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MANAGEMENT CONTROLS IN INDUSTRY

30 January 1956

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CAPTAIN McCAFFREE: Gentlemen: As you all know, industry has many tools of management. A few of them are the controls over quality, cost, manpower, and inventory.

However, for an audience such as this, we have asked our speaker to talk on the philosophy which underlies all of these controls. We believe that, as either military planners or potential military planners, that is the approach which you would most appreciate.

Our speaker this morning has been both a military planner and an industrial planner, and he is well qualified to speak on the subject of Management Controls in Industry.

Mr. Walter Skuce is the Executive Director of Government Services of the Owens-Corning Fiberglas Corporation. He is an old friend of the College and is also, I believe, from the number of visitors we have from other Government agencies, well known throughout the Government service.

Mr. Skuce, it is my pleasure to welcome you back to this platform as a member of our guest faculty and to introduce you to this year's class and our guests.

Mr. Walter Skuce.

MR. SKUCE: Thank you very much, Captain McCaffree. General Hollis, Members of the Staff, Members of the Industrial College Student Group, and Guests:

It is a real pleasure for me to be here this morning and to take part in your training program at the Industrial College. Our subject for today, Management Controls in Industry, is an interesting one. I am sure that we all have many questions in mind (and I hope we also have several of the answers) that will make this a good discussion today.

Before getting into the subject, I believe it is well to establish what management wants to control and, as Captain McCaffree said,

we want to direct our attention to the philosophy behind management controls; and then we can relate that philosophy to particular elements that need control. After all, whatever type of control is needed, it is established for the purpose of meeting some objective.

Properly, the first consideration, therefore, must be to establish the objectives or the plans of management and then to describe briefly the type of controls needed to measure performance, so that variances from the plan that detract from reaching the objectives may be corrected.

Business enterprises in the United States are founded on the concept that the business venture will supply services or commodities for which there will be a demand and from which the enterprise will prosper.

In the early days of our company our President established a very forthright policy. He said:

> "Either our materials must do a job that no other material can do effectively . . . or for the same price they must perform better than competitive materials . . . or at a lower cost they must do as good a job as alternative materials . . . or their unique characteristics must enable the manufacturer using Fiberglas to make corollary savings not possible with other materials."

That is a worthy objective. When there is that type of vision and that type of philosophy, then the whole organization is geared to high principles in the development of a business.

With this motivating objective, the company has made plans in keeping with this policy and it has brought about company growth on a steeper curve than has been reflected by the overall growth of business and industry in the United States.

A successful business enterprise requires imagination. It also requires courage and good judgment in the development of plans and objectives that will bring about the profitable development and growth of the enterprise.

Before plans are established from which measurement can be made of performance, there must be a carefully prepared analysis of the market opportunities for the products or services of the enterprise, as this establishes the level of volume and the requirements of plant, facilities, money, and manpower necessary to meet the objective volume of services or products.

All businesses under good management recognize that there is no such thing as "standing pat." If a business does not progress and grow, it does the opposite. Therefore, there is a considerable penalty for lack of courage and foresight.

It is also important to recognize that a successful industrial enterprise is dependent on five big M's: Money, Men, Materials, Machinery, and Management. If any of these important ingredients is lacking, the business is in trouble and will undoubtedly fail to progress without early corrective measures.

The United States has been called the Arsenal of Democracy. Certainly, the continual striving in open competition to achieve continually higher objectives pays rewards to good management and effort. Such enterprise has been primarily responsible for our country's industrial might and for our position of world leadership today. It has demonstrated what free men, working in a system of free enterprise, can accomplish.

It is only proper that we are reminded that at the close of World War II some people advocated the retention of wartime controls. They also predicted that it would be necessary to undertake large public-works programs in order to "crutch" the free-enterprise system which had proved such a boon to this country. Fortunately, neither was done. Those people had not fully examined the pent-up demands and the purchasing power of our Nation. Furthermore, they should have known that centralized production and construction controls were not needed with the sharp reduction in military demands. Industry's examination of people's needs and its effort to fulfill them has resulted in levels of employment far beyond what were projected by many people at the close of World War II.

On previous occasions I have had the opportunity to talk with you about Government agencies, with which I have had considerable experience. I know when the Government should establish controls over production and construction. I believe that the need for such centralized controls exists only when military requirements become such a major factor in production and construction that military needs cannot be achieved without the curtailment of civilian production.

Their function, in addition to providing for military requirements, is to permit the employment and the development of an overall plan for the country that embraces not only the military requirements but

the residual supplies of materials that can be used for civilian production. In other words, it raises the level of planning from what a company can do on its own initiative and its own market opportunities to one where the planning is moved "upstairs" because there is such a big segment of demand that industry cannot measure.

Of course it goes without saying that American industry will always fulfill all military needs. It is dedicated to that. When industry finds itself in conflict with large military requirements which it can't measure, and it can't do a planning job, its members are the first ones to come to Government and say, "We need overall controls. Tell us what you want us to make and what material supply we can plan on."

It is customary practice, in a well managed business enterprise, to continually survey the market opportunities for its products and services. This is a continuing operation. In such surveys it not only takes into account the longer-range opportunities for the business but it establishes definite sales objectives for shorter-range opportunities, usually on an annual basis. These projections are generally made by market lines and byproducts, and begin with sales forecasts, without taking into account the capacity of existing plants, facilities, and money to produce the volume expected. These sales forecasts and plans also cover new and modified products which it proposes to offer to maintain and to improve its competitive position.

You may wonder why I recommend that sales forecasts be prepared without taking into account the capacity of existing plants, facilities, and money to produce the expected volume. The reason for that recommendation is to eliminate any attempt on the part of the sales organization to set their goals in terms of present limits which top management may decide to change.

Many products may be produced on the same facilities. It is highly probable that certain lines of product will reflect higher sales than the previous year. Certainly these favorable projections should not be tempered by capacity because such gains may be offset to some extent by a dropoff in anticipated sales in other lines of products made on the same equipment. It is entirely possible that, after careful screening of sales forecasts, there is good reason to expect to exceed present capacity, let us say, to the extent of 20 percent.

The sales plans must also take into account the successful development of new and modified products. Obviously, the opportunity for the development and sale of new and improved products should not be hampered by sales forecasts that are limited by existing capacity, as it is not the sales department's prerogative, but is the prerogative of top management.

In the development of plans by product lines, we must think of such planning in terms of a moving picture rather than as of a snapshot. Actually, this is just a new appraisal preparatory to planning the activities of the coming year and projecting what is expected to happen in the years beyond. Certainly these plans must take into account new product developments and product modifications that offer opportunity for increased volume and business growth.

After a careful review of projected sales and justification of these forecasts by supporting sales plans, the relationship of projected sales volume to plant capacity can then be reviewed by the production-planning department and determination made of the added plant, facilities, and manpower needed, and the time that would be required to provide such additional capacity. From this production planning analysis of the sales forecast, a dollar value can be placed on the cost of providing the additional capacity for the increased and expected sales volume. The top management of the business is then in a position to review these sales forecasts in relation to the present and added capacity requirement.

The sales plans are then revised in keeping with management plans for available money, plant, equipment, and manpower. The plan is usually developed in terms of months or quarters for the fiscal year, and by years for longer-range planning. The plan is then expressed in the form of projected financial statements with supporting plans for each functional department.

All of the departments of the company establish control standards for the management of their particular functions of the business. This provides the basis for measurement of accomplishment and control.

Management control in industry begins to function when each department manager measures his accomplishment against the plan. Each department, machine, part, or process has control standards established, so that variances from the plan can be measured and responsibility placed on a responsible individual. To assure the effectiveness of such control, it should not be done on a "blame" basis.

It should be used as a means of alerting the management personnel concerned who can do most to get the matters corrected, in the interest of meeting and improving on the objectives already established in the plan. After all, it is the fixing of problems and improvement of standards that keep costs down and profits higher. Planning, measuring, fixing, and improving are important elements of management's job.

As the fiscal year progresses and variances in the plan develop--and they definitely will develop--projections of anticipated results can be expressed and modifications made in the plan, if desirable.

Captain McCaffree stated that industry has many important tools of management. He said that cost, inventory, manpower, and quality are a few of them.

Let us consider cost control in the broad sense. We can see the definite relationship of cost to this corporate plan expressed in terms of a desired result in the form of a projected profit-and-loss statement. In the development of the plan, based on the objectives that were developed, this profit-and-loss statement reflected the estimated sales volume, the cost of goods sold, the estimated expenses, and the resultant profit or loss involved in that plan.

Obviously, the actual costs for a period of operation within the production year will reflect deviations from the plan. It can be readily determined whether costs reflect a proper relationship to goods sold. Similarly, expenses will reflect whether they are in relation to sales volume and to plan. An analysis of cost of goods sold will reflect whether certain cost elements exceeded the amount provided in the plan. Provided the variances are not attributable to more or less volume of business activity, the variances must be caused by better or worse performance than was originally contemplated in the objective plan.

If costs were too high in relation to sales volume, it may be determined whether this was because of poor machine utilization, low efficiency of labor, unwarranted accumulation of inventory, or substandard quality, for example. At any rate, the area of default from the plan may be pinned down so that corrective action can be taken.

For ease of operation and for departmental management, each department manager has expressed the plan in his own department's standards, which may be units of production; it may be in dollars; or it may be percent of rejects.

Obviously, reports are currently issued that permit him to see how he is making out against the plan. If he does not, he still has the safeguard of reflecting the actual performance in the current P&L statement as against the projected one. If he does not find it with his own control measures, somebody may possibly assist him.

When you look at costs in the broad sense, as a control medium, it is not too difficult to lay your finger on the element that needs investigation and correction.

Now, let us assume that the problem was on inventory control. Let us examine the effectiveness of inventory control in a typical department. Let us assume that an investigation has been made of material and work in process inventory and it has indicated that there appears to have been an unwarranted accumulation of incoming material and parts.

We know that good inventory control of material and work in process inventories requires that the supervisor of inventory control in each production department establish budgets commensurate with the manufacturing time of the average product in his department. He must see that materials and components are requisitioned and scheduled in keeping with the production schedules for which the materials and components are required. He must also establish advice concerning procurement time in weeks, protective stock in weeks, and to see that the order clerks have guidance in determining the anticipated usage of the material or parts concerned.

Such precautions are basic in the control of inventory, as each order clerk has the authority to place procurement orders for materials and parts that may result in the unwise or untimely investment of funds that increase the operating costs of the business.

Now, let us be sure that we understand that one. "Mary Smith," on the desk that places the requisitions for materials, if not given the proper guidance, is actually the person who brings in materials, possibly wisely or unwisely. Unless she is given good guidance in her work, she can distort the corporate plan.

Many people say, "You ought to have a minimum, practical, working inventory. That ought to be 13 weeks, or something like that, and it ought to be on an overall basis." The decisions are not made that way. If Mary Smith does not make individual decisions correctly, the answer is going to be wrong.

The inventory-control supervisor must also see that adequate precautions are taken to recognize changes in design that may render unusable the stocks that he is providing for future production. Every bit of inventory he provides is potentially obsolete, and therefore prompt and careful attention to design changes are extremely important, to be sure that the inventory is usable.

He must see that materials and components are requisitioned with adequate recognition of quantity extras and set-up costs, so that the unit cost of the material or the component requisitioned is in line with an economical inventory-control operation.

If these conditions exist, the apparent unwarranted accumulation of inventory can only be due to increases in price levels that were not anticipated, or due to inadequate production and/or sales levels to support the inventory input.

Another phase that needs careful attention from the standpoint of management controls is manpower. The production planning department, in keeping with production plans, both long and short range, must determine the anticipated utilization of machinery and floor space in each department and production center. Its manager will undoubtedly have developed as a guide for his judgment the effective manufacturing capacity of the plant and its respective production centers. He will then know for a given volume of production the approximate number of hours required for each type of help by department and by production center. As a consequence, he and the cost supervisor and the foreman will be able to determine the complement of direct and indirect workers that will be needed to support the production rate for an ensuing period.

If close control of direct and indirect workers is not maintained, excess direct and indirect labor costs result, either because of poor manpower utilization, or because of production loss or overtime pay.

Where cyclical trends in business are experienced regularly, they must be planned for in advance, and their relationship from the standpoint of direct and indirect manpower and machine utilization must be anticipated by the production-control supervisor, the cost-control supervisor, and the foreman of the department, so that adequate plans can be made to transfer or otherwise acquire additional help for peak periods, and for other utilization of excess manpower in low periods of production activity.

In multiple production plants, experience has proved that good utilization of direct and indirect labor in such operations is made possible by the transfer of certain classifications of help from one department to another when these production peaks or valleys occur; and therefore trained manpower is retained in the company and improved management-labor relations result.

Where there is an anticipated build-up or discontinuance of a given product line, there is responsibility for the acquisition and training or transfer of manpower. In the interest of effective operation and harmonious relations, it is necessary that such transitions or changes in level of operations be planned and executed most effectively and judiciously.

It is becoming the accepted practice in growing, successful companies to train people in company training courses in the many aspects of the company's business. Training programs are strongly advocated. Whether the program be a sales training program, a junior executive training program, a business training program, a foreman's training program, or possibly training for direct and indirect laborers before they go to the production line, well trained people, indoctrinated with the company's principles and objectives, benefit not only the employer but also the employee. Such training programs are also important in attracting new and ambitious people to the organization.

Last, but not least, the employee expects good human relations, good pay, and perquisites. He expects to have prompt attention and fair treatment on grievances or problems.

I want to say a few things about quality. I think it is quite safe to say that there is no such thing as inspecting quality into a product. Furthermore, you cannot temporize with quality. A product must be made to good customer-acceptance standards, and the product should be so designed and so compatible with the machinery on which it is produced that the permissible variances from mean dimensions are within the capabilities of the machine and the workman to produce with a high level of product and quality acceptance. If this is done, then only chance can cause defective product and workmanship. Adequate inspection on a go or no-go basis will reflect whether the rejects are in keeping with expected variances from nominal dimensions. If they exceed normal variances from mean dimensions, something other than chance is at play, and therefore the cause must be determined.

It may be a fault of the machine, or it may be the fault of the material. It may be an honest mistake on the part of the workman, or, on the other hand, the mistake may be the fault of an operator who does not give a damn. It is important that those things be learned.

An experienced quality-control engineer, when so directed to the problem from the control reports of the inspection department, will find the cause of the trouble and work out corrective measures with the supervisor of the department. If he does not, it will reflect in the cost-control report, and his boss will undoubtedly hear about it, and the attention of the quality-control engineer will be directed to find out what the problem is and to fix it. If poor quality products are not detected before they leave the plant, they will result in higher losses in the form of complaints and adjustments to customers.

I am sure that we appreciate that each form of management control, if we examined it in detail, would take at least 30 minutes of our time. Several of your lectures may be devoted to specific management controls. So I have tried to give you the philosophy of management controls. They are carefully developed to accomplish a business objective. If we understand why and how such controls are developed and made to work, we have a comprehension of management controls in industry.

It has been said that a problem well stated is two-thirds solved. Management uses this simple principle as its guide in the practice of developing the results it hopes to achieve for the coming year (and for a longer range) in terms of a projected profit-and-loss statement.

I have outlined how each department head, charged with a function of the business, establishes in terms of his control measures the standards necessary to achieve results which will reflect favorably in terms of the company's plan.

These accomplishments can be expressed in terms of total dollars of profit or loss effected in relation to the plan. Accomplishment can also be expressed in terms of inventory turnover or inventory investment in relation to volume. Accomplishment can be expressed in terms of average take-home pay of the worker and in labor costs above or below expected levels. Accomplishment can be expressed in terms of excessive costs brought about by customer complaints and adjustments because of quality. Accomplishment can be expressed in terms of rejects in the factory production operations.

Similarly, each item of expense, whether it be sales, advertising, or some small item such as stock-keeping expense, is subject to exposure and review. All of the people charged with responsibility in the company should have standards, budgets, or control devices developed as part of the company plan which will relate to the activity of the business and to the factors which govern the compilation of the projected profit-and-loss statement for the company. These accomplishments will reflect in the departmental reports and in the department and company profit-and-loss statements.

With a well defined management plan, with effective standards established to measure performance, and with a clear understanding by the people in positions of responsibility with regard to meeting the standards in relation to production volume, there must be an exercise of responsibility at every level of management in detecting and fixing those things that detract from the profitable operation of the business.

In conclusion I wish to impress upon you that it is most important that each individual have an incentive. The affixing of responsibility, from the President down to the last worker in the company, is extremely important to the success of any business or team. If we can effectively get home to each workman and to each supervisor that his opportunity for advancement, for greater security, and for improved living standards will be achieved by his contribution in meeting well-defined objectives, the execution of the plan should result in a higher level of profit than the original plan contemplated.

Such accomplishments stimulate business growth. Such results develop a business so that it requires the increased use of materials, manpower, and money. The cumulative result is the development of a strong and growing American free-enterprise system.

Certainly management controls in industry are everybody's business in a company, and, if a good job is done in getting this point of view across, there will be a proprietary attitude on the part of most employees in the company, rather than by a few gray-haired members in the executive suite or in the downtown bank.

Thank you, gentlemen.

MR. SKUCE: Gentlemen, in my introductory remarks I expressed the view that we all have many questions on today's subject. Let's have the questions and see whether we can develop some answers.

QUESTION: Sir, I believe you made one statement that said that when trouble was encountered in production the quality-control engineer would be directed to find out the cause of the trouble and fix it.

MR. SKUCE: That's right.

STUDENT: I am curious about that type of duty for a quality-control engineer. My understanding was that those engineers were for the determination of quality control and the development of procedures, and for the finding of the trouble; but not so much to find the cause or to fix it. I would think that might be a production engineer's job.

MR. SKUCE: I will be very happy to elaborate on that point. Quality-control management differs in each particular corporation. Let me relate an experience which may help develop an answer to your question.

Several years ago I worked on quality-control. I was asked to go down to a centered products department to find out why manufacturing losses were so high. The level of losses in this department had always been high and such a condition was accepted as standard.

I was not an organic chemist. I had never been in that department before. I did not know anything about their processes.

I found out what the graphitizing losses were in the department. These losses were considered to be "standard." I found out what the constants were in the process, and therefore what variables were at play. The material to be processed came from the kiln department, where the material was oil fired in a kiln before the material was graphitized.

The material was scleroscoped for hardness before it was graphitized. The hardness variation of the slabs of material that went into the graphite charge was known.

In going back to the kiln department I found that there was a considerable loss in the kiln-firing operation which resulted from the saggers that held the material collapsing during kiln-firing. We found this failure of saggers caused exposure of the materials. When the material was exposed it was softer or destroyed. Certain slabs that were to be graphitized were soft; certain others were hard. This showed up when the kiln-fired slabs were scleroscoped.

An examination was started with the foreman and the superintendent of the department to see what could be done with different type saggers that would hold up in the kiln. This succeeded in reducing the losses in the kiln room and resulted in less variance in product to be graphitized.

We then studied how the slabs should be placed in the graphitizing charge to take into account the variation in hardness of the various slabs that went into the graphitizing charge.

We knew there was a different degree of heat intensity in the graphitizing process in different locations in the charge.

We learned that we could put the soft items in the area outside the intense flow of current and put the harder ones where they got the greatest amount of current in the graphitizing process. By such analysis, we cut the losses appreciably in a period of six weeks.

The quality-control engineer, if properly trained, is a production engineer as well. He goes into a department and attempts to establish constants, so that he can determine what variables are at play. Then, after determining what the variables are, he tries to determine what steps might correct the problem.

So the quality-control engineer is charged with going in to fix that type of thing when it occurs. In doing so it is expected that he will have the cooperation of the production supervisor.

QUESTION: Sir, is that the same group, or the same individuals, that also develop the statistic sampling plans and the inspection procedures for that same product?

MR. SKUCE: Very possibly. At any rate it would be a member of the same department. If an operation is of such a nature that it lends itself to statistical analysis in quantity production, a quality control engineer would establish statistical plans and inspection procedures.

The fellow who is the statistical analyst, even though he set up the control standards, would not necessarily be the fixing engineer. He could be part of the same department.

QUESTION: Sir, to what extent does labor enter into your plans? A second question is: You mentioned individual incentive. How do you go about bringing about individual incentive in your plant?

MR. SKUCE: In establishing individual incentive, there are two things that are regulatory. First, a machine operation that establishes a certain flow of production, based on machine speed. Such an operation is usually handled by establishing standards and rewarding workers on percentage performance of good material produced based on the output of the line when the speed has been established. That is a pretty forthright sort of thing.

The second regulatory factor occurs when the speed of production is regulated by the operator, rather than by a machine. This is usually handled by an incentive payment system which is developed by establishing as a standard the number of pieces per hour that will give the operator his base earning rate plus a bonus. This is usually established as a controlled day-work system or a piece-work system. If the operator turns out more pieces he gets more income.

QUESTION: Are your civilian customers any less concerned with quality output and quality-control factors than the military customers?

MR. SKUCE: I don't believe so. I believe that the military are more promptly vocal about it than civilian customers, and they insist that the contract be fulfilled with quality product. Many times a dissatisfied civilian customer just won't say anything to the supplier, but he does not buy from him again.

That does not mean that the military would continue to buy, if it has trouble, but the producer has a better opportunity to fix his quality problems to meet the terms of the contract.

A civilian customer may not say anything except, "I won't buy any more of his product." A poor quality-control job within the plant, that results in borderline merchandise getting out, may add a little temporary gain to the manufacturer because he has run on the low side of quality standards; it is a false economy, because pretty soon people are going to be alerted to the fact that they are not getting full value from that firm's product, and they will buy somewhere else.

It may not be enough for customer complaint to the manufacturer, but it may be enough to lose the business. If there is a demarcation between the two, I would say you have a little sharper measurement on military orders than you have on civilian orders.

QUESTION: Mr. Skuce, I would like to hark back to your incentive discussion. In establishing those two goals, those two speeds you mentioned, how much does the labor union participate in those decisions in your company, sir?

MR. SKUCE: The labor union will always be interested in what is considered to be a fair day's work for an employee, and you should discuss with the workers and the union what your plans are. If you don't do that, you are just asking for trouble. A well-informed union steward, well informed about what management is trying to accomplish, helps to develop a more harmonious operation.

If you try to force something on either the workers or the union you are asking for trouble. Ordinarily you don't have too much trouble, if it is a reasonable request. At times you have to take a firm stand. By and large, if you are reasonable, you will avoid trouble.

QUESTION: Sir, I believe you said that Government control should not be imposed unless the military demands on the Nation were such as to cut sharply into the civilian requirements.

MR. SKUCE: Right.

STUDENT: Wouldn't there be other situations, such as times of depression, when Government controls would be required?

MR. SKUCE: Not over construction and production. To start with, how do you establish an overall control? What is the justification for establishing an overall control?

Certainly, if there is an abundant supply of materials, which would be the case in a depressed period, it is not the Government's business to determine output or to try to develop a market for automobiles, or for pleasure boats, or what not. I don't see how it could do an effective job.

The action Government might take would be to give emphasis to road building or other public improvement that the country needed, and

maybe to hold off a little bit on some investments of public funds in times when business is really high.

It was surprising to learn, when trying to get rid of World War II controls, that there were very mixed feelings on the part of the public. There were some people who believed that controls should be continued which favored them, because they did not want to put their sales force back to work. There were some people in Government who thought there ought to be controls because they did not have confidence in American industry and they thought it could be better managed by Government. As the Government is not set up to do the kind of marketing job and the kind of merchandising job that needs to be done to sell merchandise, the controls were not needed and experience has proved the wisdom of that course of action.

In the Korean period there was a very sharp antipathy toward controls, even though there was a compelling reason for having controls; and the compelling reason arose from the tremendous demands caused by the sharp build-up in our industrial plant and production capacity of the country.

A large build-up in construction, rather than large demands for military production, was the Korean production problem. Fortunately, the Government established effective controls early enough in the Korean period so that we did not have coats and vests and no pants, like in World War II. It was an unpopular operation, but a necessary and successful one.

QUESTION: Sir, in your long-range planning, to what extent are you able to fix labor costs, or are they a disturbing factor in the planning?

MR. SKUCE: About the only thing you can do on both labor and material costs is to be guided by the best informed counsel you can get, taking a look at what has happened in the past and the trend in material and labor cost levels.

Based on those factors, you can project about what your operating costs might be over extended periods. At the same time you know from experience the effect of expected technological improvements that you have planned in the engineering and manufacturing departments. You will also take into account the new facilities which you expect to employ, which will partly offset increased costs.

Many of the products that we make today are made with much higher material costs per pound of material and higher labor cost per dollar hour, but lower overall cost, because of increased automation and improved methods.

So, to answer your question, I suggest that you rely on your experienced judgment plus what outside help may be needed. These outside helps may be business publications by service organizations that you subscribe to. Many of these give fine economic advice in commodity forecasts and estimated labor earning rates. From the clear vision of hindsight and from a balance of judgment of the future, you have to say, "This is where we are going to peg it."

As you go along, there is one thing sure about any plan--whether the current year's plan or long range plan--you can be sure you will have to revise it. Nothing happens just the way you plan it. However, you are much better off with a carefully thought out plan as a standard that you can measure performance against as you go along, than to have no plan. Revise your plan as conditions warrant, and take changed conditions into account as you get closer to the operating period. This year you look 5 years ahead. The objectives for 1961 will look different next year when it is 4 years away. You will be sharpening up the 1961 plan as you go along.

QUESTION: I would like to come back to this question of Government controls in a period in which it is clear that we are heading into trouble, where shortages have developed, and that sort of thing. Would your company, or you, prefer to use controls that go across the board when they are put on, or would you like us to, say, ease into the spots as they occur?

MR. SKUCE: You can't put an overall production and construction controls quickly. They are not that easy to install. The first thing you do is to identify the military needs by some kind of symbol, and issue a regulation (if necessary) to require it to get prior attention to regular civilian requirements. There must be no question about military needs being produced in accordance with scheduled requirements.

It takes a while to get the military procurement job done. While that is going on you bring together a group of people experienced in overall production and construction controls to pull together the framework of those controls and the overall requirements. You have likely heard people say that it takes about 6 months to get into an operation

like CMP. It takes a few weeks to develop CMP regulation, forms etc. That is not the problem. It takes six thousand people in an agency like NPA or WPB to operate CMP; and they have to know what they are doing. It takes about four thousand people in the Department of Defense. It takes a lot of people in industry to work on an overall production and construction-control system.

It takes time to change gears from low to high rates of military production. If you first identify military orders so they are produced in preference to civilian requirements, you have some time to work into overall controls. This time period gives an opportunity to "man" for the job ahead.

The first step is identification, of military orders. This is important. After World War II, in a meeting in this room, we talked at quite some length about what we would do if we had another emergency, from the standpoint of centralized control, and I strongly urged a group of officers in this room to take the course I am describing. We applied it when we got into the Korean trouble.

I recommended that we avoid use of a pattern of priorities of differing importance. In World War II it lost us 20 percent of production on components until we nullified the effect of priorities by "freezing" order boards. If we do a good job of matching total demand against total supply all authorized production can be accomplished.

It makes no sense to match the demand against the supply and then inject a lot of different gradations of importance that merely upset the schedule, because it throws in an artificial factor that interferes with good production planning and scheduling. There must be an identification of what should be produced, and we want all of it produced within the given period.

QUESTION: Sir, during your talk I was thinking about this concept of organization that actually gives top management its control. One of the things that industry no doubt has adopted from the military has been its line-and-staff concept. I am wondering if you feel that is the most effective way to control large industry and multiple plant operations. Maybe you will give us a comment or two about over-staffing, or under-staffing, as it affects the line.

MR. SKUCE: Yes, I do. I believe in decentralization. I believe also that a business of multiple market product lines and/or markets certainly must have a manager over each one of its major interests, and he ought to be set up like the president of a company.

Like most companies, we first started with centralized management. Directly after World War II we decentralized. We have an operating vice president in charge of each corporate division and line and staff vice presidents. Each operating vice president runs his corporate division. Each one has a profit-and-loss statement. Each one has his own team. They draw on the services of staff organizations as required.

QUESTION: I want to ask another organizational question. In some companies we notice that inspection is under the vice president, directly under the president. In others it is decentralized, sometimes down to somebody who works for the foreman, in charge of production. What is your opinion as to the proper place of inspection, that is, inspection in a company?

MR. SKUCE: That is a very pointed and significant question. The man in charge of quality control must have the right to condemn a product if not of satisfactory quality. Obviously, if he is working for the foreman, he will have trouble condemning. He should not be a member of the production department. He should report to the staff executive charged with the Q.C. function.

He should report directly to the manager or vice president at departmental level, and functionally to the president, or corporate divisional operating vice president. He should not report to the vice president in charge of production or to a production supervisor.

He must be able to say, "It does not go. It is not good enough." And he must be able to make his position stand up. If he is part of the production shop he may be coerced into saying, "I guess it will be all right." This is not a favor to the company. It ends up with a complaint that costs more money than if they fixed the product or condemned it at the plant.

COLONEL BILBO: Mr. Skuce, on behalf of the Industrial College, I want to thank you for a very interesting and informative lecture.

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