FACTS FOR DECISION

14 March 1952

CONTENTS

Page

INTRODUCTION--Dr. L. C. Hunter, Member of the Faculty; ICAF..... 1

SPEAKER--Mr. William C. Truppner, Assistant Administrator for Production and Distribution Controls, DPA..... 1

GENERAL DISCUSSION..... 15

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FACTS FOR DECISION

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DR. HUNTER: The topic this morning, gentlemen, carries a nice snappy title, "Facts for Decision." I don't know who dreamed this one up but it is a nice title nonetheless, with one exception--it rather fouls up my favorite picture of the big-time administrator, the big executive who spends most of his time making off-the-cuff decisions on numerous subjects that come to him. Our speaker will, I hope, rescue me and others who may have the same delusion from this dream world. We have had him here before; we are delighted to have him back here again this morning, Mr. William C. Truppner.

MR. TRUPPNER: I am supposed to talk about statistics this morning and I am afraid, rather than being a dynamic subject, it does run into the danger of being awfully drab and uninteresting. But I will try to avoid that as much as possible by an effort to relate the drab statistical data to the administrative decisions that are presumably made on the basis of the information.

One fact that does escape a great many people is that decisions are made either on the basis of or in the absence of facts. I am afraid, unfortunately, in many cases they are made on the basis of the latter. This is true in private industry; it is true in the Government; it is true in peacetime; it is true in a time such as we have at the present.

A manufacturer who is considering whether he should invest his money in plant expansion or in the purchase of a new facility has to make a decision. The decision can really take one of three forms: an absolute yes, presumably based on the market for his product; an absolute no, based on the same judgment; or failure to make a decision, which again has precisely the same result as the making of the decision in the first place. So a decision is inevitable if the man who has to make it is driven to making it.

The Federal Government faces the same problem and, as I will indicate a little later, I think one basic decision that we have had to make in a time of mobilization through the period of World War II and through this period thus far has been made essentially in the absence of factual information. The decision was made; had to be made; and we have been living ever since with the consequences of that decision made in the absence of good information.

1476

When this Nation gets into a period of full mobilization as during World War II, or in what we might call semimobilization such as we have now, clearly it becomes necessary for the Federal Government to make a great many decisions which, in a free-enterprise system, the Federal Government normally does not make. At the time the period is initiated, the Federal Government looks around for certain information to use as the basis for the decisions it has to make.

So we begin normally in a time such as this with the existing data, economic data, business data, and data of all types; usually we find that such data are almost completely and utterly inadequate for the purposes of the Federal Government.

The statistical information normally produced in this country is disseminated so that a great multitude of individual decisions can be made. The way the Nation operates essentially is through the price structure and the profit motive. On the basis of hundreds of thousands of individual decisions, the end result emerges, and to an important extent the Government spends its time measuring that result. The Government does not usually influence directly that result, except in those fields where we do have government regulation.

Normally the Government uses statistical data in order to establish a set of fairly broad basic ground rules which are established before the decisions have to be made in various fields by individual operators.

An illustrative example of peacetime data used by both private enterprise and the Government is provided by retail sales data. Data on retail sales are used by thousands and thousands of business concerns at all levels of manufacturing, distributing, and retailing for the purpose of assisting them in making decisions essentially on the basis of a projection of market conditions as they apply to the products they are trying to sell.

The Federal Government has an interest in the same series because it is a basic indicator of the economic health of the country and because it represents a major broad component of consumer expenditures. The relationship between these matters and such broad programs as tax levels and structure is clear.

This kind of statistics (such as we have available in peacetime) doesn't meet the needs of the Federal Government in time of mobilization. At this time the Government, in terms of the National

interest, cannot let prices, cannot let profit motive be the sole determinants of what is needed; cannot let them determine to which companies materials are distributed; and cannot let them alone determine who buys the products and the kinds and quantities of products which are made available. National interest dictates that the pattern be changed--at least on a selective basis.

During World War II we faced the same kind of problem. I think you may remember in the days of 1939, 1940, and 1941 the great debate that raged as to whether or not there was enough steel, aluminum, sulphur, enough of this, that, and everything else to support, first, a program of guns and butter, and, later, a program of guns only. You may recall that relative positions in the discussion shifted from 1939-1940, at which time the military programs were at such levels that certain of the civilian mobilizers felt the country could support a very much higher level of weapons production, and that our international situation required that we have a much higher program.

Then the pendulum swung and by the time we got to 1942 and 1943 it appeared that everybody had changed sides and the military programs were regarded as too high by a great many people for our resources--both material and human--to support.

I mention this because it illustrates a point. At least one of the reasons the argument lasted so long and the pendulum actually didn't stop at dead center but swung to the other side was because nobody knew what they were talking about, with respect to a number of crucial but unanswered questions. Nobody in the United States knew what the genuine and real requirements were for any given total military program, plus the program for defense supporting production, plus the programs for construction, and so on.

Now, very briefly, the kind of information that the Government needs in a period such as this is the requirements data for the military and mobilization programs; requirements data for the maintenance of a healthy civilian economy; requirements data for international needs; information on the amount of resources available to satisfy these needs, both in terms of new supply of raw materials, inventories, components, supporting machinery and equipment, and the like.

We found in World War II in the War Production Board that it took us approximately three years of hard work to build up a flow of statistical information within the agency to satisfy these needs--and even then, the need for data was only partly fulfilled. I assure you that for a major part of those three years the number of basic and important decisions made which were based on sound

statistical information were few indeed. The information did not exist but the need for decision remained.

I hear very frequently a great deal of criticism of the military services because they don't know what they want. It takes two forms. One is the criticism directed at their end-product schedules and programs expressed in terms of numbers of end products, weapons, and the like. That clearly is a problem of judgment. It is a problem on which a person can exercise his own judgment and if his conclusion is contrary to the military judgment, criticism can be anticipated. But at any rate it is a question of judgment and a question which normally is not answerable on the basis of statistical information. Judgments must be based on appropriation levels, military strategy, mobilization base considerations, and the like. But there is another side to it. Having established a program upon which agreement has been reached, having directed manufacturers to make the products to satisfy the needs of the program for satisfying military requirements, what does this mean in terms of our steel supply, our copper supply, brass, aluminum, nickel, and all the remainder of the materials which go essentially to make up the hard goods part of United States output. The military doesn't know.

I personally have never been impressed at all with criticism of the military services because they don't know the answer to this question. The question I ask is, Why do you expect the military to know the answer to this question? What is there in the history of the United States that requires the Federal Government or any part of it to put itself in a position to answer this question? Ordinarily this is the area of our economic activity which the Federal Government stays farthest away from. A deep background of experience is lacking.

The answer to this question is such a complex and difficult one that I think I can make the flat statement that so far nobody in the United States has been smart enough to devise a method to translate tanks, guns, planes, and the remainder of our military equipment and weapons into the impact on our material and fabricated component supplies. The plain truth of it is that we don't know how to do it.

Now, if I may, I think I should like to get into the subject matter itself and refer to this background in the context of recent and current operations. I thought perhaps that one way of discussing the subject, "Facts for Decision," would be to review briefly our experience since June of 1950

After June 1950 the Nation made certain basic policy decisions. The Defense Production Act of 1950 said essentially that we were going to do three things through the operation of a civilian production agency: (1) See to it that the materials, the components, and

the products needed to meet our Defense Department, Atomic Energy production schedules, and construction schedules are made and delivered; (2) in the event we have a protracted period of semimobilization, with a 40 to 60 billion-dollar-expenditure program for the military, to build up our basic resources sufficiently so that we can supply the needs of this kind of heavy, but not all-out, military program and at the same time to have enough material left over to take care of our civilian needs; and (3) to maintain a healthy civilian economy in this country during the difficult period of both military and mobilization base build-up.

It is quite clear in a situation such as we have now that any substantial unemployment, inflation, or other weakening effect on our civilian economy could very easily result in an attack on the legal authority that permits the executive department to act and that we could lose objective "one" or "two" or both by failing to attain objective "three."

Therefore, the act provided that the normal functioning of the civilian economy be maintained to the highest degree possible consistent with taking care of military needs. Residual materials were to be divided equitably among companies. Small companies were to be protected in a shortage period. Materials were to be provided for new products. Materials were to be allocated after taking account of the current and pre-Korea competitive position of the companies.

It is clear from reviewing the basic responsibilities that the act placed on the Executive that no intelligent decision could be made in order to carry out these instructions without having information. Clearly again, as in World War II, the first and foremost need of the Federal Government was to know what were the requirements of the military, of the resources expansion program, and of the civilian economy.

During the latter half of 1950, we had the great debates as to whether this Nation should undertake to go into what was coming close to a complete control structure for at least the metal consuming segment of American industry and which later, as you know, emerged as the Controlled Materials Plan (CMP). Mostly on the basis of the good intuition of certain people, the decision was made at the end of 1950 to build up a basic over-all control and it was put into effect in the middle of 1951.

I call your attention to one very important thing; namely, that this basic decision was made and action taken over the very strong

protests and the very sincere protests of a substantial part of our American industrial economy. The reason the protests were difficult to meet was that the Federal Government couldn't quantitatively prove the correctness of the decision. The Federal Government couldn't demonstrate that what was coming six months hence was a greatly increased demand on those supply systems and that without a quantitative control, such as was provided by that system, chaos would reign.

There is no question in my mind that military production would be at a far lower level than it is today, in the event of a contrary decision. An affirmative judgment was reached, but it was not based on statistical data. The mere fact that it was not based on fact really made the job of making it that much more difficult. I think we can thank our lucky stars that the decision not only was made but was made to stick.

Now let us see what happens when you get yourself in the position of having demonstrated that you need centralized direction and control and you assume the responsibility for distributing material and determining output in an industrial system as complex and as large as the United States.

You will recall that after the CMP was put into effect and during the third and fourth quarters of last year there was, shall we say, to put it mildly, a great cry of outrage that it was not working and the tickets were no good, and so on.

The information we had was that the mills manufacturing and selling controlled materials--if I may take that one narrow group for a moment--had more orders on their books than they had ability to produce and people with tickets were unable to place them. Some of us had felt that it was clearly due to the carry-over from previous priority authority issued by the National Production Authority (NPA) and from the M-orders of the early spring. So we issued, effective 1 October 1950 something called Direction No. 7, CMP Reg. 1, which provided that everybody who has placed an order with a material supplier which specified delivery in the fourth quarter of 1951 must deduct the amount of such materials from his fourth quarter allotment.

Clearly the objective was a good one. We wanted to clear the order books and we could do that because we knew we had issued new authority for the fourth quarter that was reasonably equal to the supply during the fourth quarter. We knew if we cleared out everything else, we would come reasonably close to a balance.

That action, however, hurt a great many people very seriously. It was a drastic action. It had the unfortunate effect of taking off the books many of those persons who had been waiting the longest for delivery and who normally, you would think, would be the first in line.

We took the action at any rate and cleared the system and the problems began to clear up very rapidly. By the end of the fourth quarter we had the mills' order books in reasonably good condition. When the time came for acceptance of first quarter CMP allotments, the general acceptance was reasonably good as we expected.

However, the continuation of this kind of cutoff date from a central management point, as I indicated before, runs contrary to the dictates of good sense because it says the fellow who has been waiting the longest is the first one to go.

We took two other actions, however, which permitted us to clear the situation up on a permanent operating basis. We revoked the order for this direction, since we had cleared the system of all the previous authority that was crowding into the fourth quarter. Second, we created a reporting system by which each of the controlled material suppliers reported each month accepted orders, by months for future quarters as well as the current one, and his unfilled order backlog.

The reason CMP cleared up so quickly, overnight, is that we were now able to direct the controlled material suppliers to accept orders over and above their ability to fill them in any given short period, such as a month, so that we made room for the tickets. We could do this because the mills were telling us what their unfilled order backlogs were. We were in a position to know how far we missed by the size of the past-due order backlog; we therefore created a system whereby we adjusted the size of future programs and the determination of allotment authority to keep the backlog under control. Thus, if in the first quarter we ended up with a 25-day backlog of unfilled orders, we could adjust our program determination for a future quarter and borrow from second-quarter production to cash first-quarter tickets. Naturally the tickets were cashed in large volume because we made room for them. We couldn't create material out of nothing by a set of rules, so we borrowed future output to take care of current demand. In other words, we had a completely flexible system and CMP began to operate the way it was supposed to operate once the system was cleared up.

As of now the system is what it should be. When an order is accepted, it loses its quarterly indentification and stays on the schedule until shipment is made.

1482

Now I should like to come around to the subject that is very close to my heart, that is, this whole question of material and product requirements which I regard as the great fundamental gap in mobilization statistics. Since the inception of NPA in September of 1950, the measurement of future demands for fabricated products as contrasted with demands for controlled materials has been one of the central problems facing the mobilization agencies. Under the operations of the CMP, its procedure provides a system of requirements development for class A products through a close interlace among application flow, subassembly purchase and delivery scheduling, and allotment authorization. Individual company adjustments are automatically effected through the class A product chain by a close tie-in with the normal purchase procedure of industrial concerns.

In the case of class B products, on the other hand, production levels for all companies engaged in the manufacture of particular classes of products are independently authorized by the NPA industry divisions. Quarterly output levels are established some four to six months before the beginning of the quarter in which production is to take place. The objective is to authorize the production of the quantities of class B products needed to meet both military and other authorized demands. In the B component area, failure to provide sufficient production to meet authorized program needs inevitably brings pressure to splinter the priority system to take care of the most urgent programs or to invest an unwarranted amount of limited personnel resources in expediting and in bottleneck breaking.

The calculation of class B product unit needs and their related production material requirements in terms of the normal functioning of the industrial system would ordinarily be undertaken through an analysis of past production summaries and current reports. On the other hand, the very existence of an agency such as the NPA-DPA is a reflection of the fact that "normality" is not the order of the day--or more importantly, of future days. Rather can we expect dramatic shifts in demand for particular components (both class A and class B) resulting from the growth of a huge military program, a related expansion in the basic resource segment of the economy, and a drop in the production of many civilian products stemming from government measures reducing the level of activity in this field. Estimating the net effect of such shifts in demands for B components so that appropriate production levels can be established represents one of the more important jobs in the programming function.

The objective of the proposed procedure is to establish a mechanism for developing reliable requirements data for a selected group

1483

of class B products. The procedure would be employed for those B products for which past techniques of demand measurement (such as estimating future requirement levels based on a relationship with over-all industrial activity in the hard goods field) have proven unsatisfactory. The approach suggested represents an attempt to develop a technique for measuring the demand for B products stemming from such broad areas of the economy as direct government procurement, including the purchase of equipment and supplies, demand construction, concurrent spares, and so on; private capital investment, including new construction, machinery, and equipment; MRO; and civilian demand. Categories of B products are established on a functional basis so as to permit the assignment of responsibility for calculating requirements to specific government agencies and private manufacturing concerns in terms of the normal operating procedures of the organizations involved.

In considering the problem of how best to meet the need for accumulating B product requirements data in one central spot, it is suggested that class B products be divided into five separate categories defined in terms of the CMP Class B Product List and further classified by purchase procedures and use patterns. A suggested list is given with a brief definition of the products to be included in each category. It should be noted that the categories are not mutually exclusive nor are they intended to be. Estimated requirements for any particular product would be obtained by aggregating the demand for the particular product as it is calculated for each of the categories in which it is included. Thus, total demands for steel desks would be the sum of the requirements for this product as they appear in categories 1, 4, and 5. The suggested categories are as follows:

Class B Product Categories

1. Class B end products purchased directly in finished form by government agencies. Examples are typewriters, beds, desks, automobiles, trucks, and so forth.

2. Class B components purchased by government contractors in the class A chain for incorporation in the assembled end product manufactured by the prime for sale to the Government. Examples are fractional horsepower motors purchased by the prime for assembly in tanks; fuel pumps, for assembly in military trucks; industrial fasteners, for assembly in army rifles; and so forth.

3. Class B components purchased by manufacturers of class B end products and components for assembly in the products which they

1484

manufacture. Examples are storage batteries for passenger cars. Compressors for air-conditioning equipment, nuts and bolts for integral horsepower motors, ball bearings for pulleys, and so on.

4. Class B end products and components purchased for use other than as a production or construction material. Examples are farm tractors, freight cars, household refrigerators, civilian trucks, repair parts, and so on.

5. Class B products (almost entirely end products) purchased by construction contractors. These would be handled by an adaptation of the procedure developed in terms of the foregoing items 1 through 4.

These categories were established in order to define classes of B products in terms of normal purchase practices and product flow so as to make it possible to develop a procedure specifically designed to deal with each of the segments of the B product requirements problem in the most effective manner possible. There follows an outline of the procedure proposed for dealing with each of the foregoing categories listed. In addition, a suggested assignment of responsibility in terms of agencies and personnel is indicated where appropriate.

Procedures for Accumulating B Product Requirement Data

Category 1 Products.--Primary responsibility for initiating requests for requirements data rests with NPA Industry Division directors. Such requests would be reviewed and approved by the Office of Program and Requirements of DPA before transmission to claimant agencies. This would mean that this office would have the central responsibility for coordinating activities of the NPA Industry Division with respect to requests made of procuring government agencies. Official requests of the claimant agencies for requirements data could be made only by this office. Before approval would be granted, it is suggested that at least one of a specified list of conditions exist, although meeting one or more of such criteria would not in itself be a reason for requesting information. An illustrative list follows:

1. That the product be in short supply with some kind of distribution control ordinarily proposed.

2. That the claimant agency purchase directly or expect to require in the future a measurable part of the total output. Five percent is suggested as a reasonable breaking point.

3. That some unusual condition--such as the necessity for distributing military business on an individual company basis--prevail before any request be made for the less than 5 percent product classes. 1485

Category 2 Products.--All procuring claimant agencies would be requested to gather information on direct requirements of the selected and specified list of B components for the fulfillment of at least their major programs. Their responsibility would be limited to measuring their program needs for B components purchased and used in that form by manufacturers in the A chain. B components incorporated in such purchased B components would be specifically excluded. Thus, the tank manufacturer purchasing fractional horsepower motors would report such requirements to the Defense Department, treating the fractional horsepower motors in much the same way as a controlled material. The requirements for bearings for incorporation in the motors would not be the responsibility of either the Defense Department or the tank manufacturer.

Category 3 Products.--The NPA would undertake the same job as discussed above for the production programs for which it was responsible. The NPA data would be developed by conducting a sample survey of B product manufacturers to determine the ratio between direct B component consumption and B product production for use in calculating component requirements at selected levels of output. The calculated ratios would be used in two ways in establishing component requirements:

First, the direct requirements of B components could be measured for end product production programs, such as refrigerators, passenger cars and the like, on the basis of assumed levels of future production. Selected component requirements for these programs would therefore be estimated in much the same fashion as requirements for the programs of procuring claiment agencies.

Second, the NPA would establish the ratios between B component production levels and B subcomponent requirements. These ratios could then be applied to the estimated levels of end product production for all claimant agency programs, including those of the NPA Divisions. For any given set of end product (military and civilian) production levels, we would then be in a position to estimate the total production requirements for B components, including the "B components within B components."

It is suggested that primary responsibility for this statistical operation be established in one spot--perhaps the Office of Progress Evaluation in DPA. The facilities of the Bureau of the Census could be employed for the mass statistic l job.

1486

The specific lists, reporting instructions, report form, and so forth, for this survey are now in final draft. I believe we are now at the point where the Munitions Board and the Atomic Energy Commission (AEC) can review the proposed survey with a view to indicating the ability of the two major procuring agencies to participate fully in the operation.

Category 4 Products.--The development of requirements data for these products would be the primary responsibility of the Office of Program and Requirements. Acting as a coordinating group, they would review and tentatively approve requirements estimates from the appropriate unit of such organizations as the NPA Industry Divisions, the Department of Agriculture, the Defense Transportation Administration, and so on.

The estimating process in this field would consist largely of either establishing program levels of end-product production or making statistical calculations of such demands as maintenance, repair, and operating supply requirements in industrial plants, service industries for civilian products, and so on. The total demand for many of these products would consist of the sum of the foregoing.

Category 5 Products.--In this area in an approach similar to that outlined for the foregoing categories 1 through 3 the same basic procedure would be utilized after appropriate revisions have been made to adapt it to the construction field.

The foregoing proposal contemplates the establishment and testing of government machinery and procedure for the development of more reliable requirements data for those B products for which our past experience has clearly demonstrated only our ability to grope intelligently. It would not appear likely that the reassignment of responsibilities and the corollary administrative changes required could be accomplished in time for use in the present phase of our programming and control operation.

On the other hand, the periods of 1941-1945 and 1950-1952 make it abundantly clear that the area under review represents the weakest spot in the civilian mobilization agencies' ability to discharge their responsibilities in the event of all-out war or a worsening of the present emergency situation. It would appear that now--when the mobilization machinery exists, the general climate makes such an operation possible and there is absent the unrelenting pressure of an all-out military conflict which so frequently prevents thoughtful judgment--is the time to determine whether or not a better job can be done in mobilizing the heart of the industrial economy through technique sufficiently flexible to meet an emergency with characteristics that will only emerge clearly with the passage of time.

1487

I call your attention to the fact that this Nation in the past year or year and a half created a condition in which private investment capital to the tune of many, many billions, stimulated by our tax amortization program, has tried to create a new set of facilities, both for materials and fabricated components, to meet a demand one year, two, three, or four years hence.

I call your attention to the fact that here is the very heart of the whole mobilization program, looking toward the satisfaction of high military plus civilian demand for other than all-out war, or, in case of all-out war, you have the resources on which the military programs of tomorrow depend.

The question I ask is, did we make a set of wise decisions in raising steel output by some 20 million tons or more a year? Should we have increased our facilities for structural, for plate? Should we have constructed new facilities before really setting the stage of what should be the pattern of that expansion?

Again, in the field of aluminum we have an 80-percent increase in capacity. Do we have the right facilities to create the necessary aluminum shapes in the form of forgings and so on? The right types of forgings? Have we created in the past year and a half the kind of a balanced supply pattern which will be needed a year, or two, or three years hence when these facilities will be available? I don't know.

It should be apparent that the reason I made this little departure was to demonstrate that what we have needed from the beginning was an ability to take a projected set of agreed-upon end-product programs and translate them into a measured impact on our facilities and supplies in terms of individual products and facilities.

Nobody buys steel. People buy steel products in terms of specifications, sizes, widths, alloys. What is needed in this country is an ability to be able to project end-product programs into impacts such as those indicated above. Circumstances demand that we have some basis for determining what our expansion goals should be if decisions are to be based on informed judgments.

Decisions must be made in terms of the timing of international developments and many other factors beyond our control. The timing of decisions cannot await the development of a sound basis for making it. Of course, we have done our best and we are not wholly without a basis for some reasonably intelligent judgment.

On the other hand, the Federal Government is literally not in position to tell private industry and has not been in that position with respect to measuring the size of the impact on materials, facilities, and supplies a year or two years hence if we have a continuation of the present kind of military and general mobilization program.

We have had to depend on a whole series of judgments by a great many people, some of them in private industry spending their money, let us say, on our say-so but without our having authoritative guidance. I am not criticizing us; I am making an observation. We didn't give them authoritative guidance because we weren't in a position to do so. We were smart enough to know we needed more aluminum. We got more aluminum. But it is a question of how far along that path we should go.

Those are facts for basic decisions, the management of a production and construction control system. We want to get military products; we want to get resources expanded; we want to do it right now. So we created the control system and that control system is essentially operating today because we have been in a position to make certain very basic improvements in procedural operations. Those improvements had to be made on the basis of statistical information. I could give you a whole myriad of examples but I shall not at the moment. I think the simple illustration I have given is sufficient.

Going to the other half of the picture, the whole Nation's fate lies essentially in these two areas: First, the ability to determine our actual military needs; in terms of basic materials and products second, the additional resources needed to take account of grand military strategy translated into military weapons in the event of all-out war or if it doesn't come, an attack on our economic fabric through the effects of heavy military production in a setting of high civilian demand.

So it is clear that on these decisions rests the fate of the United States. There isn't any question about it. I simply say to you that intuition and experience with the ability to translate them into quantitative measurement has had to be depended on to make these decisions and I don't think we can afford to continue to run the risk of their being wrong very much longer.

Now what we are doing in this field today doesn't represent a magic wand which is going to answer all these questions. It does represent, however, a major attack through a new approach with the hope that our experience this year will teach us enough about the problems associated with this new approach, this new technique, so that next year we can do a very much better job, and the year after a still better job. With two, three, or four years to inform

ourselves as to the problems that are met in endeavoring to get at this one basic deficiency in facts for decision, I hope that we will be able to make much better judgments in the years to come.

I think with that I would like to leave it in those terms and answer any questions you may have.

GENERAL HOLMAN: It seems that the mechanical and electrical people are always in hot water on the determination of these requirements. On the other hand, in the field of industrial chemicals, the problems never seem to be quite so acute. In our American complex, though, we do know that there is a vast requirement for nitric acid, anhydrous ammonia, sulphuric acid, and formaldehyde, and so on down the list. Has there been any determination made or speculation as to why the basic problems that generate in and around the chemical industry seem to be much more easily solved than in the mechanical and the electrical field?

MR. TRUPPNER: General, I will give you an answer that comes only from somebody who has not spent most of his time worrying about chemical problems. I think they make just as big mistakes--perhaps bigger ones--than the people who have to worry about steel and metal requirements.

The reason the problems are easier and don't hit us so hard is because of the enormous substitutability in the chemical field. The fact is they rarely face the problem we face when we calculate the requirement for steel plate or forgings. If we make a mistake, we can't put an aluminum extrusion in for a substitute. In the chemical field, it is almost true that you can get almost any chemical you want with a very few basic material supplies.

I think the reason for observation regarding the chemical industry is, first, the substitutability of one chemical for another; and, second, the increased capacity output which can be obtained for any one chemical through utilization of common equipment. With a given set of facilities, they have a lot more elbowroom than we do.

QUESTION: Mr. Truppner, would you care to prophesy on the future of CMP?

MR. TRUPPNER: First of all, certainly for the next couple of quarters, the military folks themselves tell us that the need for this kind of control is as strong today as it ever has been.

1490 There aren't any important shortages even with steel suppliers whose books are full until June. Under control condition, it is true there is some steel in certain shapes from the nonintegrated, high-cost mills that at the moment are not being snapped up.

However, I think we have a condition where a 1 percent difference in controled demand over a total available supply is falling on 5 percent of the suppliers, resulting in a 20 percent decrease for them. So far as that 5 percent is concerned, it is a very easy situation, but if you look at the books of the integrated, low-cost mills, you will not find a very easy condition. I think this week we will pour about 2,118,000 tons of steel, which is the largest tonnage in the history of the world for any country.

Another example I might give you is that in the second quarter of this year our production directives call for a bar output of 3 million tons, the highest rate ever reached. In the United States at the present time, we probably have a worse jam on our heavy bar mills than we ever had in World War II or in the present mobilization up to now. This is one of the most difficult of all items in the ammunition program.

Certainly the demand for the third quarter appears to be roughly the same as for the second quarter in the sense that we have some very essential kinds of operation which we have been sitting on up to now. Some examples are: public roads, schools, hospitals, commercial construction--which were almost at a standstill. I think with a slight opening of the demand we won't have any difficulty in utilizing all the controlled materials that can be supplied. With the resources expansion program scheduled for the third and fourth quarters, I would judge that there will be a very substantial easing in the demand for carbon steel with the possible exception of bars, stainless tubing, and sheared mill plate.

If I may make just a prophecy we, in my judgment, will have CMP throughout the remainder of this year, with the possibility that we may make a change in the steel allotment procedure for either the third or fourth quarter of 1952. Certainly the copper condition throughout the first quarter of next year is such that I scarcely expect we can let the CMP go. Aluminum is so dependent on the progress of the aircraft program and stockpile policy that it is hard to predict its supply.

That is about my judgment of the future of the CMP. I would hope by the middle of next year we can discontinue all of it.

DR. HUNTER: You call attention to the problems you are faced with in each emergency. In lieu of getting essential data, what can the Federal Government do in peacetime to better prepare itself in getting requirements for the emergency period?

MR. TRUPPNER: I think it is essential that the Federal Government, possibly through the operation of an agency such as the NSRB. direct its attention to the kinds of problems I discussed. Specifically, I should say that if the current proposed effort of getting at the technique for measuring requirements, that I very briefly discussed before, shows any promise this year, I should hope that such an agency would take as one of its basic and fundamental tasks the development of that technique during peacetime.

In other words, instead of the NSRB being as much of a planning organization as it was conceived of in the late 1940's, I should hope it would devote a great deal more of its resources to the laboratory problems, these would include the development of techniques for determining requirements, among other things, in the interim period.

QUESTION: Do you anticipate that it would involve having Federal agencies gather in peacetime a lot of statistical material for which there would be no direct peacetime use?

MR. TRUPPNER: Yes, sir. I think it becomes essentially a national asset looking toward the time of emergency if the Federal Government knows how to do things, even though it doesn't do them at the time.

QUESTION: Mr. Truppner, you have made a good case for facts in general, but I am a little concerned about the question of statistics for their own sake. Why can't the things be controlled by the broad brush principals, basic methods, and so forth?

MR. TRUPPNER: First of all, I am a great opponent of details. I will make a statement I think I can document. It is not that I think they are useless alone, but I think any effort expended in getting detailed information inevitably results in ruining your ability to get your fingers on things that are important. You get lost in a whole welter of detail. I sincerely agree with what you say in that respect.

With respect to the development of requirements technique, I have the feeling that if this country is willing to invest a great deal of its resources in stand-by equipment and stand-by facilities,

and other physical manifestations of things that you need in times of emergency, the development of a control technique to be used at the time of that emergency should, in my judgment, be deemed equally as important because one without the other is not so useful or effective at the time it is needed.

QUESTION: The CMP plan seems to be in the chain of control. You give out tickets; the industry takes the tickets. It is still a hunting license. It is not a ticket on a specific mill. Industry goes to whatever mill can give it the item. Wouldn't it be easier to control if you gave the ticket to a specific mill? Then everything over and above the tickets you could pass on to the civilian.

MR. TRUPPNER: I guess I can just say briefly that the reason we don't do that is because we know we can't. The purchasing departments of some 50,000 military fabricating plants and some 150,000 other purchasers of controlled materials, that we never even see, perform an enormous job in finding the right mill to make the right steel or other products at the right price, at the right specifications. There is nobody in Washington who has nerve enough to suggest that we could do that little trick. It takes a couple of hundred thousand people to do it.

QUESTION: Mr. Truppner, I agree with you and many of us are a little bit upset about reading in the newspapers that the military services don't know what they want. My question basically is, I don't think the higher echelons of the Government want a methodology for computing requirements. You don't want requirements. You want to know what the military is going to buy. Industry is not interested in what the military wants but what it is going to buy. You mentioned NSRB . It has been charged with the responsibility of planning. Ever since World War II it was going to do something. The Munitions Board has been in the same position since 1922. Regarding military requirements, I personally don't believe the higher echelons of the Government want a methodology. Would you care to comment on that?

MR. TRUPPNER: I would guess offhand that it is not so. Certainly the people that I am acquainted with, such as Fleischman, Wilson, and so on, are very determined to find a way of calculating requirements with no holds barred.

The reason I think people have not developed a method is because we haven't been smart enough. That is my opinion. I just don't think anybody has yet devised a way to do this trick. I think in general most people just simply don't have enough respect for the

enormity and complexity of the problem. It is a very difficult problem and it will take a very ingenious fellow to think of the answer first, and. second, a very competent and well-managed group of people to translate this ingenious answer into a practicable working solution. So I don't agree; I respect your right to hold your belief.

QUESTION: I would like to carry that a little further. I think that supporting the military in any country is just like supporting your wife. The requirements are exactly what the wife can spend and if you can figure out a way of telling me how much a wife costs, I would appreciate it. I have never heard of anybody who could make a formula for figuring that out.

MR. TRUPPNER: I think this is a little different. I can't go into detail on that. I do think, though, that what gets at the heart of the problem is the fact that the military does project a schedule of procurement and production that serves essentially as the basis for developing appropriation requests. I also observe that this is done at a time when that particular schedule has not been submitted for review and scrutiny in terms of requirements, such as a schedule on the supply of critical materials.

I am not criticizing anybody. I am simply making the observation. This is how things are. So that when you do get military programs at very high levels, you can take the whole nickel supply or begin to take the whole supply of something else. At that point it becomes absolutely necessary that this review and scrutiny be undertaken because the military program can obviously defeat itself by taking the supply of critical materials away from a nonmilitary operation on which the military operation in turn depends.

An illustrative case is provided by heavy transformers and the like, which are needed in the power expansion programs and are also needed for the construction programs of the AEC. We spend a great deal of our time making sure that when we divert transformers or other types of equipment away from the Defense Electric Power Administration program to the Atomic Energy program, we don't fix it up so that we have atomic energy projects completed which in turn are dependent for their operation on the power which we are not going to get because we diverted the products and materials needed to operate the AEC installation.

So I think in this sense once the military or atomic energy programs get to high enough levels so that they begin to grab a great proportion of the total supply of any material, you do have to put them through this careful scrutiny and review and divorce them completely from the appropriation levels which are no longer a matter of interest so long as they permit procurement to take place.

QUESTION: On this class B problem, I don't think you are ever going to get anywhere if you try to transfer fractional horsepower motors that go into the airplane into total fractional horsepower motors required to make it. But I should think that your records of World War II and now would show what is going into class B products for an equivalent amount going into controlled products; those would give you trends that would give you a little idea of what it might be in the future--that is about as far as you can go. I know if we change the tank--a large production item--that would put a distortion in the picture. I think you are lost if you go down to the details of the fractional horsepower motor.

MR. TRUPPNER: I think we are lost. One of the places where no record exists for either this current program or World War II, where we are completely lacking in knowledge, is provided by the B components which are incorporated in B components; they in turn are incorporated in the military end items. When the tank manufacturer purchases a fractional horsepower motor and the fractional horsepower motor manufacturer in turn then purchases some stampings or copper wire or what have you, the identification that he places on his purchase orders is one identifying fractional horsepower motors rather than the tank assembly.

As a result that whole intermingling is lost; it has to be lost because the control system has to adapt itself to the purchase procedures of the manufacturers. That is why the effort is made to try to devise a way to tie these things up in a statistical operation rather than one which ties up with the procurement problems of American industry which is not adapted to this kind of tracing. This is not to say that you may not be right about our being lost, but it represents an effort to fill in an important gap in our knowledge.

QUESTION: My question more or less relates to the previous one. We seemed to have such good experience in World War II in the control of various materials. I wonder if there was any experience in the component field in the United States or Great Britain that we could apply as representative today?

MR. TRUPPNER: Yes, one lesson we learned was that we so completely muffed the component control problem in the last war. Originally we had component flow established in terms of end-product ratings. Lower-rated programs were injured so severely they were uprated so that the military ended up with a go-around of AA's and we still discovered the components were going to the wrong places. Then we issued order M293 which virtually put us all the way back to where we were at the beginning.

We did that for 39 classes of components, if my memory serves me correctly. What we are trying to do now is to increase the production of components for all authorized programs to avoid the necessity of continually trying to put one program ahead of the other, every one becoming relatively more important as it drops in production for lack of components.

The ideal control system--and this is where I have my eyes fixed; I will probably fall down the first manhole--would be one in which you didn't control the manufacture of components at all. All you would have to do ideally is to control the manufacture of tanks, guns, planes, trucks, farm equipment, construction machinery, tractors, and so on, and then simply let their purchase orders flow down the system; let the suppliers of stampings, components, and subassemblies go ahead and make whatever they want to make if it reflects the authorized orders they receive for their output.

If you could estimate with reasonable accuracy what the impact would be for the end programs, then it would be possible to have a perfect control system--one which didn't control most of the industrial economy at all because most of the orders would be for authorized programs. If you could get a balance, you could tell this great segment of American industry, "You aren't under control at all; you don't have to file CMP-4B's at all." The only reason we do that now is because if we didn't do it, we wouldn't know to what degree this would take material away from the end-product production. If you could do this thing right, the only kind of production that would be authorized would be for the end-product program because the orders for components and the materials needed to make them would be the ones you wanted to get filled.

DR. HUNTER: Thank you very much, Mr. Truppner, for your interesting and valuable discussion.

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