

COST PRINCIPLES AND PROFIT MARGINS

10 December 1953

1027

CONTENTS

	<u>Page</u>
INTRODUCTION--Colonel Charles F. Kearney, USA, Member of the Faculty, ICAF	1
SPEAKER--Mr. Victor Z. Brink, Assistant General Manager, Finance and Contract Administration, Aircraft Engine Division, Ford Motor Company	1
GENERAL DISCUSSION	17

NOTICE: This is a copy of material presented to the resident students at the Industrial College of the Armed Forces. It is furnished for official use only in connection with studies now being performed by the user. It is not for general publication. It may not be released to other persons, quoted or extracted for publication or otherwise copied or distributed without specific permission from the author and the Commandant, ICAF, in each case.

Publication No. L54-65

INDUSTRIAL COLLEGE OF THE ARMED FORCES

Washington, D. C.

• Mr. Victor Z. Brink, Assistant General Manager, Finance and Contract Administration, Aircraft Engine Division, Ford Motor Company, was born in Iowa in 1906. Prior to his connection with Ford, he was a partner of West, Flint & Company (now merged with Haskins & Sells), Certified Public Accountants, New York, and prior to that an associate professor of accounting at Columbia University in New York. During World War II he held the rank of lieutenant colonel and was chief of the Contract Audit Branch of the Office of the Fiscal Director, Army Service Forces. Mr. Brink is the author of the book "Internal Auditing" and other accounting articles. He is one of the founders of The Institute of Internal Auditors and in 1951 served as its national president.

COST PRINCIPLES AND PROFIT MARGINS

10 December 1953

COLONEL KEARNEY: General Greeley and gentlemen: We have already presented some aspects of military procurement from the viewpoint of the military. This morning our speaker will present the viewpoint of industry, particularly the viewpoint of an accountant.

It has often been said that military procurement is a battle of the lawyers and the accountants. As related in his biography, our speaker has been on both sides of the fence. He represented the Army in a very important procurement assignment during the World War. For the past several years he has been dealing in very important military procurement matters for the Ford Motor Company. This, in addition to his past experience as a student, a professor, a public accountant, and an author, particularly qualifies him to speak on the subject of "Cost Principles and Profit Margins."

It is with a great deal of pleasure that I introduce to you Mr. Victor Z. Brink, of the Ford Motor Company, and welcome him back to this platform.

MR. BRINK: First I want to say that it is a real pleasure to be back here again and join with you in this very important program in which you are engaged.

I have always been interested, as Colonel Kearney has mentioned, in this matter of "Cost Principles and Profit Margins." During World War II I was interested in it from the standpoint of the auditing that was done as a basis for pricing. I happened at that time to be associated with the Office of the Fiscal Director, and this office prepared the auditing instructions and generally supervised what was done by the services as a basis for contract pricing. Since then I have been in it from the standpoint of industry, with the Ford Motor Company.

When I was here last year I was interested in the problem chiefly from the staff standpoint, because I was then with the central staff of our company as an assistant controller and concerned with the development of the overall policies and guidance for the divisions. Since that time I have been assigned to the Chicago Aircraft Engine Division in charge of finance and contract administration, and have been, so to speak, more on the firing line. I have been taking the active responsibility for the administration of our two major contracts at Chicago, one being the R-4360 engine, which is now in production and will be completed about August of 1954; and the other the J-57 jet engine program, on which we

are scheduled to make our first shipment in the near future. I mention that only because it provides me with a little different setting and enables me to make some of my observations a bit more definite and concrete.

I have just come from some battle-scarred experience in that about two weeks ago I participated in the negotiation of the prices at Wright Field for our R-4360 engine contract, covering our pricing periods ending 31 December 1953. We have one more pricing period, which will cover the period from 1 January 1954 to August 1954.

Colonel Kearney mentioned that you might be interested in hearing something about that. I will not change my outline, but I will try to work in some examples as I go along which may be of interest to you.

I should also like to say that I am, of course, speaking here as an individual and not in an official sense.

I should like to start off this particular discussion by reminding us that we are committed in America to a system of free enterprise and private property. That is fundamental because, if it were not that way, the Government would just direct everybody to go to work and produce what the master plan called for, and that is all there would be to it. But we believe here in America in free enterprise and private property, which means that there must be the negotiation of an arrangement to compensate the people who contribute to the program in various ways. This, of course, necessarily brings us to the question of price.

In the first place I should like to point out that the Government can, if it chooses, always produce an item itself with its own employees, even under this system of free enterprise. It can make its own products, can carry on its own research establishments, or it can go to private companies and ask them to do so. There has in fact been a traditional pattern of the Government doing certain things for itself. But, generally speaking, where there has been any major program, it has seemed to the Government to be more desirable, and even necessary, to arrange to get private companies to do all or a major part of the job.

A specific case was the tank arsenal in Detroit which the Government operated for some time. Later, however, the Government representative found that they were so embroiled with certain problems that they decided it would be much better to have a private company do the job. So they finally negotiated with the Chrysler Corporation to take over the operation.

Now, when the Government deals with a private company, as I indicated, there must be a compensation, which we refer to as a price. In setting this price, the objective must be that it be a fair price. By

"a fair price" I mean a price that is fair to the Government--that it gets value received in a reasonable sense--and the price must be fair to industry. It must be fair to industry, because, if it isn't, the Government may lose a source of supply which is very important and even essential to its continuing program.

If we take this matter of price and think about it a moment, it becomes apparent that a considerable range is involved. At the one extreme we have the most clear-cut and simplest concept of price. That is where one buys a commodity which is traded in public, as on a commodity exchange, like coffee, sugar, or wheat. The price is fixed in the competitive exchange and there is no further negotiation necessary. There is a market price and one pays that or he does not get the product.

Then, as one ranges backward from the foregoing situation to products that do not enjoy the same kind of yardstick, in that they are not traded in an established exchange, we have the circumstance where it is necessary to go to three or four people and ask for bids on the particular product. The companies interested will then come in with their bids, and the one is selected that is the best, considering price, service, quality --all the various things that have to be considered in determining which is the best offer.

Then, moving further over in the range, we come to situations where it is not practicable to handle the procurement through competitive bidding. Instead, one must deal with a particular producer, or with several producers. These producers are the only ones, perhaps, who have the qualifications to produce the product in which the service is interested. However, once the producer is selected, a fixed price is negotiated with that particular company.

Now, here again there are various situations with respect to the fixed price which is negotiated. The simplest, of course, is where one can arrive at a single negotiated fixed price for the entire contract. Ranging back from that, there may be a situation where perhaps there are some risk factors involved that are sufficiently noncontrollable that it is impracticable to resolve them in a fixed price. It may not be desirable from the standpoint of the private company because there is too much risk; and it may not be desirable from the standpoint of the Government because it may not want to pay the kind of price which would be required to cover the risk factors without knowing for certain the extent of the risk.

The risk factor may be labor rates. Labor rates have in the past few years been subject to many influences beyond the control of industry. Again, the risk factor may be material prices, or it may be some other factor. In these cases one possibility is to negotiate a fixed price subject to adjustment through an escalation clause covering the particular

factor. This particular risk factor is then handled on a historical--after the fact--basis rather than as a part of the initial fixed price.

Another approach to this kind of problem, when necessary, is to use the price redetermination type of contract. In this type of contract the contractor performs a certain portion of the contract--20, 30, or 40 percent--where he can develop the proper kind of experience as a background for price negotiation, and then prices are determined under several alternative different patterns. There may be one fixed price, or perhaps different prices for the first pricing period and the forward periods, or, perhaps, a series of prices for different periods.

Then, as we range backward still further, there could be a so-called incentive type of contract, where targets are set up and the profit rates are determined in relation to that target, with provisions that if savings are made, they will be shared in an agreed-upon basis between the industry and the Government. On the other hand, if the costs increase, they will be shared on an agreed basis, usually up to a certain ceiling. This type of arrangement has been referred to on occasions as a cost-type contract with a variable fee.

We have now just about exhausted the various types of fixed-price contracts, and we come to the situation where it is necessary to have a cost-reimbursement type of contract, such as the cost-plus-a-fixed-fee type of contract, or a straight cost contract without any profit whatsoever--as is done on some occasions.

With respect to a general evaluation of cost-type contracts versus the fixed-price-type contracts, I think it is important to establish at the beginning that the fixed price is the most desirable type from the standpoint of the interest of both the Government and industry, and the fixed price should always, therefore, be considered to be the ultimate objective. If we can get to a fixed-price type of arrangement immediately, we should. If we have to delay attaining that objective because of some existing factors, and where we have, therefore, introduced price redetermination or, perhaps, a cost-type contract, these other alternatives should be regarded as temporary expedients to be eliminated as soon as practicable in favor of the fixed-price arrangement.

I say that a fixed price is the ultimate objective for several reasons. In the first place, under fixed-price contracts the Government knows from a financial standpoint exactly where it is going. It has a more definite knowledge of the funds which it is expending in procurement, and can thus manage its affairs more intelligently. Second, under fixed-price contracts there is bound to be a reduced burden of auditing and administrative work, which is unavoidably associated with the cost-type contracts. But, third, and most important of all, the advantage of fixed-price contracts from the standpoint of both the Government and industry is

that when properly administered, it provides an incentive to the contractor to reduce costs through the desire to maximize profits. This, in fact, is the fundamental principle upon which our whole industrial success in America has been based.

It is tremendously important to the private company that this cost incentive exists--the pressure to reduce costs--because it provides the leverage to the organization to increase its overall efficiency and to thus better insure its own commercial existence and survival in a competitive world. However, while the impact of cost reduction incentive is first on the contractor, I feel that anything that helps private companies to reduce costs and which encourages them to be more efficient serves also the best interest of the Government. This is true because it means lower prices and thus more for the procurement dollar. This is something which the Government is interested in and in which we are all interested as taxpayers.

Now I would like to go back to these pricing problems for a moment, and talk first about the cost-type contracts very briefly, and then go on to fixed-price contracts.

Under the cost-type contracts we have two questions: What are the costs which have been incurred, and how much profit should the contractor be allowed in the form of a fixed fee? As you no doubt know, the cost plus a percentage of cost type of arrangement is illegal. Therefore, the profit must be in the form of a fixed fee so that we avoid the situation where the more the contractor spends, the greater profit he earns.

With respect to costs, the historical pattern of cost determination in our day has come primarily, going back as far as World War II, to TD 5000, a Treasury decision. This decision was originally developed in connection with the procurement of ships, but was borrowed in World War II for inclusion in many cost-type contracts. The brief description of cost principles contained in this statement was the best available thing when contracts were drawn in World War II, and consequently it was so utilized.

From that beginning, however, developed several offshoots. The Navy during World War II developed the so-called Green Book, which outlined in more detail a set of cost principles. This was used by the Navy, but was not used to any great extent by the other services. The Army, which was linked with the Air Force more directly in those days through the Army Service Forces, handled the problem by trying to develop some cost interpretations of its own, which were added as supplements to TM 1000, the Technical Manual dealing with the auditing of cost-plus-a-fixed-fee contracts.

Since World War II, however, one official set of cost principles for all cost-type contracts has been developed as a part of the Armed

Services Procurement Regulation--the so-called Section XV, "Cost Principles for Cost Type Contracts"--and this has been the governing document since that time.

Under a cost-type contract the costs incurred are audited by the service involved--the Air Force, Army, and Navy each doing its own auditing. Then these audits of costs are subject to a second review or audit--call it whatever you like--by the General Accounting Office. The profit is in the form of a fee and is developed on the basis of estimating the costs which it is believed will be incurred. Then the fee stays fixed, irrespective of what the costs actually turn out to be.

The fee in the fixed-fee contracts, which during World War II was something around the 5-percent level, has gradually been decreased so that it is now, generally speaking, on the 3 to 4-percent level for production contracts, although somewhat higher in the case of research contracts.

Actually, the use of the cost-plus-a-fixed-fee contract has decreased so substantially that it is no longer a very important factor in production-type contracts. The last I heard there was only one important cost-plus-a-fixed-fee contract--covering the B-36 bomber. I understand that this contract is going to be converted, but I don't know whether it has been done yet or not. But in connection with the research type contracts, it is still a very common form of contractual arrangement.

You may be interested in knowing that during World War II the Ford Motor Company was completely on a cost-plus-a-fixed-fee basis, but the new management concluded that we did not want to continue that type of arrangement in the present emergency. The mood of the services is also to eliminate the cost-plus-a-fixed-fee type of contract, since they too recognize the lack of cost reduction incentive which this type of contractual arrangement provides.

The fee is traditionally low under the cost-plus-a-fixed fee, because presumably and theoretically, and as far as the contract goes, there is no risk; the costs as incurred are reimbursed. However, it is not quite as simple as it sounds, because in the audit there are always arguments about what constitutes proper costs. By the time costs are disallowed through the audit of a cost-type contract, the profit margin may be decreased substantially, so that the profit actually earned by the contractor may be very small. Naturally, there will always be arguments about what profit he did earn, because there are arguments about what the costs were. But, any way you look at it, the type of arrangement is increasingly less attractive to all parties concerned.

Now, the problem, I think, that we are more interested in is not the question of cost and profit under cost-type contracts, but the question of price in connection with fixed-price contracts. As I stated

previously, if you can come to a price through reference to an established exchange or through the use of bids, you deal directly with price. That is the desirable objective, in which case you don't get into the problem of cost and profit. This is the situation we have in commercial life. When you buy an automobile, you are not interested in how much money the Chrysler Corporation makes on its Plymouth, or how much General Motors makes on its Chevrolet, or how much the Ford Motor Company makes on its Fords. You are interested in the price and what you think is the best value. One company may be making a very high profit and yet its price may be lower, and vice versa.

However, under the fixed-price contract, when we can't deal directly with price, then we are forced here also to deal on the basis of cost and profit. So we withdraw as the only available alternative to that position, and we look at these two elements.

In the case of costs, we may be dealing with historical costs in part, or we may be dealing entirely with estimated costs. Of course, in a price redetermination contract you look backward at historical costs in part, and forward on the basis of the estimated costs. If we are able to negotiate a fixed price immediately, we deal entirely with estimated costs, always utilizing experience on that kind of work and on other contracts to the extent that historical data are available.

Now, when I speak of costs in connection with fixed-price contracts, I am not speaking of costs in the "cost reimbursement" sense. This is very important, because under a negotiated fixed-price contract we do not reimburse costs-plus profit. We negotiate a price. That still is true when we negotiate a price on the basis of costs and consideration of profit.

In the case of fixed prices we can better speak of the acceptability of costs. The term "acceptability" is used advisedly. The term "allowability of costs" is properly used in connection with the cost-reimbursement type of contract, but in the case of a fixed price, the counterpart term is "acceptability of costs." The latter term may be interpreted to mean the propriety of inclusion to provide a basis for negotiation.

Now, what are the standards by which we view the acceptability of costs as a part of this negotiation basis? Well, we haven't had anything very satisfactory in that field. We have struggled, in both Government and industry, to try to develop cost principles that are applicable to fixed-price contracts, but thus far nothing has been done. Some people even believe that it is not desirable to give any official status to such a set of cost principles. Other people believe that it should be done. Among those who believe that it is desirable, there are a great many different views as to the way the problem should be approached--that is, as to the degree of detail in which the principles and the supporting interpretations should be stated.

In the face of not having such established official announcements covering cost principles applicable to fixed-price contracts, the services have been faced with the necessity of using the next best thing available. At the present time the existing instructions to all three auditing services are to use section XV as a basis for their audit reports, even though the procurement services have been notified at the same time that section XV, the "Cost Principles for Cost Plus Contracts," is technically and officially not applicable to fixed-price contracts. Since the auditors had to have something to go by, the cost-reimbursement type principles have been used as a stopgap for purposes of developing their audit reports.

There has been one other set of cost principles which is a partial solution to the problem, and that was the development of the cost principles in section VIII of the Armed Service Procurement Regulations. The cost principles set forth there specifically cover terminations of fixed-price contracts.

Theoretically, the principles applicable to the termination of a contract ought to be exactly the same as the principles that are applicable to a going contract. In principle, there can be no distinction. However, when these principles were being developed for terminated fixed-price contracts, there were the usual differences of opinion and the usual compromises. It was finally agreed that the cost principles would be released, but that they would not be adopted for going contracts. It is apparent, therefore, that this set of cost principles has somewhat the status of an interim or stopgap action, and will undoubtedly be subject to later change when the overall problem is resolved.

The efforts to develop a complete set of cost principles for fixed-price contracts have more recently received considerably more impetus. They have been combined with another theory, which is that we ought to develop a single set of cost principles which are sufficiently broad to be applicable to all contracts of both the cost type and the fixed-price type. This would take the form of a revision of the present section XV, and at the same time make it applicable to all contracts involving costs directly or indirectly.

In theory, I am in agreement with the idea of having one set of cost principles. I believe that costs are costs, irrespective of the kind of pricing arrangement which may be involved; and that the adjustments for the other factors, of which the most important one is risk, should be done through the profit margin and not through different interpretations of what costs should be. This still leaves us, however, with the basic problem of developing a set of cost principles which will be acceptable to everybody as being applicable to all contracts.

I saw a draft of the proposed revision of section XV--as developed in the Office of the Secretary of Defense--which was given to me on a

confidential basis in May 1953, although it has not been generally distributed to industry, inasmuch as it is still subject to internal clearance by the services. I understand that since May the internal review has been continued and that some modifications have been made--the various kinds of compromises and agreements that are inevitably the result of clearance in Government circles. I understand further that it is presently being cleared with the procurement people, and that then it will be submitted to the various responsible industrial groups for review and comment. This is the normal procedure and a practice which I think is very desirable. I have been told that the internal review is running into some major problems as to clearance, and it is difficult at this time to say when the set of principles may emerge as a finished document. In my opinion, the proposed statement of cost principles has real merit, and I hope that something good will come out of it.

There are several other aspects of cost principles that I would like to discuss, regarding which there is controversy and disagreement and variation in interpretation and application. One of these issues is whether the acceptable costs should be based on a prorata or incremental concept. These latter two terms require some further elaboration and clarification.

More simply, the problem of prorata and incremental costs can be stated as follows: If a company is in business and is manufacturing a commercial product at given costs, and it now takes a defense contract, should the costs applicable to the defense contract be a prorata share of all the general costs that are incurred in the activities in which the contract participates; or should the applicable costs be only the incremental costs?

Under the prorata approach, one of course treats the defense business just like any other part of the operations. Thus the defense work would take its full share of general-type costs based upon its prorata volume of work. For example, if the defense work represented 10 percent of the manufacturing effort according to some generally recognized yardstick, it would take 10 percent of the president's salary as an allocated cost.

The other approach, the incremental, in its extreme form, is to say: "Well, we will have to pay the president's salary anyway--we don't raise his salary, we don't get a second president--therefore, there is no incremental cost." Thus you just take the extra costs which are incurred because the defense contract is there, and only those additional incremental costs are considered to be proper costs attributed to the defense work.

It is interesting to note that this prorata versus incremental issue becomes sharper as you move down from the president to the general overhead and down to the manufacturing departments. People range themselves at various points as we make that transition. Even the most die hard

critics will usually agree in the case of a manufacturing department or production center that when a defense contract activity comes into the area, this defense work should take its prorata share of the applicable manufacturing costs based upon some acceptable standard, such as direct labor dollars or standard hours or direct labor hours.

But, as we move up to the more general areas, more and more people begin to shift to the incremental approach. So that very soon you hear them say: "Why should the defense contract take any of these costs? You are spending that money anyway. Why shouldn't the commercial production continue to absorb the particular cost--the central overhead expense, or the contributions program, or whatever the general corporate expense is?" This feeling seems in part to be based upon the theory that the adoption of the prorata approach would somehow favor the commercial business through shifting of costs and thus increase the commercial profits.

Now, that sounds like a pretty attractive theory at first look. However, let's look at how it would work out in practice. If, for example, the defense business should displace the commercial business completely and if you didn't shift the prorata portion of the general cost on to the defense business, you might conceivably have only one man working on the commercial business and he would be carrying all the general expenses that were formerly applicable to the commercial business. I think this extreme example shows how fallacious the theory really is. While there are undoubtedly some fixed expenses which do not increase with the addition of the defense business, this portion of the total cost is very small. Moreover, in actual practice the commercial business is more likely to suffer through the diversion of management effort to the defense business.

Another matter I should like to discuss is somewhat related to the foregoing issue, but it really calls for a separate discussion. This is the problem of defining as acceptable only those costs which are "necessary" and then interpreting the term necessary in a very narrow manner. It has two aspects--one, as previously discussed, as to whether the contractor could have performed the defense work without incurring the particular type of expenses--the other as to whether the total amount expended was in fact necessary and proper. For example, we may all agree that people have to eat lunch, but we may argue about the kind of lunch they should eat and therefore what that lunch should cost.

Another very common illustration of the same problem arises in the case of Pullman accommodations. What is necessary? Is it necessary for a man to sleep in a bedroom? Well, you can argue and say that the individual can sleep in a lower berth quite as well, and that there is therefore no reason why the Government should have to pay a price which enables the company's employees to sleep in anything but a lower berth. It follows then, if he wants to sleep in a bedroom, that the extra cost of the bedroom should come out of the profit.

Compensation is another item raising similar questions. During World War II one of the services took the official view--even to the extent of so stating in its regulations--that the salary of any officer of a company would not be considered acceptable if it was over \$25,000. Above \$25,000 it was apparently the view that it was some form of profit distribution and not a proper cost. I am not talking about the merits of it now. I am only saying that this is the kind of issue that comes up.

In other cases the concern may be completely with the type of the particular kind of expenditure. For example, the position is sometimes taken that contributions in any amount are not acceptable cost items on the basis that the relationship to the contract is so indirect that they are not considered to be necessary for the performance of the contract. On the other hand, one can properly argue that they are part of the general corporate expenses that are essential to the company's long-run existence; and as such must be absorbed in doing the business, and, therefore, that they are properly allocable to the defense contract.

There is, of course, bound to be a great deal of variation in actual practice as to the kinds of costs that are recognized and the extent to which particular kinds of costs are recognized. It becomes a sort of continuous negotiation between industry and the Government representatives, with the results depending on the character and background of the particular Government employee with whom the contractor is dealing, and depending a lot on the particular industry as to how hard they want to argue for something they think is right.

We all recognize, in this connection, that everything that is done by the services and by the contractor is always subject to later review by representatives of the General Accounting Office, congressional committees, or other investigators, whoever they may be. Since many of the cost issues are controversial and subject to misinterpretation, many contractors will deliberately lean backward just to avoid the potential risk of misinterpretation and consequent bad public relations in the eyes of the public.

My own views with respect to these cost issues are that great weight should be given to the company's established policies and patterns of spending. To go back to the matter of traveling, for example--if it is the company's practice to have its executives sleep in bedrooms when traveling by Pullman, that establishes the validity of the cost. Actually, this may be the very kind of policy which helped attract and retain the kind of executives which have made the contractor the successful operator that it is--in fact, the kind of contractor which today is an attractive and needed source of supply for the Government.

No more than you, would I condone the kind of company that blossoms out and expands its standard of spending for contributions or compensation

or another item just because there is defense business in the picture. That just isn't playing the game according to proper ground rules. On the other hand, there are situations where there are established patterns which have in part at least made possible the kind of procurement source now needed by the services. Consequently, in theory, I believe that such types of expenditures are acceptable costs.

Also, I feel strongly that just because some contractors do have excessive expenditures of certain types, that the solution is not to officially deny all expenditures by all contractors of that particular item. That, frankly, was just about the approach that was taken on contributions, for example, when they drafted the cost principles in section VIII covering terminations. There had been some problems with some contractors in this area, so they solved it the simple way and eliminated all contributions as an acceptable cost for the purpose of fixed-price terminations.

I consider that absolutely the wrong way to handle the situation. You might just as well say: "The salaries of the president and other executives cannot be accepted, because some companies are trying to pay too high salaries." Obviously, we can't abolish all salaries of executives and ask that they be dollar-a-year men. So I want to express this important personal view: You can't walk away from these problems just by legislating them out of existence.

It is also my own personal view that it is desirable from the standpoint of the Government and industry for the Government to regard itself as a partner in a going business, and not attempt to receive some kind of preferential treatment. I am talking now, bear in mind, only from the standpoint of costs. The matter of the profit margins I want to discuss later as an entirely separate problem.

From the standpoint of good professional accounting and accounting theory, I see no basis, when you have type A business and type B business, why they are not equal partners with respect to cost allocations---subject always, of course, to the requirement that if there is a group of costs which are completely unrelated to one of them, that such costs should be viewed as a direct cost of the particular activity to which they relate. For example, in our own company, any of the costs that are involved in the sales promotion and in marketing research on our commercial vehicles have no relationship to the defense contract, and consequently they are charged in full to commercial operations. But in the case of the general type of expenditures, the partnership approach should prevail. It is also important that when one decides that something should be considered a direct cost to the type B business, as opposed to the type A business, that one then maintains the same standard of identifying the direct costs to both type A and type B business---thus insuring equitable treatment for both classes of business.

I believe that these views that I have expressed here have received considerably more recognition in this proposed revision of section XV.

Actually, it is likely that this may be part of the reason why there is so much difficulty in effecting the internal clearance.

I would like now to turn very briefly to the matter of profit. If you accept my conclusion that costs should stand as costs and that they should be prorated on the same standard as in commercial business, then we have left only the question of what kind of profit should be recognized.

First of all, I should like to say that I do not believe that defense contracts can support the same kind of profit rates which are earned on commercial business. Industry does not expect it and it does not want it. In the first place, industry normally does not want to disclose what its profits are on its commercial business, at least on important products, because of competition. And, second, it does not want to be put in a position, from the standpoint of public relations, where the same profit would be claimed on the defense contract at the high levels which may be enjoyed on the commercial business.

I also think that the profit should be adjusted to the degree of risk. That is where we equate for the basic difference which exists between cost-type contracts and fixed-price contracts. Similarly, it logically equates for the differences between the various types of fixed-price contracts.

Obviously, risk is the basic factor that is most directly related to profit. That plus, of course, the efficiency of the business, which is expressed in the level of costs characterizing the particular contractor's operations.

We run into some very illogical and unsatisfactory situations in connection with profits on fixed-price contracts because of the way we traditionally look at profit. Take, for example, this case: Here is a manufacturer who produces an article that costs a dollar. He adds 10 percent to it, and the item is priced at \$1.10. Now, another producer may be very much more efficient from the cost standard, and he may be able to produce that item for 80 cents. Then the question arises: What kind of profit should be allowed to the 80-cent cost of this producer? If you stay with the 10-percent formula, he gets 8 cents, whereas the other fellow got 10 cents. That is obviously unfair, because you have not properly rewarded the man who did the better job from a cost-efficiency standpoint.

Actually, in a competitive market the 80-cent producer could sell his product at \$1.10 and make 30 cents profit. If we take some in-between point and, let us say, give the low-cost producer the same dollar profit as we gave the high-cost producer--that is, give him 10 cents--then you will be paying him 12.5 percent profit, which somebody may misinterpret and criticize.

One could well reason that by standards of equity the low-cost producer was at least entitled to 15 cents more profit above his 80 cents. Even with this profit he could still sell his item for 95 cents, or 15 cents less than the \$1.10 price of the high-cost producer. That would lead us into the situation where he would be getting 18-3/4 percent profit--a rate which is subject to misinterpretation and unwarranted criticism. That would certainly be a nice subject for the headlines. I can just see them: "Armed Services wasting taxpayers' money--allowing company A an 18-3/4 percent profit."

So the dilemma is that the things which should be done in the way of profit allowance to recognize risk and to recognize cost efficiency are in part thwarted by the traditional way of expressing profit in relation to cost. Consequently, we end up somewhere in the middle with a continuous pressure to keep within a narrow range of profit relative to cost. This is clearly not desirable in that it eliminates the very thing which we are trying to do--provide incentives to get costs down and to get prices down. Actually, it almost works in reverse, because, as far as making profit is concerned, the 80-cent producer would be better off profitwise to let the item cost a dollar and then get 10 cents profit--instead of getting the cost down to 80 cents and then only getting 8 cents profit.

There are some other factors that balance these reverse incentives, at least in the case of large companies that are competing with other large companies. Pride in price is an equally strong pressure. Take Ford in relation to Chrysler and General Motors. Our pride in our price is so unbelievably strong that our central office management would censure us at Chicago very strongly if we had a cost pattern which wasn't as good as or better than that of our competitors. Then also there is the incentive that a company cannot afford to let its cost efficiency deteriorate, because of the impact on the morale and efficiency of the whole organization with respect to its commercial operation.

Before closing, I would like to say a word or two about the relationship of the service auditor to the contracting officer. That brings up also the very interesting question as to what role auditors and auditing data should play in connection with the negotiation proceedings. In the case of the cost-type contract, the auditors clearly are the major determining factor and are pretty much the boss of the cost, you might say. Because of this fact, the negotiation factor in price is very limited. In the case of fixed-price contracts, however, the auditors and audit play a lesser role, but they are still employed to a considerable extent.

My own feeling is that the audit provided by the services in fixed-price negotiations should be completely advisory; that it should not usurp the contracting officer's role in the negotiating process. This is bound to vary considerably, because sometimes one finds, in particular situations, strong auditors and weak contracting officers. Then in other

situations one will find strong contracting officers and weak auditors. Sometimes they are both strong and then there is a better and sounder balance. Ideally, they should be both strong. And when I say "strong," I mean strong in a proper sense--not arbitrary--but with intelligence and objective judgment.

I think that in connection with fixed-price contracts too much emphasis is usually put on auditing cost data. Actually, in fixed-price negotiations the major factor is the projection of future costs; and, therefore, the degree of perfection with which actual historical costs are audited up to a certain point loses its usefulness. No matter if you spent five years on the review and audit of the historical data, this is not going to be the major factor on which the price is based. Actually, the major determining factor will be the judgment and the keenness of analysis with which the projected costs are evaluated, and this involves primarily what is usually referred to as cost analysis rather than auditing in the conventional sense. Therefore, I think the interested services would be better served by putting more emphasis on cost analysis and a lesser emphasis on auditing.

With specific reference to auditing, we can maximize the benefits by having fewer auditors and better auditors--that is, auditors who do not feel that they have to live by the rule books and interpret according to specific instructions. Auditors should have enough breadth of experience and judgment to realize that they can best serve the Government's interest by examining the overall procedures and controls by which costs are developed. This would best provide assurance that the costs have been properly expended as opposed to verifying that the costs were in fact expended. The auditor can comfort himself in his own mind by saying that a cost has been properly expended just because it is a properly authenticated expenditure, but too often this misses the real point completely as to whether the cost was intelligently and prudently expended. Many auditors do not make this important distinction.

I would like to say just a word briefly about renegotiation. Renegotiation, as you may know, is a companywide type of process, as opposed to the negotiation of contract prices which are fixed on an individual contract basis.

The purpose of renegotiation is to recapture excessive profits which may have resulted from the total defense contract program. Theoretically, if a proper pricing job has been done in connection with the individual contract, renegotiation would become completely unnecessary. From the standpoint of the contractor, renegotiation is not too unsatisfactory in that if he makes a high profit on one contract and loses money on another contract, he is enabled to offset one against the other.

The standards for costs and profit in renegotiation are somewhat different from what they are for individual contracts. With respect

to costs, the traditional pattern has been to link acceptability of costs for renegotiation purposes to the income tax regulations. That has been done pretty much as a matter of expediency--even though everybody recognizes that income tax principles are not necessarily either good costing or good general accounting. The accounting publications are full of articles, and have been for as long as I can remember, pointing out the deficiencies from a theoretical standpoint of following income tax regulations as opposed to sound accounting practices.

However, the renegotiation regulations, as you may also know, have recognized the foregoing deficiency to some extent in providing that in cases where to a significant extent the income tax treatment does not properly measure the costs for renegotiation purposes, then an accounting agreement can be developed between the renegotiation people and the contractor which will provide for the treatment of costs for renegotiation purposes in a different manner than is done for income tax purposes.

This latter kind of situation exists in the case of the Form II-B types of contract pricing as normally carried out. The general practice has been to accumulate the preproduction expense and the special tooling costs and to amortize those costs completely in the first pricing period over a limited number of units. In the case which I have just negotiated on the R-4360 engines, there were 665 engines in the first pricing period, which ended 30 June 1953. In that first pricing period we had all the special tooling costs, some 35 million dollars, all the preproduction costs, roughly another 35 million dollars, and we had all the high starting load costs after we were in full production. All those costs were amortized and spread over the 665 engines of the first pricing period.

That has a great advantage from the standpoint of the contractor, because he recovers his costs more nearly at the time when he expends them. I think it has benefit also from the standpoint of the services. They then get these preproduction costs behind them; they can then deal in the future with the going costs and going prices and can better judge competitive values.

In the case of the income tax regulations, however, the requirements are still that special tooling should be a cost which must be amortized over all of the units on the entire contract. Actually, it so happens in this case that this would also be the proper professional accounting approach. However, in any event, this would be the kind of deviation which would be covered by an accounting agreement.

In closing, I would like to just assure you that industry is fully conscious of the problems which the services have to deal with in the way of cost determination, profit determination, and pricing. As a matter of fact, a big business, like Ford or General Motors or General Electric, is really a public servant too, because it is in the eyes of

the public in the same manner. It has the same kind of professional reputation to maintain, and it cannot afford to cut corners. Moreover, it cannot afford to drive too hard a bargain and then be subject to the kind of misinterpretation and criticism which would be damaging to its institutional good will and thus have a bad effect upon its commercial operations.

In the case of smaller companies that do not have this same kind of restraining influence, there is most certainly a different problem. But, speaking for the established companies, I certainly can confirm that we are conscious of the problem and we are sincere in our efforts to try to find acceptable solutions, both for our own selfish interests, to keep our cost efficiency and avoid later possible criticism, but also because of our genuine patriotism and desire to assist the Government and to make Government more economical from the standpoint of the taxpayer.

From my own standpoint, we feel a great pride in being part of the defense program. In our own company and in our activity in Chicago, which is our major defense contract and with which I am actively associated, we are very proud of our part in the very important J-57 jet engine program. We think we have a wonderful engine, and we feel that it will play an increasingly important part in the Nation's defense program.

We all realize that there are many important problems and difficult problems in this field of Government procurement. We in industry intend to work together with the Government in trying to evolve the right kind of solutions. We know that this will be a continuing process, because we never completely solve all our problems. But we intend to accept our share of the responsibility in helping to solve the problems as they come up.

Now, I have talked rather informally and somewhat extemporaneously. I may have glossed over some things that you are more interested in than the things I talked most about. If so, I will be glad to answer such questions as you may have.

QUESTION: Mr. Brink, how does the price on your engine compare with the Pratt Whitney price?

MR. BRINK: I wish I knew for sure. Of course, like everybody else, we hear rumors. But we really don't know for sure.

I doubt very much that we are yet at the Pratt Whitney price, because they have been a going concern on these engines for a long time. They also have the advantage of a great deal better-suited facilities. As you may know, we have a very large and not too well designed Government-owned facility at Chicago. Actually, it is supposed to be the largest plant under one roof, having 4,300,000 square feet in the one main building. You can better appreciate the significance of this size factor when

I tell you that in our own company we would normally not construct a facility with over 1,500,000 square feet. Here the facility is almost three times what we consider to be the proper size of a plant. Obviously, it has a lot of unused capacity.

To get back to your question, I don't think we are yet where we should be, but I can assure you that we are headed in the right direction.

QUESTION: The cost for an individual company depends very largely on its cost-keeping method. You cannot compare Pratt Whitney cost with yours when you choose to amortize the entire preproduction costs in the first period. If you let them extend over the whole period of the contract, wouldn't your price look much better?

MR. BRINK: Obviously, it is a question of cost analysis. The cost analysts take the kind of factors which you mentioned and adjust for them. Actually, the only way you can make a comparison of Ford and Pratt Whitney would be to take our going price after the special tooling and preproduction costs have been amortized. When you put a new producer into the program, such as Ford is in the R-4360 program, or any other contractor, you are making an initial investment to establish a source. After that source is established, then and then only can you make comparisons.

This again is where all contractors run the risk of being misinterpreted in the press. Somebody comes along and takes a look at a price that is applicable to the starting period--when all the preproduction and special tooling costs are being amortized--and it looks as though prices were excessive. But when subjected to proper cost analysis, as would be done by an intelligent analyst, not the politician, then one gets a really fair comparison.

QUESTION: I would like to go back to the matter of the prorata versus the incremental analysis of overhead costs. Apparently there are going to be some inequities in firms that have commercial business and some defense business where those commercial firms are in competition with firms that have no defense business. We might take Ford as an example. Ford has some defense contracts. General Motors has a lot of them. It seems to me that this prorata analysis of overhead costs would result in a substantially lower price for Chevrolets, the commercial products, and therefore give them an advantage in the competitive market against Ford. On a broader scale, this perhaps could lead to a general complaint on the part of companies not so actively engaged in the defense work.

MR. BRINK: I see your point. Maybe we should worry about that situation, but I am willing to take my chances with Chevrolet on the basis you describe.

But here is how it actually works out: To the extent that defense work displaces commercial business, proration is actually necessary to

protect the cost level on the commercial business. There may be a temporary period when extra business can be added with little or no increase in the fixed charges. Gradually, however, the organization realizes that it cannot hold the fixed expenses at the same level, and it will begin to expand in relation more nearly to the expanded volume of business. So, while there might be temporarily a cost reduction advantage to the commercial business, I think it would disappear more quickly than people realize.

QUESTION: If you amortize your complete cost of special tooling in the first pricing period, then at the contract termination date, what recognition is given to the value of the special tooling which may still exist?

MR. BRINK: The general practice on special tooling is that it is property in which the Government has a beneficial interest, and that the contracting officer may therefore request that the contractor deliver at the completion of the contract the complement of tooling which he is using to build the product. The service thus actually gets the special tooling at the end of the contract, and can make an election as to whether it will be scrapped and the salvage value accruing to the Government, or whether the tooling should be preserved for an M-day program, or whether the Government wants to use it somewhere else. In any event, the Government has the election and gets the benefit one way or the other.

Technically, the special tooling is not Government property, but is accorded separate recognition and treatment on what I consider to be a very satisfactory basis. The contractor is not burdened with the property accountability for the particular pieces of special tooling that have worn out during the life of the contract, but he does have the obligation of turning over a complement of tooling, properly listed and intelligently marked, to the service at the end of the contract.

QUESTION: Would you comment on the prime contractor's responsibility for the price where the prime contractor assumes all the responsibility of the subcontracts?

MR. BRINK: Generally speaking, I think that the prime contractor should have that responsibility. We have in our company taken full responsibility for every subcontracting program. On the other hand, some components may become so large and so important that it may be desirable for the service to have direct firm contracts with those producers. However, everything that I have been associated with has been under a contract where the prime contractor takes full responsibility; I personally favor that approach as being the most sound.

We have one very important defense contract where we make the wing for the B-47 bomber and sell it to the airframe companies for whom we act as a subcontractor. We did try at the time to get a prime contract,

primarily because we were selling wings to Boeing, Douglas, and Lockheed simultaneously, and we had a feeling it would be far simpler if we had only the one customer. But we were overruled on it, and fortunately it has worked out pretty well.

So I think my natural inclination would be for the service to deal with the prime contractor and to let him handle the subcontracting program --however, there might be situations where I would deviate from that rule if they were presented to me.

QUESTION: Would you go into what practices or procedures you use to pay fair prices to your subcontractors?

MR. BRINK: We do about the same thing that I have covered in my previous comments. If it is a standard item, where the price is fixed, there is no real problem. If it is an item which is unique and we need a particular subcontractor in the program because of his know-how, that might outweigh everything else, and we might go to him and negotiate prices, either on a fixed-price basis or with price redetermination, depending upon the needs of the particular situation. Each case must necessarily be handled on its own merits. But the ground rules--the way we would deal with the subcontractor--are exactly the same as I have outlined for the Government dealing with the prime contractor.

COLONEL KEARNEY: Mr. Brink, you gave us a fine talk. I really think that all of us have a better understanding of industry's problems. I think that you cemented the relationship or gave us the feeling of this cementing of a relationship that is so necessary between the military and industry; so that we can do a better job in the defense effort. On behalf of the college, I thank you very much.

(22 Mar 1954--250)S/lbc