective actions and the allowability of contractor costs under the prototype contract would be negotiated. All costs of implementing the redesign effort by incorporation in modified aircraft or aircraft to be modified would be shared 50-50 under the incentive pricing arrangement of contract 0001, subject to a ceiling of $40 million of total costs for correction of deficiencies.

Senator PROXMIRE. The second one is the workmanship deficiencies the Government pays half. Is that correct or incorrect?

Mr. RAK. Under the fixed price incentive formula.

Senator PROXMIRE. As you described. And the material and workmanship warranty only covers each aircraft for 12 months. Is that correct?

Mr. RAK. That is correct.

Senator PROXMIRE. And if any correction of workmanship deficiencies take less than 200 man-hours, the Air Force makes them at its own expense. Is that right or wrong?

Mr. RAK. That is my understanding.

Senator PROXMIRE. You understand that is correct?

Mr. RAK. That is correct. Excuse me—

Senator PROXMIRE. The Government pays all the costs of correcting deficiencies once they exceed $40 million. Is that right?

Mr. RAK. I am advised that with respect to the 200 man-hours that the Air Force accomplishes it only if it has the capability. Otherwise, the contractor would do it within the terms of the warranty.

Senator PROXMIRE. All right. Then my last question is, the Government pays all the costs of correcting deficiencies once they exceed $40 million?

Mr. COX. Yes, sir. After the $40 million has been reached, if it ever was reached, the Air Force and the contractor would have negotiations. Those costs then that are negotiated would be added to the targets and it would work then within the realm of the form of the contract. It is going to be a share, 50-50.

Senator PROXMIRE. So if it goes over $40 million, the taxpayer or the Government pays half and Lockheed pays half, is that right, as a matter of fact, the way it actually works out?

Mr. COX. Yes, sir.

Senator PROXMIRE. It would be subject to negotiation and on the basis of the negotiation if it is based on the contract, it would be a 50-50 sharing; is that right?

Mr. COX. That is correct. It becomes part of the target cost, the same as any other cost of the contract.

Senator PROXMIRE. Then the target cost gets stretched; it is kind of a rubber target cost.

Mr. Cox. It would be changed in this case, yes, if the Air Force could not negotiate a no-cost arrangement with Lockheed.

Senator PROXMIRE. So it is an unusual fixed price. It is a fixed price that is not fixed under those circumstances.

Mr. Cox. A typical way of contracting, Senator.

Mr. SANDS. It is a normal contracting methodology wherein you have a target and you also have a ceiling and your target is your best estimate, and it is just as the name implies, a target.

Senator PROXMIRE. My time is up on this round. Senator Mattingly.

Senator MATTINGLY. Go ahead.

Senator PROXMIRE. Which Air Force official negotiated the C–5A wing modification contract and where is that official now?

Mr. RAK. It was a team effort. The responsible organization within the Air Force was the Aeronautical Systems Division at Wright Patterson Air Force Base.

Senator PROXMIRE. Well, as the senior Senator from Georgia says, we like to fix responsibility and have a single commander, a single person responsible so you can fix responsibility. Who was responsible for that particular negotiation? Who led the team?

Mr. RAK. Ultimately, the contracting officer.

Senator PROXMIRE. And who was that?

Mr. RAK. I do not know the name of the contracting officer.

Senator PROXMIRE. Will you find it out for the record and tell us where he is now, whether he has been promoted?

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

AF OFFICIAL NEGOTIATED C–5A WING MODIFICATION CONTRACT

Mr. Clarence Johnson signed the C–5A wing mod contract. Mr. Johnson was detailed from his position as Procurement Analyst, Contracts Review Committee, Aeronautical Systems Division, Wright-Patterson AFB, Ohio, to the C–5A wing mod contracting team. He returned to that position upon completion of the C–5A wing mod negotiations. He has not been promoted.

Senator PROXMIRE. I understand the wing modification production contract was a fixed price incentive fee and it provides a profit rate of 13.8 percent.

Now the average profit rate negotiated by the Air Force in 1980 on a fixed-price incentive contract was less than that, 12.1 percent.

Why did Lockheed get a higher than average profit in this contract in view of the fact that it requires little new capital investment and it involves correction of the contractor's own mistakes?

Mr. RAK. Mr. Sands will answer that.

Mr. SANDS. I would say that if you take a simple average of all fixed-price incentive contracts, it would be unfair to use that as a benchmark to test this particular contract because under the requirements of DAR, we are required to take into consideration the complexity, and this was an extremely complex fix that was established, and I reviewed the details and it is certainly within the norm. And there are very few companies that could have even accomplished it.

Senator PROXMIRE. Well, that is an impressive reply except it was correcting their own mistakes and it seems to me that should make quite a difference in the kind of profit that would be permitted and also it certainly does not require any new capital investment, and that is certainly an element that you consider in providing profit.

Mr. SANDS. That is one of the elements. There are several elements to the weighted guidelines method of developing profit as required by the Department of Defense, and there was, in my view, substantial capital involved in that program.

Senator PROXMIRE. I understand Lockheed's contract includes an economic price adjustment clause which reimburses Lockheed for any labor and material cost increases due to inflation.

Since the contract price was negotiated on the basis of Lockheed's actual prior cost of production and there is little or no new technology required and as the contractor is compensated for any economic inflation, what risks does Lockheed have in this contract?

Mr. SANDS. They are quite substantial. As any contract with a ceiling, after you perform to ceiling it becomes in effect a firm fixed price contract, and there are quite a few elements of risk other than the normal inflation of labor.

Senator PROXMIRE. But that ceiling was negotiated on the basis of prior actual costs. He gets all of his inflation plus a profit.

Mr. SANDS. That is not quite correct.

Senator PROXMIRE. Where is the risk.

Mr. SANDS. For example, the risk on his volume of business that the corporation will bring in, you have to develop the rates based on your expected sales and expected costs, and that is pretty chancey. Very few companies can tell you with any form of assurance exactly how much sales they are going to have next year, what their costs are going to be.

Senator PROXMIRE. Frankly, it is hard for me to understand what that has to do with it. We are talking about a particular contract that we know the volume of this particular contract, this particular operation. As I say, no new technology is required. The inflation provision is taken care of. You are shaking your head.

Mr. SANDS. In my opinion, it was rather complex. You are talking 7 years. You are not faced with an actual——

Senator PROXMIRE. Who owned the plant in which this was built?

Mr. SANDS. Beg your pardon.

Senator PROXMIRE. Who owned the plant in which this was built?

Mr. SANDS. The Air Force.

Senator PROXMIRE. It was the Air Force's own plant. You are using the Air Force's capital to a considerable extent.

Mr. SANDS. It was an Air Force plant. I have no exception to that, but it was not Air Force dollars that performed this contract.

Senator PROXMIRE. Well, I think the answer is vague on the specific risks that Lockheed was undergoing that would warrant this kind of profit.

Mr. SANDS. Well, I guess that is a judgment call. In my mind, based on a few years of experience, I feel from the Air Force standpoint, it was a very risky contract and several of the major contractors were reluctant——

Senator PROXMIRE. But you have not been able to explain to me what the risks were in this case.

Mr. SANDS. Well, there was the risk of projecting sales and cost volumes for 7 years. In our economy, we do not do too well for more than 90 days or for predicting the T-bill rate for next Monday, and I suggest that anybody that tries to go much further than that is certainly taking a dangerous risk.

Senator PROXMIRE. But he is compensated for all of that.

Mr. SANDS. No, sir. A contract with the Government is quite different from a contract in the commercial world. There are many things that are not allowed in the Government contract and it is not a direct float route, absolutely not.

Senator PROXMIRE. Now how could he lose on this contract?

Mr. SANDS. For example, interest is not allowed in Government contracts and very few people in the business world today can do much without incurring some interest costs and we have a whole section of defense acquisition regulations, section 15, that delineate the allowability, eligibility of costs, things that we will pay—color advertising is out, black and white is fine. It is extremely detailed.

Senator PROXMIRE. The interest would be a cost as well as all other costs that would be encompassed by the inflation.

Mr. SANDS. No, sir. No, sir. Interest is not an allowable cost in Government contracts.

Senator PROXMIRE. Does he not get that in the profits? Is that not what that 13.4 percent implies?

Mr. SANDS. Not interest; no, sir. Profit is another matter entirely. Interest is not paid on a Government contract, not knowingly.

Senator PROXMIRE. Profits do not include cost of money?

Mr. SANDS. Cost of money is one of the factors that is used to develop an objective for the profit rate.

Senator PROXMIRE. Is that not the computed interest and does he not get that under that policy?

Mr. SANDS. Computed interest is not interest. It is a computational process it is an attempt to compensate the contractors and try to motivate them since we are in a free market economy to invest in the defense industrial base so we can use the free market in the Defense Department, and its is only one. It is not the largest portion. The contractors' input to performance is risk, using the assets, complexity, engineers, things of that type are the larger portion.

Senator PROXMIRE. In your statement you say that the General Counsel of the GAO in 1974 concurred with the Air Force legal opinion that Lockheed could not be required to perform the wing modification without a profit.

Mr. RAK. Yes, sir.

Senator PROXMIRE. Now is it not correct that GAO only gave the Air Force a highly qualified opinion in 1974 based on the few documents that were provided by the Air Force? And is it not also true that the Air Force did not give GAO the pertinent provisions of the contract, particularly those relating to fatigue testing that caused it to form a different conclusion?

Mr. RAK. I have no personal knowledge of the opinion that was rendered nor the documents that were given. I am advised that there were no qualifications regarding that opinion and I would certainly expect that the General Counsel of the GAO, who is very careful and a highly competent person, would have sought all the necessary documents needed to make his determination at that time.

Senator PROXMIRE. Have you ever seen the GAO opinion you are referring to?

Mr. RAK. No, sir, I have not.

Senator PROXMIRE. Then how can you make that statement if you have not even seen it?

Mr. RAK. I have been advised by the Assistant General Counsel who wrote the original opinion that such an opinion was rendered by the GAO General Counsel.

Senator PROXMIRE. But you have not bothered to go look at it yourself?

Mr. RAK. I have not seen it; no, sir.

Senator PROXMIRE. Are you sure it exists? If you have not seen it, how do you know it exists?

Mr. RAK. I can only tell you what I have been told by the person who wrote the original Air Force opinion.

Senator PROXMIRE. Is there a representative of the General Accounting Office here? Will you stand, sir? What is your name?

Mr. EFROS. Seymour Efros, Associate General Counsel for the General Accounting Office.

Senator PROXMIRE. Can you comment on the nature of that 1974 opinion, whether it was qualified or not qualified or it was based on full documentation or not based on full documentation?

Mr. EFROS. Senator Proxmire, I can give you it.

Senator PROXMIRE. Read it loud. It is hard to hear you up here, sir.

Mr. EFROS [reading]:

The specifications included in the C-5A contract referred to a "design goal useful life of 20 years or 30,000 hours of service life." There is no apparent contract provision specifying what happens if a "design goal" is not met.

Then I will skip on to the second paragraph which is relevant:

Therefore, it is difficult to disagree with the Air Force position that the 30,000-hour provision was merely a goal and not a firm contractual requirement.

The modification to the contract, which converted the contract to a fixed loss type, did provide that work incorporated into the contract pursuant to the Changes Article would be performed at cost and without fee entitlement. The conversion of the 30,000-hour useful life from a goal to a fixed requirement might well be regarded as within the scope of the original contract and therefore subject to the Changes Article. However, the Changes Article is regarded as inapplicable at this point since the aircraft have been delivered to and accepted by the Air Force.

The part that is relevant is:

There is no apparent contract provision specifying what happens if a "design goal" is not met. This statement is based upon an examination of the contract, but not the separate lengthy specifications, which are in the possession of the Air Force. Therefore, it is difficult to disagree with the Air Force position that the 30,000-hour provision was merely a goal and not a firm contractual requirement.

Senator PROXMIRE. That is based on the 1974 legal memorandum, is that right?

Mr. EFROS. Yes.

Senator PROXMIRE. And you are saying that you did not have the full documentation that you later had when you made your subsequent different conclusion; is that right?

Mr. EFROS. We did not have the lengthy specifications which were in the possession of the Air Force at the time. Additionally, this was an informal opinion, Senator Proxmire, at my predecessor level, we believe.

Senator PROXMIRE. Would you consider this a qualified opinion?

Mr. EFROS. Yes, I do, Senator.

Senator PROXMIRE. Based only on the information you had; is that right?

Mr. EFROS. Yes.

Senator PROXMIRE. And it turnd out you did not have the complete information?

Mr. EFROS. Yes.

Senator MATTINGLY. Were you here last week?

Mr. EFROS. Yes, I was, sir.

Senator MATTINGLY. Did you testify to that last week? I do not recall it.

Mr. EFROS. Yes, sir. We still agree that this was a goal based on a closer examination of the specifications which we now have.

Senator MATTINGLY. So you are not saying anything today that you did not say last week; is that correct?

Mr. EFROS. Yes, sir.

Senator MATTINGLY. Then why are you here this week?

Senator PROXMIRE. Because I asked him to be.

Senator MATTINGLY. I thought the hearing was just for the Air Force and Lockheed.

Senator PROXMIRE. I wanted the GAO to be here because I thought this kind of thing might come up and I think that was a good judgment. It did. Thank you, sir.

Senator MATTINGLY. Mr. Rak, were there any problems with the C–5 aircraft that prevented them from performing their duties on the mission during the Grenada operation?

Mr. RAK. I do not know, sir. I am advised that we do not know of any.

Senator MATTINGLY. Have you any assessment of their performance down there?

Mr. RAK. Do we have an assessment of the performance?

Mr. FRASER. I might try answering your question partially. I know of no instance when the C–5 has been scheduled for a mission when it has not performed that mission because of its deficiencies.

Senator MATTINGLY. Thank you.

Mr. RAK. We will provide the information.

Mr. FRASER. I do not know whether or not they were involved in the Grenada thing personally, but I do not know of any mission cancellation.

Mr. RAK. We will get that information.

Senator MATTINGLY. Could you provide it for the record?

Mr. RAK. Yes; we will.

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

PROBLEMS WITH C–5 DURING GRENADA OPERATION

During the Grenada operation, airlift played a primary role in assuring the operation's success. The C–5 performed its strategic airlift role and played an important part in the airlift of forces to the area of operations. The C–5 missions concentrated primarily on the life of outsize cargo for which it is designed and uniquely capable of airlifting. All of the C–5 missions were completed on time and without any problems preventing the completion of their assigned intertheater airlift mission.

Of the 421 mission flown by Military Airlift Command during the operation, in which 68,367.1 tons of cargo were airlifted and 11,317 passengers were transported, thirty-one C–5 missions were flown to Barbados, one of the stop-off points for the Grenada operation. The C–5 missions carried an average of 33.15 tons,

of which 30.0 tons were assembled helicopters destined for use in the assault of Grenada. The remainder of the tonnage consisted primarily of support equipment and crews to maintain and fly the helicopters.

Senator MATTINGLY. Mr. Rak, is there any program now being conducted by the Air Force that is error free?

Mr. RAK. I am sorry, I did not hear that.

Senator MATTINGLY. Is there any program being conducted by the Air Force now that is error free?

Senator PROXMIRE. Free of error?

Senator MATTINGLY. Where no deficiencies have been discovered? Is there any Air Force program——

Mr. RAK. I do not mean to be facetious, but to err is human.

Senator PROXMIRE. And to forgive, divine.

Senator MATTINGLY. Mr. Rak, is it correct to assume that at the time of the restructuring of the original contract that the Air Force was in a far superior bargaining position than was Lockheed and, therefore, the Air Force could have extracted more concessions from Lockheed if it felt the original contract was seriously flawed?

Mr. RAK. At the time of the restructuring of the original contract?

Senator MATTINGLY. Yes. I mean, was the Air Force in a better position, in a superior bargaining position? They were, were they not? Lockheed was not writing the contract, was it?

Mr. RAK. The Air Force was writing the contracts certainly.

Senator MATTINGLY. Mr. Sands, have you an opinion on that?

Mr. SANDS. In my judgment, yes, the Air Force was.

Senator MATTINGLY. What were some of the technological difficulties that had to be overcome by the contractor during the development and production of the aircraft?

Mr. FRASER. Let me see if I can get a clearer understanding of the question. Are you referring to the wing mod contract or are you referring to the original contract?

Senator MATTINGLY. Just any part in it? Were there any technological difficulties that had to be overcome by the contractor during the development?

Mr. FRASER. Which contract, sir?

Senator MATTINGLY. The original contract.

Mr. FRASER. I am not familiar with any.

Mr. RAK. I do not believe any of us here are familiar enough to respond to that in a technical sense.

Senator MATTINGLY. OK. Thank you.

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

TECHNOLOGICAL DIFFICULTIES

The major technological difficulties that came up in the development and production of the C–5A were in manufacturing and quality control standards for what would be the world's largest aircraft. The production of components and quality control practices necessary during fabrication had never before been attempted. The C–5A program was the start for wide-body aircraft that would be produced in the late 1960s and early 1970s. A lot of valuable lessons were learned that proved invaluable on other large aircraft programs.

Senator PROXMIRE. Now, Mr. Rak, your view today is that under the contract Lockheed was only required to test whether the wings would perform for 30,000 hours, repair the test articles that failed, and then to test again; but this does not add up to a firm requirement to build

the production aircraft so that they can perform for 30,000 hours. In other words, the prototype or test article was to perform for 30,000 hours but not the actual production aircraft; is that right?

Mr. RAK. The prototype was to be tested to a maximum of 120,000 cycles to demonstrate the design life of the aircraft. I do not believe that it creates a requirement for the production contract to be capable of meeting the 30,000 hours.

Senator PROXMIRE. You call that a goal rather than a requirement?

Mr. RAK. That is correct; yes. That was not changed by that povision which required the fatigue testing.

Senator PROXMIRE. Now I take it that the Air Force now conceded that Lockheed had a contractual obligation to demonstrate that the test article could perform for 30,000 hours, in fact for several times that amount, and to this extent the service life was a firm requirement and not just a goal. Is that correct?

Mr. RAK. No; I do not agree that the service life was a firm requirement and not a goal, and you have to also perceive that question in light of the restructured contract in which a best efforts contract was created by reason of the cost reimbursement nature of that contract.

Senator PROXMIRE. So the service life was not a firm requirement, in your opinion.

Mr. RAK. No, sir, not for the production aircraft to be delivered or warranted to the 30,000 hours useful life.

Senator PROXMIRE. But it was for the test article; is that right?

Mr. RAK. There was a requirement simply to test to 120,000 cyclic test hours for the purpose of demonstrating the life of the aircraft.

Senator PROXMIRE. Did you or did you not have a requirement to fix the test article if it failed?

Mr. RAK. There was a requirement to fix the test articles; yes, sir.

Senator PROXMIRE. So you had a firm requirement for the test article in that sense, that you had to fix it if it failed.

Mr. RAK. And then test it again, that is correct.

Senator PROXMIRE. And test again to 120 cycles.

Mr. RAK. In an attempt to obtain 120 cycles.

Senator PROXMIRE. So the prototype had a requirement, the production model did not?

Mr. RAK. It was not a prototype. It was the fatigue test article which was built for the very purpose of determining the life of the aircraft.

Senator PROXMIRE. You say the GAO argues that there were no time limitations to enforcing the correction of defects?

Mr. RAK. That is correct.

Senator PROXMIRE. My understanding is different, that GAO concludes there were time limitations but they were met. Can you point to where GAO says there were no time limitations? Where do they say that?

Mr. RAK. They say the time limitations that were specified in the contract, as I read their statement, were not enforceable, and that we had the right, irrespective of the fact that we did not meet the time requirements, to attempt to enforce or apply the correction defects clause.

Senator PROXMIRE. Now neither in any of the previous Air Force legal memoranda nor any in your statement here does the Air Force substantiate with reference to the facts the argument that the time limits were not met. Yet GAO specifies how they were met.

Are you able to respond to the specifics of GAO's conclusion?

Mr. RAK. With respect to the 6-month requirement, which is established in that COD clause, the Air Force must notify the contractor of the required correction within 6 months after delivery of the last aircraft. The last aircraft was delivered in May 1973. The Air Force had not notified the contractor of any requirements to fix the—to accomplish the H-Mod until some time in the middle of 1974, I think it was.

Senator PROXMIRE. So you are saying the Air Force was negligent in not giving notice; is that right?

Mr. RAK. I am not saying that at all. The Air Force was not working under the assumption that it had the right to require the H-Mod under the original contract. I am saying that even if one were to consider that it did have the right, it had not exercised that right in a timely manner under the clause.

Senator PROXMIRE. So you failed to exercise the right, the Air Force failed to exercise the right?

Mr. RAK. We had no right.

Senator PROXMIRE. You had the right but you did not exercise it?

Mr. RAK. We had no right.

Senator PROXMIRE. You had no right, you say?

Mr. RAK. We had no right to require the correction of the defect.

Senator PROXMIRE. Well, your final argument is that the letter that reserved the Government's rights, despite the release of claims, does not apply in this case because "of the magnitude of the H-Mod work."

Now are you not saying that the Government agreed that if the contractors made a mistake, the contractor would have to pay for correcting it, but if it was really a big mistake, the Government would pay? Is that not a ridiculous interpretation?

Mr. RAK. No. This was well outside the scope of the contract requirements, even if it had been a requirement of the contract to obtain the useful life of 30,000 hours.

Senator PROXMIRE. Well, is the logic of your argument that even if the wings failed after 100 hours of use or 1 hour of use, for that matter, the Air Force would have had to pay Lockheed a profit for making repairs because there was no firm requirement in the contract that the wings be built to perform for any specific useful life?

Mr. RAK. I only interpret the contract terms as I understand them. I suppose that you could say that that would be the case. However, had there been a failure at 1 or 100 hours, I think we would have seen a totally different result.

Senator PROXMIRE. I do not understand at all, from what you have testified here today, that there would be any different result, even if the failure had been after 1 hour.

Mr. RAK. I think there would have been management attention focused on it at an earlier point in the performance. We were unaware of it until quite some time subsequent.

Senator PROXMIRE. Well, supposing it failed 1 hour after they were delivered.

Mr. RAK. It would not have changed the contractual requirements.

Senator PROXMIRE. That is right. It would not have changed the requirement and therefore Lockheed would be entitled to a profit for making repairs.

Mr. RAK. Under the terms of the contract.

Senator PROXMIRE. That is right.

Mr. RAK. That is correct.

Senator PROXMIRE. In other words, the taxpayers just were not protected. The Government was not protected. Senator Mattingly has properly challenged whether or not this hearing has any purpose at all. It does have a purpose. I think the whole value to oversight is that we try to correct mistakes. We look at what has been done. We cannot do that until after action has been taken. Incidentally, we are still producing these planes and we are producing another model of the C–5A, C–5B.

At any rate, it seems to me that we can learn from this instance that there was no firm contract and, as you seem to specify, even if the defects occurred 1 hour after they were delivered—1 hour—you would still have them repaired with Lockheed getting a profit.

Can you state what lessons the Air Force has learned from its experience with the C–5A program and the wing modification program? Were any lessons learned in the C–5A applied to the contract on the C–5B? If so, can you state how they influenced the C–5B contract?

Mr. RAK. I think there were significant lessons learned from the C–5A aircraft, not only by the Air Force, but by the Department of Defense, and that was that the total package procurement concept was not a valid, viable, reasonable method of contracting for defense hardware of this complex nature.

That lesson was learned and it was incorporated in defense acquisitions.

Senator PROXMIRE. Let us see how they were incorporated. Supposing the wings fail on the C–5B. What happens? Who pays? Does the taxpayer have to pay any part of it if the wings fail on the C–5B?

Mr. RAK. We have incorporated the workmanship and material warranties. This is on the C–5B?

Senator PROXMIRE. Yes, sir.

Mr. RAK. I am not familiar with the extent of the warranties.

Senator PROXMIRE. Well, you have eight distinguished representatives of the Air Force here. Are any of you gentlemen familiar with this?

Mr. RAK. We can provide it for the record for you. There are warranties in the contract.

Senator PROXMIRE. Well, we would like to learn because, as I say, the purpose of this hearing is to see that we correct our mistakes and we profit from them.

Mr. RAK. We will certainly provide that for the record.

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

LESSONS LEARNED

Lockheed warranted that at the time of acceptance all supplies furnished under the contract would be free from defects in design, material and workmanship. Design was limited, however, to new design performed under the C–5B contract, that is design of C–5B peculiar items. The word supplies does not include engines, Technical Data or hydraulic components in which MIL–H–83282 oil is used. The contractor's liability is to repair or replace defective items at its expense or to compensate the Government where such repair or replacement is performed by the Government. The warranty is effective with respect to defects for which the Government gives Lockheed notice within 1 year after acceptance except for items manufactured by Lockheed or purchased by Lockheed but manufactured to Lockheed's detailed design specification such notice may be given anytime within 2 years from acceptance.

Therefore, should a wing failure occur during the period of 2 years from acceptance of any C–5B due to a failure on Lockheed's part to use acceptance material or employ acceptable workmanship, Lockheed would be liable. Should a wing failure occur during such period due to a failure of Lockheed to comply with the Wing Mod Engineering Change Proposal, incorporated into the C–5B specification, Lockheed would be liable. If the failure were due to any other cause (except for latent defects, fraud, or gross mistakes covered by the contract's Inspection clause), the Government would have to pay for its correction.

Senator PROXMIRE. State the estimated program and unit cost for the C–5B in both 1982 dollars and then year dollars and reconcile the differences in cost between the C–5A and the C–5B in view of the fact that they are basically the same airplane. Can you do that?

Mr. RAK. I have no knowledge of that nor does anyone in our group. We will provide that for the record.

[The information referred to follows:]

ESTIMATED PROGRAM AND UNIT COST FOR THE C–5B

Estimated program and unit costs for the C–5A and C–5B programs are shown below in then year and FY 82 dollars in millions. C–5A costs are estimated and include amounts in litigation; C–5B costs reflect the 30 June 1983 SAR position:

	Then year		Fiscal year 1982	
	Program	unit	Program	unit
C–5A (without wing mod)	4,434.6	54.8	10,648.2	131.5
C–5B	9,284.3	185.7	6,828.1	136.6

When including the cost of the wing modification, C–5A unit cost (FY 82 dollars) is approximately $150 million compared to the C–5B unit cost (FY 82 dollars) at $136.6 million. The lower unit cost for the C–5B is primarily due to less start-up funding and a reduction in component cost (e.g., many of the avionics components actually costs less today when their 1965 costs are escalated to 1982 dollars).

Senator PROXMIRE. Well, I asked you to provide that for us in my letter and I am surprised that the Air Force cannot do that. We are talking about the future now, Senator Mattingly will be happy to know, and we ought to therefore have that information. That was one of my questions.

Mr. RAK. I think you asked, sir, that we be prepared to provide information in general and we do not have anyone here expert enough to provide that information.

Senator PROXMIRE. Well, I hesitate to ask you further, but I do have one other question relating to the C–5B then.

Is there a useful life requirement in the C–5B contract; what is that requirement; is it a firm requirement or only a goal?

Mr. RAK. I am unable to answer that question also. We will provide that for the record.

Senator PROXMIRE. Well, we would sure like to get it because we want to know if we have really learned anything that we can apply to protect the taxpayers in the future.

[The information referred to follows:]

USEFUL LIFE REQUIREMENT IN C–5B CONTRACT

There is no useful life requirement in the C–5B contract. The C–5B will have the same wing as that being installed under the C–5A wing modification program which has a design life goal of 30,000 hours. Extensive testing during the develop-

ment phase of the C–5A wing modification program showed a high degree of assurance that the wing will meet or exceed this design goal.

Senator PROXMIRE. Senator Mattingly.

Senator MATTINGLY. To sort of wind it up, the vice chairman was referring to the purpose of the hearing, inferring that I criticized it a little bit. I guess I have criticized it. It is like bringing coals to Newcastle. After 10 years of scrutiny I think that we can see that there has been and continues to be oversight by Congress and I would wager that if there had been a failure after 1 hour of use or 100 hours of use, as the vice chairman made that comment, I doubt if Congress would have let that go by. I am sure the Air Force would not let it go by.

I believe the new contract for the C–5B, shows the advances that have been made since not only this incident but other high profile systems that we have seen in Government procurements. I would just—we are not finished yet because we know this type of close oversight needs to flow into other departments as I think I alluded earlier, such as the Agriculture Department and several others.

But do you not feel like some of the contracts now for some of these systems better protect the taxpayer?

Mr. RAK. I think there are improvements in our contracting policies and arrangements and we do learn from lessons in the past. We are constantly obtaining and revising defense acquisition regulations attempting to create policies which will better protect the interest of the taxpayer, as well as the government.

Senator MATTINGLY. And do you not also agree that if there had been a failure of 1 hour or 100 hours that there would have been repercussions?

Mr. RAK. Absolutely, at that stage of the game.

Senator MATTINGLY. OK. That is all the questions I have.

Senator PROXMIRE. I am just hoping there will be repercussions on the basis of the failure we have had.

Let me just ask you for the record—and I do not expect you to answer this right now but so that you can answer it shortly—what is the profit rate negotiated in the C–5B contract? Is it above or below average profit rates negotiated by the Air Force in similar contracts?

[The information referred to follows:]

PROFIT RATE NEGOTIATED IN C–5B CONTRACT

Negotiations for the C–5B contract were concluded on the basis of a total fixed price, without specific agreement as to amount or rate of profit. In addition, Lockheed offered to provide the engines without adding profit to the engine costs. Therefore, the Air Force considers the rate of profit to be 14.98% if the engine costs are excluded and 12.8% if the engine costs are included within this total fixed price. Although there is no aircraft similar to the C–5, examples of the profit rate for other aircraft are as follows: F–15 (FY 82, firm fixed price contract), 15%; F–16 (FY 82–85, fixed price incentive contract), 13.6%.

Senator PROXMIRE. Now I want to ask you a final question that maybe you can respond to. Many Defense Department officials and others believe the defense-industrial base has suffered erosion because of factors such as low profits for contractors and inadequate defense budgets. Yet the C–5A is a case where huge cost overruns and technical problems were caused not by low profits or inadequate spending, but by poor management, poor design, and poor quality control.

Do you agree with that?

Mr. RAK. I am just a lawyer here to interpret the contract provisions and tell you what I think the obligations of the parties were in this respect.

Senator PROXMIRE. Well, you have eight other distinguished members. I think I detected Mr. Fraser shaking his head, meaning he disagrees, and I would like to know why.

Mr. FRASER. I cannot speak from the standpoint of lessons learned for contracting purposes, but I can speak from the standpoint of lessons learned technically.

What we have learned is that the other specifications of our contract constrain those that are imminent today; for instance, durability.

We, in our specifying aircraft in the past, have had our priorities ordered as price, schedule, performance, and durability; and we have paid dearly in durability for performance.

One of the performance limitations is weight, and weight was a very serious limitation on the C–5A original production. The reason why I think we have a better wing now in the wing modification and will have a better airplane with the C–5B because it has the new wing, is that the emphasis for the design people on this wing has been durability, and it has cost us 18,000 pounds of weight, but it is going to be a more durable structure. That is really what it boils down to.

Lessons learned? We need to be very careful about placing performance requirements so far ahead of durability so that our product suffers from the consequences of high performance requirements.

Senator PROXMIRE. Mr. Fraser, I think that is an excellent answer and I think you are absolutely right and I think with what I have suggested. What I asked is, C–5A is a case with huge cost overruns second to probably none, not caused by inadequate spending but by poor management, poor design, poor quality control. Certainly the failure to understand the weight problem is a matter of poor quality control or poor design or poor management, or all three. The failure to emphasize durability is also a failure of design and to some extent quality control.

In general, I would conclude on the basis that you have just said that you have learned a lesson—I think that is useful to know—but that it is a lesson that does not suggest that we need to have higher profits because we did have huge cost overruns and we obviously are giving them a profit even when they work on correcting their own mistakes.

Mr. RAK. The problems I think in the C–5A contract arise from the type of contract and the type of program that was structured for that contract. It was a unique attempt to accomplish total package procurement and we found that that kind of concurrent design and production of a major complex weapon system is not a good way to contract. That was the basic reason for the problems that arose.

Mr. SANDS. And it was stretching the state of the art. You have to remember that at that point in time that was the biggest airplane in the world and maybe we were trying to go a little too far with the total package procurement when we tried it in that concept.

Senator PROXMIRE. Gentlemen, I want to thank you very, very much. You have been very helpful to us. We have points of disagreement between us, but I think that you have made a very useful record.

Senator MATTINGLY. The only thing I would add is that with all the information you have gathered here you might want to ship it over to the Navy to use on the F–18.

Senator PROXMIRE. Well, maybe there are other turkeys we can look at too. Thanks again, gentlemen.

Senator MATTINGLY. He did not mean to interpret the C–5B as a turkey.

Senator PROXMIRE. Well, Thanksgiving, we love turkeys.

The next witness is Joe Twomey, vice president and general council of Lockheed Corp. Mr. Twomey, would you like to come up here and identify your colleagues for the record.

May I say, before you do that, the main purpose for inviting a Lockheed spokesman to this hearing is to give them an opportunity to present your case and to respond to any of the things that were said by GAO and the Air Force, and at this point you may make any statement you would like to make, and I will ask you to identify your colleagues.

STATEMENT OF JOSEPH G. TWOMEY, VICE PRESIDENT AND GENERAL COUNSEL, LOCKHEED CORP., ACCOMPANIED BY ROBERT BARTON, ASSOCIATE COUNSEL, LOCKHEED GEORGIA CO.; AND J. CHARLES DICKEY, ASSOCIATE COUNSEL, LOCKHEED GEORGIA CO.

Mr. TWOMEY. Thank you very much. First of all I will identify my colleagues. On my left is Robert Barton, who is the associate counsel of the Lockheed Georgia Co. On my right is J. Charles Dickey, who is also associate counsel for Lockheed Georgia Co.

I would like to make very brief summary preliminary comments.

Senator PROXMIRE. The last gentleman you introduced is Mr. Dickey?

Mr. TWOMEY. J. Charles Dickey.

Senator PROXMIRE. What is your title?

Mr. DICKEY. Attorney with the Lockheed Georgia Co.

Senator PROXMIRE. Very good. Charlie Dickey was an old friend and classmate of mine in college, but he would have been older than you are.

Mr. DICKEY. I hope I am related to him.

Senator PROXMIRE. Well, I hope so. He is a partner in J. P. Morgan & Co., so if you are related to him you are in good shape.

I am sorry. That is irrelevant. Go ahead.

Mr. TWOMEY. Thank you, Senator Proxmire. I have just a few brief remarks. First of all, they are directed to the GAO report that was commented on and testified upon last week at the hearings.

First of all, on the key issue, which is really the key issue of whether or not there was a binding contractual obligation on the C–5A contract to provide a requirement to provide the 30,000-hours service life, there is clearly a difference of opinion between General Accounting Office on the one side and the Air Force and Lockheed on the other, and apparently an internal difference or there has been an internal difference over the years between the incumbents of the General Counsel's Office of the General Accounting Office.

In any case, by way of background, the original request for proposals issued by the Air Force for the C–5A contract did indeed specify

a contractual requirement that said there must be 30,000-hours service life as a contractual requirement. No doubt about that.

There is also no doubt about the fact that the response submitted by Lockheed Corp. took exception to that provision and said that the 30,000-hours service life must be established in the contract as a goal.

Another fact about which I believe there is no controversy, is the fact that the contract itself adopted essentially the Lockheed language which almost universally characterized the service life as a design goal, as an expectation, and not as a requirement.

The way the contract was written, in the total contractual context, I think that the conclusion is almost inescapable that service life is a design goal, no more than that. It is specifically not a binding contractual obligation. It is not a contract requirement.

Now getting to the specifics as to what might be the flaws in the General Accounting Office's position, on this issue I think there is one major flaw.

I think that the General Accounting Office's basic error last week—not 1974 but last week—the basic error last week was to take a provision that required correction of a defect in a fatigue test repair article and fix it and somehow the General Accounting Office has significantly expanded that requirement to repair the test article into what it perceives to be a requirement to correct all the aircraft.

From my standpoint, the interpretation of the contract is quite clear. There was no such requirement as alleged by the General Accounting Office, and this very conclusion, if the conclusion is accepted, should terminate the whole debate because there was no requirement, there was no deficiency, and there was no requirement to correct the deficiency, and the other issues—notice, waiver, and so forth—would not come in play.

However, I think that there were sufficient errors in the discussions of those secondary issues that I might briefly comment on them this morning.

First, as to the notice, the General Accounting Office contends that adequate notice was given. The Air Force contends that contractually adequate notice was not given. The GAO relies as a correction of deficiencies notice document on a letter, the attachment of which outlines some 14 specific deficiencies in the C–5 wing and called upon Lockheed to correct those 14 deficiencies. I am sorry. They identified 14 deficiencies and called upon Lockheed to correct them.

Lockheed responded with a letter identifying each of the 14 alleged deficiencies seriatim and agreed to a proposed fix for each of the 14. The Air Force acquiesced in those 14 fixes. Those 14 fixes were accomplished and in due course the Air Force acknowledged in writing on more than one occasion that the corrective action proposed by Lockheed in that letter had been accomplished.

The key point to this recitation is this fact, and it is a key fact: Among those 14 deficiencies, there was not a single reference directly or indirectly to service life.

Given that fact, the whole GAO rationale on notice collapses.

Through the same process of reasoning, the GAO rationale on waiver of the service life deficiency, if there was one, also collapses. They rely on the same letter, the same letter that listed 14 deficiencies, none of which had anything to do with the service life, and then

contend that since the letter was excluded from the release of waiver provision that it had the effect of excluding from the exclusion the service life of the original contract, which is simply not supportable. The facts will not support that contention.

A final point that I would like to make has to do with the scope of the so-called C–5 H-Mod contract, or the rewing contract if you will. By not the remotest of series of speculations or conjectures could anyone reasonably argue that anything close to the scope of the C–5A rewing program could have been required in any sense for correction of deficiencies or otherwise under the original C–5 contract. It was a brandnew wing box structure acquired by brandnew procurement.

That is the end of my comments.

Senator PROXMIRE. All right, sir. Would you provide for the record documentation to back up your statement that the Air Force initially wanted to establish a 30,000-hour requirement?

Mr. TWOMEY. I would be happy to.[1]

Senator PROXMIRE. But that Lockheed's alternative language of 30,000 hours should be only a goal was adopted in the final contract.

Mr. TWOMEY. Yes, sir.

Senator PROXMIRE. As you know, Mr. Twomey, I have been inquiring into the C–5A for many years.

Mr. TWOMEY. I have heard that.

Senator PROXMIRE. I can only say, as I indicated in my opening statement, that I have never come across a worse example of Government contracting, and I am not blaming Lockheed for it. After all, if you have a patsy, you play with a patsy. This program started out with a sweetheart contract in the first place, was adjusted in Lockheed's favor, and was converted into a cost-plus deal to help you out of your financial difficulties, and now GAO concludes that you were obligated to fix the wing without a profit, and that the Air Force failed to exercise its rights.

How do you justify that?

Mr. TWOMEY. There are many ways of approaching the justification, Senator. In each of them I think that the starting point would be to give a faithful recitation of what the history of the program was.

One key element of that recitation would be the fact that in attempting to perform the C–5A contract under a contract which five witnesses have testified to a man has since been totally discredited and abandoned—in attempting to comply with this incredibly rigid and unyielding type of contract, Lockheed in the process lost in excess of $300 million, and if that is a goal——

Senator PROXMIRE. You are talking about an incredibly rigid contract that did not even have——

Mr. TWOMEY. I did not hear your question.

Senator PROXMIRE. I beg your pardon. I did not mean to interrupt except to say that I am astonished that you say it was incredibly rigid when it did not even have a service life requirement; it had a goal.

Mr. TWOMEY. It had unyielding requirements in the sense that the engineering force of Lockheed was denied the opportunity to make the engineering and technical tradeoffs that would have characterized any other weapons system that existed, and if that is not unyielding, I do not know what is.

[1] The information to be supplied for the record was not available at the time of printing the hearings.

Senator PROXMIRE. Well, would you not consider the absence of a service life requirement to be in your favor and extraordinarily——

Mr. TWOMEY. Of course, it was in our favor. That is why we submitted the proposal as we did. Moreover, it was in keeping with the engineering practice and contractual practice that prevailed at least throughout the Air Force and perhaps of the other departments at the time.

I have had personal experience with design goals versus contract requirements. It is quite common, not just for Lockheed, but for the industry in general.

Senator PROXMIRE. Has Lockheed ever built another aircraft or any other weapon with such a high cost overrun and so many structural defects as the C–5A or would you say that this contract was about average as far as these problems are concerned?

Mr. TWOMEY. I would say that no program, to my knowledge, has been characterized by as large an overrun, using your term, as the C–5A.

Senator PROXMIRE. And so many structural defects?

Mr. TWOMEY. Again, it should be understood that the villain from your standpoint might be different than the villain from Lockheed's perception. The villain from our perception was, again, the now totally discredited total package procurement technique.

Senator PROXMIRE. And so many structural defects—has Lockheed ever had a program with so many structural defects?

Mr. TWOMEY. I am not in a position to comment on that.

Senator PROXMIRE. Has Lockheed ever had a defense contract before where you built it wrong and then got a contract with a large fee to correct it? In other words, where you profited from your own mistake?

Mr. TWOMEY. If I got that question, Senator, I submit it assumed that in building it wrong that we in some fashion deviated from the contract requirements. From what I have said previously and what the Air Force has said previously, from what the General Accounting Office General Counsel said in 1974, there was no deviation from contract requirements. Therefore, there was nothing wrong.

Senator PROXMIRE. Well, when I say building it wrong. I am talking about the fact that you had this very serious problem with the wings that had to be corrected at enormous cost to the taxpayers. Is that not right?

Mr. TWOMEY. That is correct. Again, Senator, I keep coming back to what Lockheed perceives to be the villain in this picture—the total package procurement technique. The fact is that that technique denied Lockheed absolutely and categorically the opportunity to make technical and engineering tradeoffs which might have permitted resolution of the problems associated with the wings.

Senator PROXMIRE. Mr. Twomey, I would like you to comment in view of the fact that you say you did not deviate from the contract, that in the March 22, 1982, report of the GAO it says the following:

> Air frame weight problems which were known by the Air Force to exist in Lockheed's original designs eventually led Lockheed to deviate from contract specifications by reducing the material thicknesses. This action substantially reduced the aircraft's service life below 30,000 flight hours desired.

Mr. TWOMEY. Well, if you are trying to bridge that somehow into the establishment of a contract requirement relating to service life, I do not see the relevance.

Senator PROXMIRE. Well, I simply said that you said that you did not deviate from the contract and they found that you did.

Mr. TWOMEY. We did not deviate from—what I said, Senator, I believe, and if this is not what I said it is what I should have said—we did not deviate from any contract requirement relating to service life.

Senator PROXMIRE. Well, you reduced the wing material thicknesses.

Mr. TWOMEY. I do not know if that is a fact or not.

Senator PROXMIRE. According to GAO.

Mr. TWOMEY. I have no reason to dispute them.

Senator PROXMIRE. All right. Now how much profit on both the design contract and the production contract do you estimate you actually realized at the completion of the wing repairs?

Mr. TWOMEY. I believe we have those figures, but in general I do not think we have any reason to dispute the figures that the General Accounting Office gave.

Senator PROXMIRE. $150 million?

Mr. TWOMEY. I believe those figures are either correct or very close to being correct.

Senator PROXMIRE. Now if this precedent were followed in all cases where defective equipment was repaired by the original contractor and paid a profit, would it not greatly increase the cost of procurement?

Mr. TWOMEY. In most cases, if a contract were properly structured, in my judgment, it would not, basically for the reason expressed by Mr. Rak; and that is, if you have a contract that is properly structured and has a sufficiently steep sharing ratio, that will provide more than ample motivation for a contractor to avoid errors.

Senator PROXMIRE. Well, I would hope so.

Mr. TWOMEY. Whether it was technical errors or cost or whatever.

Senator PROXMIRE. And I am sure that neither Lockheed nor any other responsible contractor—and you certainly are—would deliberately make mistakes so they could profit from them. You would not do that, I am sure, but all I am saying is—and I mean that—what I am saying is there is less of an incentive to avoid mistakes when you do not have to pay for them, less of an incentive to install painstaking and difficult cost quality control when you know if you make a mistake, so what; we make a profit out of it.

Mr. TWOMEY. I would concede, Senator, that you could conceive a scenario where that might in fact happen, but that would bear very little resemblance to what happened in the case of the C–5A, the H-Mod, and the C–5B.

The type of scenario I have in mind is that if you would have a level of effort, cost plus fixed fee type of contract with no risks, in a cost sense, yes, and if you are sufficiently devious, you might introduce errors in the hope that you would not be held accountable in a noncontractual sense and that at some future date you might have the opportunity to be awarded a new contract at a generous profit and that you might gain in that sense.

I think that ignores a lot of things. I think that it ignores the fact that our customers and the Air Force in particular would not be so unsophisticated as to fail to detect exactly what we were up to.

Senator PROXMIRE. Well, I think that is right. I just feel that you lose one of the most effective deterrents to poor quality control when you provide an opportunity for a contractor to make a profit on his mistakes.

Let me ask you if you will provide for the record the profit on both the design contract and production contract for the completion of wing repairs. You said you did not have that data with you and I would appreciate it if you would give it to us for the record.

Mr. TWOMEY. We would be happy to.[1]

Senator PROXMIRE. Now if you were a government official, what steps would you recommend in order to prevent contractors from profiting from their own mistakes?

Mr. TWOMEY. Again, Senator, I think that the way you pose the question that it presupposes that the acquisition structure is such that it encourages contractors to profit by their own mistakes.

I think that the situation where a contractor might profit through his own mistake is indeed a rarity, very much of a rarity, so much so that I think that no corrective action of that is required. I think that the procurement agencies—at least those with whom Lockheed does business—are sufficiently intelligent and sophisticated that they would never let a contractor get away with anything like that.

That being the case, I would see no reason to further recommend anything.

Senator PROXMIRE. Well, there is a hard bottom line, and that is whether you make money out of it or not.

I yield to Senator Mattingly.

Senator MATTINGLY. Just briefly, Mr. Twomey, would you outline just for the subcommittee your credentials and experience in contracts and contract negotiating?

Mr. TWOMEY. Yes; I have been generally associated with the field of Government procurement since approximately 1963. I was an employee of the Defense Department as a procurement lawyer for about 30 years—I am sorry, I said 1963. I have been involved in procurement since 1952. From 1952 to 1963, I was a procurement lawyer for the Defense Department. In 1963, I went to work for Lockheed Corp. and I have been with them for 20 years, and for the great majority of that time I have been involved in positions where I had a significant amount of responsibility for Government procurement matters.

Senator MATTINGLY. Thank you. Is it correct that the parties who wrote the C–5A contract in the Air Force and Lockheed consistently interpreted the service life provision of the contract as a non-binding-design goal, not a contract requirement?

Mr. TWOMEY. That is certainly true, Senator Mattingly, since the day when the wing modification program was under consideration. By that time the Air Force spoke with one voice and that one voice said the service life was a design goal and not a requirement.

Senator MATTINGLY. Did the GAO at that time of the contract restructuring negotiations ever indicate they disagreed with that interpretation?

Mr. TWOMEY. It did not.

Senator MATTINGLY. Is it correct then to assume that at the time of the restructuring of the original contract that the Air Force was in far superior bargaining position than Lockheed and presumably able to correct any ambiguities in the contract or extract concessions from Lockheed?

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[1] The information to be supplied for the record was not available at the time of printing the hearings.

Mr. TWOMEY. Absolutely, Senator Mattingly. The Air Force was in an infinitely superior bargaining position during those negotiations with Lockheed.

Senator MATTINGLY. Did the Air Force request a proposal to specify a service life of a contract requirement in the original contract?

Mr. TWOMEY. In the request for proposals, yes, Senator, it did.

Senator MATTINGLY. Is there anything in negotiating history that speaks to that point?

Mr. TWOMEY. Yes; as I mentioned briefly a few minutes ago, when Lockheed submitted its proposal in response to the C–5A request for proposals, it took exception to those portions of the request for proposals that described service life as a contract requirement.

Senator MATTINGLY. Would you repeat that. What did you say?

Mr. TWOMEY. Lockheed took specific exception to those portions of the Air Force request for proposals that described the service life as being a requirement rather than a goal. Lockheed in its response consistently referred to service life as a goal, not as a requirement, and the contract reflects Lockheed's proposal, not the original request for proposals.

Senator MATTINGLY. Are you familiar with any of the technological difficulties that Lockheed faced during the development and production of the aircraft?

Mr. TWOMEY. Only in a very general sense, Senator.

Senator MATTINGLY. Could you provide that for the record?

Mr. TWOMEY. Yes, sir.[1]

Senator MATTINGLY. Has the Government ever asked you not to produce C–5's or C–5 wings and offered to pay you for it?

Mr. TWOMEY. No, sir, never.

Senator MATTINGLY. When we are looking at what could be cited as the worst examples of Government contracting or worst examples of what the Government is getting into, I think we can look at a lot of areas that need to be corrected by our Government. The reason I was asking you about whether you have ever been payed not to produce anything, is that the PIK program and others are now doing that.

That is all I have right now.

Senator PROXMIRE. Mr. Twomey, I am astonished by your statement that the Air Force had such a strong bargaining position. You may well be right, and on the basis of your qualifications you know a lot about this, much more certainly than I do. But what astonishes me is, if they had a strong bargaining position and they started out with a requirement of 30,000 hours and you talked them out of that or your firm talked them out of that. They end up with a service life of 7,500 hours. You would think they at least would have come in with something like a requirement of 20,000 or 15,000 or 10,000, but they ended up with no service life requirement whatsoever. That seems to me, if you have a strong bargaining position, not to use it.

Mr. TWOMEY. I do not know that I would concede that necessarily, Senator. I think that if you understand the purpose of service life and what it is all about and contrast it with what was being done under the total package approach, you might understand better why that was not insisted upon by the Air Force.

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[1] The information to be supplied for the record was not available at the time of printing the hearings.

The Air Force historically has considered that service life was in effect something that they would very much like to have, but since they were pushing the state of the technology, they had to recognize that there was some finite probability that they might not make—the contractor might not make, and that being the case, that it would be basically unjust to impose on the contractor a financial penalty for failing to achieve something that the Air Force essentially regarded as a hope.

Senator PROXMIRE. Are you saying that they never should have a service life requirement?

Mr. TWOMEY. Not on a new development type, they should not. I think if you are advancing the state of the art in a technological sense, then I think you are implicitly admitting that many of the features that you would like to have in a brandnew weapon system are simply not going to be attainable because to get to that point you have to innovate a lot of new things that have never been done before. They might work. They might not work.

Senator PROXMIRE. Well, I understand that, but it just seems to me that with no service life requirement whatsoever, none, that there is very little protection in a program that is this costly.

Mr. TWOMEY. Oh, I agree with that.

Senator PROXMIRE. What is that, sir?

Mr. TWOMEY. I would agree with that.

Senator PROXMIRE. And you feel that when you have the state of the art at this point that there is no fair and sensible way you can protect the taxpayer? They just have to take the risk. Is that it?

Mr. TWOMEY. I do not think that follows at all, Senator. What I am saying is that I think it is perfectly proper to have a service life even in a blue-sky kind of development contract——

Senator PROXMIRE. And here they did not have it.

Mr. TWOMEY. They did not have it because it was in effect a blue-sky-type of development contract and they recognized that what they had was not much more than a hope and that there was a significant probability that it might never be met.

Senator PROXMIRE. Well, again, you talk about the strong bargaining position of the Air Force. Lockheed not only was awarded a profit for repairing the wings; it was given an above-average profit when compared to other fixed price incentive contracts. The situation seems to me to be very unfair to the taxpayer.

Why not give all or a substantial portion of the profit back to the Government?

Mr. TWOMEY. To quote a very popular commercial these days, "because we earned it," Senator.

Senator PROXMIRE. Well, it would be a marvelous gesture. I would like to see that. I will not hold my breath until it happens.

Is it correct that under the contract the Air Force and Lockheed share the cost of correcting materials and workmanship deficiencies 50–50 up to $40 million, and above that amount the Government pays all the costs?

Mr. TWOMEY. I am not sufficiently familiar with the $40 million trigger point, Senator. I might ask my colleagues if either of them are familiar with it. I prefer to provide that for the record because I am not that intimately familiar with the warranty provisions of the C–5B—of the wing modification.

Senator PROXMIRE. Well, Mr. Twomey, I have great respect for you. You are the top counsel for the whole corporation. You are accompanied by two experts from Georgia. And I am really astonished that you cannot tell me about those most prominent aspects of the contract that the Air Force and Lockheed shared the cost of correcting mateial and workmanship deficiencies 50 to 60 up to $40 million and above that amount the Government pays all the costs.

Mr. TWOMEY. Let me answer that as best as I can.

Senator PROXMIRE. At any rate, with all your knowledge, you would not deny that this is correct? You just do not know?

Mr. TWOMEY. I do not deny that, no; but I would like to confirm it.

Senator PROXMIRE. Now how do you explain such a favorable contract, especially in view of the bargaining position, or is this standard practice in Lockheed's defense contracts?

Mr. TWOMEY. In defense contracts for airframes, it is quite customary to provide warranty provisions not unlike those that are contained in the C–5B contract.

Now keep in mind—again, I would like to return, if I may, if you will permit me, to service life. In the case of the C–5B contract, there is no service life warranty as such for one very good reason. The service life of the wing in the C–5B contract and the C–5 wing mod contract had already been demonstrated. In fact, it had already demonstrated a service life well in excess of 100,000 hours, well beyond what would have been the service life goal. So it would have been redundant to add to that that you must demonstrate in the wing mod contract that 30,000-hours service life has been achieved. That was a historical fact at that point.

Senator PROXMIRE. Now if there are defects in the C–5B—I am not talking about the C–5A—with respect to planes oncoming, who pays to correct them, or is there the same provision as in the wing mod contract?

Mr. BARTON. Well, defects in material and workmanship, Lockheed pays for all of them on the C–5B contract.

Mr. TWOMEY. All of them.

Senator PROXMIRE. I did not understand. Is there a service life requirement in the C–5B contract?

Mr. BARTON. No, sir.

Mr. TWOMEY. Again for the reason I——

Senator PROXMIRE. You say there is none?

Mr. TWOMEY. Again, for the reason the service life had already been demonstrated for contractual purposes. It was at that point a historical fact.

Senator PROXMIRE. This is astonishing. This is a follow-on contract. This is not new work.

Mr. TWOMEY. It is the same plane. It is the same wing.

Senator PROXMIRE. You say it has been established. In that case, why not protect the taxpayer by providing for a service life?

Mr. TWOMEY. Because it is redundant, Senator. It would be pointless to say in the contract that you must demonstrate with respect to each plane that the fatigue article has survived 30,000 hours of service life. That was a historical fact.

Senator PROXMIRE. Mr. Twomey, with all your experience, you know how these things fail. If there is a failure of the C–5B, how is the tax-

payer protected? If the service life is 5,000 hours or 7,500 hours or 2,000 hours, there is no requirement here.

Mr. TWOMEY. There is no requirement. If you are talking about service life, and that necessarily means fatigue, that is the defect that you are inherently, implicitly talking about, then the best you can do is go by the projection of the Air Force engineers at the time they conclude that the service life has been demonstrated through testing. You cannot test every C–5 production model for 30,000 hours.

Senator PROXMIRE. But there is no requirement on the part of Lockheed to meet a service life requirement; is that right?

Mr. TWOMEY. That is correct.

Senator PROXMIRE. I got on another tack and did not persist in getting the answer to my original question. If there are defects in the C–5B, who pays to correct them, or is there the same provision in the wing mod contract?

Mr. TWOMEY. If timely notice is given, Senator, Lockheed picks up the tab.

Senator PROXMIRE. If timely notice is given?

Mr. TWOMEY. Yes.

Senator PROXMIRE. What does that mean?

Mr. TWOMEY. Well, we cannot have the Air Force discover it and then not notify us for 8 years and expect us to fix it.

Senator PROXMIRE. Timely would be within a specific period?

Mr. TWOMEY. Within a year.

Senator PROXMIRE. Within a year.

Mr. TWOMEY. Yes.

Senator PROXMIRE. Why did Lockheed agree to pay the costs of correcting the deficiencies in the first 9 or 10 modified C–5A's instead of insisting that the Air Force pay half?

Mr. TWOMEY. It beats me.

Senator PROXMIRE. What do you think should have been done?

Mr. TWOMEY. I think that it may very well have been prudent for Lockheed to pay for the cost of the modifications.

Senator PROXMIRE. Why does it beat you if you think it is prudent?

Mr. TWOMEY. In a contractual sense, it beats me.

Senator PROXMIRE. So, in a contractual sense, the Government is obligated to pay half and it looks like a real sweetheart.

Mr. TWOMEY. My understanding is that the Government is obligated to pay half.

Senator PROXMIRE. As far as the contractor is concerned, it is a sweetheart.

Now if there is material or workmanship defects in the remaining C–5A's undergoing modification, who pays the cost of the corrections? You or the Air Force?

Mr. TWOMEY. Of the C–5A?

Senator PROXMIRE. Yes, sir.

Mr. TWOMEY. I believe that the warranty provisions of the C–5A have now expired.

Senator PROXMIRE. They have expired?

Mr. BARTON. Are you referring to the wing mod?

Senator PROXMIRE. I am talking about the wing mod.

Mr. TWOMEY. Oh, the wing mod. Again, if timely notice is given, the repairs will be undertaken subject to the sharing arrangements of the underlying contract.

Senator PROXMIRE. So the Government pays half; the taxpayer would pay half?

Mr. TWOMEY. Well, Senator, the contract says that the parties share 50–50 in all underlying—it does not say specifically that the Government will pay one-half for the correction of deficiencies.

Senator PROXMIRE. What is the difference between the Government sharing 50–50 and paying half?

Mr. TWOMEY. You end up in the same place.

Senator PROXMIRE. That is right.

Mr. TWOMEY. But it sounds a lot stupider when you say that we will pay 50–50 to correct deficiencies.

Senator PROXMIRE. In plain English, I have always thought of 50–50 as being half.

Mr. TWOMEY. Oh, I do not dispute that 50–50 is half.

Senator PROXMIRE. Now that amount of profit in terms of the rate and the dollars is provided in the C–5B contract?

Mr. TWOMEY. Again, I believe that the figures presented by the General Accounting Office are accurate.

Senator PROXMIRE. I do not think they gave us any on the C–5B.

Mr. TWOMEY. No; they did not.

Senator PROXMIRE. Can you tell us what they would be?

Mr. TWOMEY. Yes; we will tell you, with some reluctance. And I say that only because of competitive consideration.

Senator PROXMIRE. Well, why should that not be public knowledge in view of the fact that the public is paying all of it?

Mr. TWOMEY. Because it is information that would be very useful to our competitors as their profit rates would be to us.

Senator PROXMIRE. Are you saying this is proprietary?

Mr. TWOMEY. Yes. I am not saying that we are not going to provide it to you. I am just saying that we will provide it with some reluctance.

Senator PROXMIRE. All right. What is Lockheed's capital investment under the wing modification contract, what will it be under the C–5B contract, and how does this investment compare with other Lockheed aircraft contracts? I will ask them one at a time.

What is Lockheed's capital investment under the wing modification contract?

Mr. TWOMEY. With respect to all three increments of that question, Senator, I do not have those figures off the top of my head, but I will provide them.[1]

Senator PROXMIRE. All right. Well, thank you very, very much, Mr. Twomey, and your testimony has been very useful. I think you are a very—it has been an eye opener to this Senator. I think you and Lockheed have protected yourselves very well, but I cannot say as much for the Air Force representation of the taxpayers. Thank you.

The subcommittee will stand adjourned.

[Whereupon, at 11:55 a.m., the subcommittee adjourned, subject to the call of the Chair.]

[1] The information to be supplied for the record was not available at the time of printing the hearings.

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