5. Application of Cost Controls

For convenience in discussion we may consider cost controls as being of two general types. The first or primary controls are these:

Control of basic or theoretical costs.
Control of actual costs.

The secondary controls are those for which sound planning and application contribute to the effectiveness of the primary controls. Among these are:

Control of Organization
Control of Production
Control of Materials
Control of Wages and Salaries
Control of Methods and Manpower
Control of Line of Products

We will now review the primary and secondary cost controls both from the viewpoint of the scope of control plans and the inter-relations and use of these control plans as "management tools".

a. Control of basic or theoretical costs

In Section II under "Functions that are necessary to a company" we discussed the three methods of determining costs. These were the Historical, the Predetermined, and the Standard Cost. The *first step* in the control of basic or theoretical costs must be the determination as to which of these three methods will be followed. As in the case of any other policy determination that affects company structure or operation we must first take a realistic view of present conditions. We must decide what can reasonably be expected in the way of immediate objectives that are capable of achievement as well as determining long range objectives.

There are wide differences in the present situation on cost methods and controls in different companies. Some companies had either predetermined or standard cost structures before the war that have not been restored. Others used, and still use, the historical cost method. In many cases, costs are determined on a plant wide basis without any attempt at breakdown between manufacturing units or products. In other cases the cost structure is reasonably sound but the control plans are lacking for the effective use of cost data that are available. Very few managements are cost conscious at all levels.

As we said earlier in the course, Historical costs do not provide an adequate basis for sound cost control. Individuals with long experience can frequently judge whether the job is being done with reasonable efficiency. And if data are recorded in sufficient detail, it is possible to determine whether there are unsatisfactory variations in performance *as compared* with the past. But in the final analysis all that is really known is whether the job

is more or less costly than it was at some prior period. We do not believe that even a comprehensive historical cost and control setup is a good immediate objective.

As you will recall, the predetermined cost is frequently established on the basis of past performance. However, the difference is that where such costs have a scientific basis the historical data are analyzed and questioned. They are carefully scrutinized and the job components studied to see whether there are better and cheaper ways of doing the job. As a result, waste and inefficiency are discovered. Engineering background and experience are more fully utilized, and careful *detail* analysis and study of overhead cost factors is initiated. Methods and practices are changed and the costs are adjusted to reflect the improvements.

In this way historical costs can and do grow and develop into predetermined costs that provide a better yardstick for performance and cost control. The degree to which such costs provide a basis for control depends on the extent to which analysis and cost adjustment is applied to all company functions. Many companies in the United States, particularly smaller concerns, still use predetermined costs, but the historical cost method has been almost completely abandoned. It may well be that in most companies your immediate objective should be a good system of predetermined costs. You will require extensive study and analysis by competent, experienced accountants to be sure of your objective.

The most modern, and best cost system from the standpoint of cost control is the standard cost and a simple comparison will indicate the reason. Historical costs show what the job *did* cost; predetermined costs show what the job *will* cost; standard costs show what the job *should* cost. This is the ultimate basis for measurement and control. We believe that in most companies a standard cost structure should be the ultimate objective.

Having decided what cost method will be used by your company (policy) what is the *second step* in the control of basic cost? Logically, after determining policy, the next step is to provide the practical means, the system, through which this policy can now be made of practical use. We must establish cost and accounting methods for the computation of basic costs, and since specialized knowledge is required these methods should be developed by specialists in Accounting and Costs, with the cooperation an coordination of other organizations.

It is not enough, however, for these specialists to develop methods for calculating costs that include all factors of Materials, Labor and Overhead. Such information must be obtained and we must define *who* is to furnish each item.

On materials we must know the amount required in the product as well as the expected waste due to trim and normal defectives in process. Such information should be obtained from the *Engineers*. We must also know what these materials cost. Where these are purchased, such data must be obtained from the Purchasing organization. Where they are produced within the company they must be obtained from the *Cost Data* for the particular *Producing Unit*.

On labor (productive labor only) we must know how many hours are required to produce the product, including allowances for production of normal defectives. Again, such information must come from the *Engineers* either as estimates or based on *Time* and *Motion* study. Further, we must know what *wages will be paid this labor*. The sound method of establishing this, of course, is through *Job Rating* that we discussed under *Industrial Relations*, and established *Wage Rates* that were reviewed in this same section. In the case of estimated costs, the Engineers, in cooperation with the *job Rating* group in *Industrial* relations will provide such forecasts.

Overhead will normally be divided between factory (manufacturing cost) and general (administrative and sales). It may be *and should be* further subdivided between fixed overhead and variable overhead. Information or fixed overhead must be obtained from *records* of assets and *estimates from Engineers* on additional facilities, as well as from *data* on *taxes, depreciations, etc.* Depreciation must be established on the basis *of law*, *actual experienc*e (records) and *Engineering estimates*, taking into account not only wear but also obsolescence. *Distribution* of *fixed overhead* must be based on *Production Programs* or a *predetermined production level* in case standard costs are used.

Information on variable overhead such as expense labor (labor not contributing directly to the production of the product such as material handling, inspection, supervision, clerical, *etc.*) must be obtained from each organization of the business that is involved, *based on organization structure, production programs and engineering estimates* for inspection, material handling, *etc.* Here again, wages must be determined based on the same sources of information as were used for direct labor. Other factors of variable overhead such as maintenance, expense supplies, services, *etc.*, must be obtained from varied sources in the same manner.

From this brief analysis it can be seen that we must not only have accounting and cost methods, but that we must also have, in *every part* of *the business*, the clearly defined and correlated responsibility for furnishing information, data, and service as required. We must have consistent methods of accumulating this information and standard forms upon which such data are recorded. Control plans must be formulated that will insure the objective of providing sound fundamental costs.

While the fundamental responsibility for establishing the Cost and Accounting methods and the Control plans for determining and assuming sound basic costs is in the Finance organization. It is evident that many other organizations have coordinating responsibilities. It may be said that for some phase of the cost structure, labor, material, or overhead, every branch of the company must contribute an important part.

b. Control of Actual Costs

The application of controls to actual costs will be considered in two steps. The first step is the establishment and control of budgets.

Budget forecasts have as their primary purpose the provision of advance information through which management can plan expenditures; determine in advance the effects of

production programs and organization operation plans on products costs and the financial condition of the company; and anticipate the competitive position of the company with regard to prices as a result of these plans and programs.

Budget forecasts have a secondary function of assuring that the management of each Department or unit of the company does a sound job of planning, in advance, for its operations and expenditures. They provide a means of control, if properly used, through the accountability of each unit to meet its forecasts. Further, if sound basic costs have been established it is possible to check budget forecasts for reasonableness.

As we have previously stated, sound basic costs presuppose a set of conditions. They assume a defined rate of production, the efficient planning of manufacturing operation, established levels of reasonable materials usage, sound labor productivity, efficient organization structure, and complete data on fixed and variable overhead expense.

Now, when budget forecasts are prepared for any future period, they should also be based on a definite production program or sales forecast. On the basis of such forecasts it is possible to determine how much material and direct labor should be required (basic cost data). If for any reason the estimated labor or material is higher than it should be it is possible for management to demand an explanation of this variation. Any factor of budget estimates that is higher than the base costs *must* be explained if budgets are to serve as a means of control.

When labor "wages" or materials "prices" are higher or lower than the basic cost these variations are capable of explanation. Such variations can serve as a sound basis for adjusting the sales price of the product (assuming a free market and that the company is in a good competitive position).

Probably the most difficult aspect of budgets, from the standpoints of both preparation and of use for control, is the overhead portion. It is here that the exercise of judgement and the application of sound principles are especially required. Because these overhead factors are accumulated from a number of sources in many company organizations their soundness is often difficult to check or verify. It is especially important therefore to have basic data with which to compare both budgets and actual costs on overhead items.

There are certain factors of overhead that vary directly with production program. Such things as the various services; electricity, steam air, gas; the amount of expense supplies required; machine maintenance and repair, *etc.* These are relatively easy to budget if you have sound accounting and cost procedures *and a basic cost*.

Other factors do not vary directly with the rate of production. As we said before, basic costs, whether predetermined or standard, presuppose a certain level of production. At this production level you will have a definite planned number of material handlers, storekeepers, clerks, management employees, sales people and other overhead labor. However, the number of these people does not necessarily change in direct ratio with production changes. When production increases it usually is true in well- organized concerns that the overhead labor does not increase proportionately. Conversely, when

production drops, the overhead labor cannot always be reduced in direct proportion because there are numerous functions that must be continued regardless of production level, and in many cases the physical mechanics of doing the job requires an irreducible minimum of people.

Therefore your control plans, no matter how well designed, will of necessity require application of analysis and judgement beyond the comparison of actual figures.

Budgeting requires the same detail planning of methods and routines and of control procedures that is essential for basic cost control. To be fully effective it requires even more extensive application because every management employee should be responsible for his contribution to the establishment of the budget in the forecasting of what he will do. He should also be held accountable for the meeting of his objectives.

The second stop in actual cost control application is the *accumulation and use of actual cost data for control purposes*. To be effective for this purpose the Accounting and Cost methods and control plans must assure that *data are collected in sufficient detail and presented in such form that management people can use them for practical analysis and correction of unsatisfactory conditions*.

It is not enough for the head of a Manufacturing Department, for example, to obtain a report on actual costs that shows merely that his total labor cost was high for a particular month as compared to budget forecasts and basic costs. If he receives only this information he will not know whether too many hours were spent or whether the wages were greater than anticipated. All he can do is call *all of his sections together* and say: "You spent too much money for labor last month — we will have to do better". He cannot ask *any of his sections why labor was too high and expect a good answer because no section will have the cost data he needs to determine the cause*. The section head *cannot be held accountable* for results when they have not been given the management tool with which to do the job. Further, the Department chief will not *know* which section is at fault.

The situation is even worse if the department chief (or any other management employee) does not know anything for two or three months because the cost and accounting routines are so complex or impractical, or the organization performing the work is so slow in furnishing information that because of the inefficiency of new workers, or production delays and interference *beyond his control*, or some other *good* reason, his labor cost was high. He should be able to do this for any of the cost factors for which he is responsible, whether labor, material, or overhead.

Or, if the condition was one over which he *has control*, this section chief (or any other supervisor) should be able to state that the cause of the difficulty has been located *and action has been taken to correct it. In either case he must know what the difficulty was and know it soon enough to take action before further losses occur.*

Now the only way any management employee can know is through the prompt provision of information that will permit investigation, analysis, and checking of his actual performance against a yardstick of basic costs and budget forecasts. The provision of such information,

through sound budget and cost control plans, and accounting and cost methods and routines, to each level of management as required *for that level* is the only way to accomplish results.

c. Control of Organization

This is the first of the "secondary" controls that we will consider. In Section 3 of Controls we reviewed this function in detail. Each phase of this function has an important bearing on your company overhead. This is reflected in the basic costs, in budget forecasts, and in actual cost performance.

Organization planning determines the simplest and most efficient structure that can be used by your company.

Organization charts define the structure and provide a guide for management personnel in understanding the plan.

Job specifications provide the guide for action within proper limits of responsibility and authority by each management employee *and further*, provide a means of measuring his accomplishment (control by superiors).

Control specifications or plans, methods and procedures, provide the management tools for proper accomplishment of organization objectives and execution of unit and inter-related functions.

Organization manuals provide the factual permanent record of company management structure, functions, and inter-relations.

Without the proper integration of the functions of organization control it is obvious that management, *at any level or in any organization unit* cannot accomplish any true objective or fully exercise sound judgement. These things are essential for control of costs.

d. Control of Production

This control has two phases. The first might be termed a Top Management function. It has to do with the determination of the future operating program. You will recall that in the establishment of both basic costs and budgets we mentioned the rate of production. In the case of basic costs, particularly of Standards costs, a specific rate of production is a prerequisite. Determination of this rate is the responsibility of Top Management and, when properly done, takes into account the consideration of company objectives (basic policies), economic conditions, present or potential markets, present or potential products, available or planned plan capacity, and similar items. Decision is based on the accumulation of sound information and advice from all internal and also external sources.

For budgets and planned operations, the future operating program is usually for a specific period, such as one year or in some cases six months. Again, the determination of this program must be based on various *sound_data* including actual customer orders, sales

forecasts, and sales objectives, and must be tempered by due consideration of economic conditions. Such program determination is also a Top Management function.

In *no case should the sole responsibility for future operating programs rest with any single agency of the company such as the Marketing group*. Control plans over this function vary considerably with the conditions of the particular company, dependent on the types of products, kinds of markets, organization structure, *etc.* Generally, however, all of the major company functions, Finance, Engineering, Manufacturing, Marketing, and Industrial Relations, review the various aspects of the program before final approval. Insofar as possible, forecasts for immediate future operations should have stability from the viewpoint of production rate in order to maintain employment at consistent levels. Such stabilization has an important effect on actual costs through the assurance of maximum economy of operation.

The second phase of Production Control has to do with actual operations. It is the means through which the program objectives that have been established with Top Management approval are achieved.

In our discussion of the manufacturing function, we reviewed briefly the functions of production planning and scheduling, production ordering, production expediting, and production records and reports. Each of these functions has a specific and important place in production control.

Before proceeding further, however, it should be emphasized that *there is no one best system* of production control. No production control system should remain static because the needs of the business, as well as the conditions within a plant are constantly changing.

Further, the system that is suitable for a company producing large volumes of standardized products will be unsuitable for a company that produces small quantities of products on a jobbing or special order basis. Beyond this, the organization structure and the extent to which "operations" are broken down into product lines will effect the complexity of the production control system required.

Fundamentally, what must be considered in establishing production control plans? The first item, rate of production, we have already discussed. It was indicated that a sound future operating program was essential for budget forecasts and planned operations. However, there are always changes in conditions that will cause variations in this future program. Anticipated sales may fail to materialize or be greater than expected; machines may break down; materials may not be delivered on time, the labor situation may change; all sorts of things can and do happen.

Therefore, in order to assure that our program planning is realistic we must not only have this future production program but we must also have a periodic review to make sure there have been no drastic changes. Usually production control plans call for at least a quarterly and sometime a monthly review and adjustment of such programs. The adjustment may be necessary because of any of the things happening that we referred to above.

It is evident that no one organization, such as marketing, can entirely determine the program adjustments. But some organization or group must *coordinate* all the variable factors into a satisfactory working plan. This coordination, involving as it does the Marketing, Manufacturing, Engineering, and other phases of the enterprise is the *first function of production control*. The extent to which manufacturing programs are economically scheduled, balanced and stabilized is dependent upon the effectiveness with which this function is performed.

It has been stated that a good "Production" man has the ability to strategically order raw materials for the job at hand and for the future. But to do this he must have an intimate knowledge of the *present stocks of materials in storerooms and operating processes*, and must know, through close cooperation with the *Purchasing unit* what the market conditions are. Only thus can he know whether to buy one month or several months in advance in order to assure delivery. He must also cooperate closely with the *Engineering* organization to be able to anticipate changes in design that may make present materials obsolete, and with the *Inspection unit* to assure acceptable materials are received. This coordination of materials is the *second function* of production control.

Scheduling has been mentioned, with the necessary coordination of the various factors of materials, production capacity, personnel, *etc*. Scheduling may be defined as the planning of the start, progress, and completion of each component in an orderly fashion to meet the completion or delivery date of the product without interference, delay, or loss of efficiency.

But this is all *before* the operations are actually started. There remains another major function of production control that is the *assurance that those schedules are met*. This last function of production control we described briefly under the titles of Production Expediting, and Production Records and Reports. The control plans that are essential for this phase must be determined on the basis of each company's individual requirements.

You will note that in the functions of production control, none of the people who are preparing progress, schedules, issuing production orders or expediting actually *do any of the actual job of manufacturing*. They are the pacemakers, the people who determine what is to be done by the operating units, and who make sure through *coordination* and *cooperation* that everything is available for the operations unit to use. They follow the progress of the work to make certain that schedules are maintained, and report on this progress.

Effectiveness of the operations unit is dependent then, on two things. The first is the adequacy of production planning and scheduling, materials procurement, production ordering, expediting, and the provision of actual production records and reports. The second is the effectiveness with which *management of the operations unit applies the programs and uses the information provided for analysis and control*.

e. Control of Materials

This subject, particularly the phase of inventory control was discussed in the first section of the present chapter on Controls. It will be recalled that considerable stress was also laid on purchasing controls as they affect costs and cost control.

We have indicated the necessity for cooperation of the production control function with the purchasing function in assuring the provision of materials to meet manufacturing schedules.

It is evident that control plan for materials purchasing (procurement) and materials stocks must assure the provision of the proper quality at the most reasonable cost and further assure the minimum investment in stocks of materials on hand at any time consistent with assurance of meeting product manufacturing and delivery schedules. The extent of such control plans will be dependent upon the conditions within each company, but no materials controls are possible without the proper definition and coordination of purchasing control; production control, stores control, inventory control, and accounting control.

f. Control of Wages and Salaries

A number of phases of this subject have already been reviewed in our discussion on job Rating and Wage rates as well as in our earlier review of the establishment of management zones with properly defined types of responsibility and authority. Emphasis at this point is on two things in relation to wages and salaries that vitally affect cost control.

The first of these is the necessity for adequate evaluation of jobs and application of sound rates of pay on each type of job. Without such a foundation it is not possible to build a sound product cost.

The second point is that *each job and each employee should be paid what his job is worth to the company but not more*. Usually, the worth of the job takes into account what is paid in other companies in the same area for comparable work as well as the sound evaluation, within the company, on the basis of the job rating previously discussed.

g. Control of Methods and Manpower

When organization control is established it is logical to assume that each department has properly defined functions and that the organization structure is efficiently planned. If this is true it should be a simple matter to assure the continued efficient operation and control of costs in all departments. However, experience has shown there is a constant tendency to expend the functions and personnel (particularly the non-productive personnel) of any department based on the argument that the added function and personnel are necessary because of constant demands for service of one sort or another. Usually such changes are so gradual that at any particular time they do not cause any question or concern, but they do have a completely destructive effect on cost control.

It is therefore necessary to periodically review the functions being performed and the practices followed to insure that any changes or additions are warranted and justified. It

may be argued that such a review is normally a part of management responsibility in the preparation of budgets and the application of budgetary control. This argument is sound *if the plans for budgetary control specifically recognize the need*. It is being stressed again however, as a matter of emphasis, because of its importance in the control of costs.

h. Control of Line of Products

This control has many phases. We have discussed a number of these under the subjects of Sales Engineering, Market Surveys, and Research and Development Engineering. From the viewpoint of cost control the particular aspect we are considering is the verification at frequent intervals of the ability of the company to continue to produce and sell at a profit each of its products. Control plans for such verification are of necessity varied, but in all cases must involve assurance that everything has been done in Design, Production Engineer, Manufacturing, and Sales to reduce costs before it is decided to discontinue any product. Obviously, if the Engineering, Accounting and Manufacturing methods and controls are inadequate to determine what the product will or should cost and assure that costs are met, there is little to be gained by attempted control over lines of products.

i. Control of Overhead Costs

We have repeatedly pointed out in many previous discussions that this factor of cost is of major importance. However, because of the need for universal application of overhead cost control in every phase of the business and at every management level, it should be further emphasized. Now what should be the attitude of mind of every management employee from the Foreman to the President in approaching this question?

First, no one should ever forget that it is a human trait to try and get someone else to do the job if it is tiresomely routine, or difficult, or disagreeable, or if it requires a lot of careful study or analysis. Most of us are naturally inclined to be lazy. But this trait encourages us to request some other groups to do part of our job. Or else we devise some method of having a subordinate do the job and thus relieve ourselves of doing it.

Now this is not *always* a bad idea because many new methods are the result of someone wanting to find a less difficult way of doing a job. The danger is that we *may* build up our own organization or encourage some other group to expand its activity when this is not justified. We may be increasing our overhead or non-productive labor cost without really improving either the operation or control of the job.

Therefore, before taking such steps we should always ask ourselves:

1. Is what I am asking or planning something that I should do myself?
2. Will this do something in the way of improving job performance or control *that will pay for* itself or reduce company expense?
3. *Is there some other way of doing the job more easily* and *cheaply*?
4. Are my subordinates doing their job or are they getting someone else to do it for them?

Second, when we are setting up control plans we should make certain that these plans are not more complex than are actually needed. If they are, we increase our overhead or non-productive labor and frequently increase the actual cost of doing productive work through interference, delay, *etc.*

Third, a large part of overhead cost is in the use of physical materials. There may be either office supplies, or in so called expense materials that contribute to, but are not a part of the product. Frequently the control of the use of such materials is entirely overlooked and as a result there is waste, loss and even pilferage that is a constant drain on the company.

Fourth, the use of labor for the handling of materials and of parts or components between operations is a frequent and important cause of high overheads. Not only can the expenditure of labor be excessive because of poor operation layout, machine installation, *etc.*, but also poor or inadequate handling methods, improper training and lack of supervision can cause losses through damage to the materials, parts, or finished products. When this happens we not only waste handling labor but also destroy the value of productive labor and materials.

Fifth, the lack of adequate maintenance, or the failure to apply preventive maintenance increases overhead cost. In the first case cost is increased because of the wasting of productive labor and materials through the manufacture of unsatisfactory quality. In the second case cost of performing maintenance is greatly increased because it is much more expensive to repair equipment after it is so badly worn that it breaks down than it is to maintain the equipment and make repairs *before* breakdown occurs.

These things we have reviewed are some of the major items that are important in the control of overhead cost. They add up to the need for every management employee to keep a questioning mind and be constantly inquiring and checking himself and his subordinates to make sure the company's facilities, materials, labor, and funds are not being wasted.

j. Cost Control at Different Management Levels

We have reviewed the major aspects of cost control from the viewpoints of the company's functions and the types of control plans that must be considered. But as a result of our study it is evident that *cost control is not possible unless all levels of management participate in this control* Control can be exercised only if the control "tools" are available. These tools comprise the control plans and the data and reports that are used to *measure and evaluate results*. Now what are needed at various management levels for cost control?

At top management levels, since the general administrative group cannot and should not attempt to devote an appreciable amount of its time and attention to minute details of any part of the job, information for analysis and control should be provided in summarized form. Control data and reports will include: summarized programs for production; budget estimates including projected programs for various company operations such as Engineering projects, *etc.*; inventory investments; monthly performance on actual operations compared to budget forecasts, showing personnel strength, labor, materials and overhead; profit or loss; and manufacturing activity and sales results. Such reports must

be in form that will permit quick analyses by top management, and be supported by adequate detail so that any question can be answered by the responsible organization head, or a decision reached as to the need for special investigation and corrective action. To be effective, reports must be submitted within a *short time*, usually *three weeks or less*, after the end of a period in order for adequate application of controls.

The departmental management level is much more intimately concerned with details, but here again an excessive amount of time cannot be devoted to minute parts of any job. Responsibility for such detail belongs at lower levels. But since the Department Chief (if duties are properly defined) is fully responsible and accountable for the plans, programs and performance of his unit, he must have: budget forecasts for each of his sections; actual cost performance compared to budget including labor, materials and overhead for each section and product or activity; investment in materials and process inventory; plant or departmental activity and personnel; output performance against schedules; production forecasts, *etc.* Such reports *must also be available promptly*, usually within two weeks after the end of a period to be effective for controls.

It is sound practice to furnish reports to each section covering the activity of that section. Such reports, that serve as the basis for summarized reports to the department, provide the actual controls within the section and are frequently submitted at weekly intervals to insure closer job control. At Division and Foreman level, information is frequently provided by the Section covering phases for which each level is responsible. In other cases the Accounting Department may have cost units located within the unit that maintain close contact with the Foreman and Division levels.

In general, the Foreman is responsible for the verification of employee time charges, job assignment, and the assurance of worker efficiency. He is also responsible for the proper use of materials and for verification of scrap before disposition where this is involved. Further, he is responsible for usage of expense supplies, *etc.*, and the application of expense labor within his own unit.

At Division level the responsibilities are similar to those at foreman level but cover a broader scope with increased responsibility for administrative phases of planning, application of expense or overhead factors, *etc.* At this level it is sound practice to make available the complete control reports that are provided the section, and in some of those that are furnished the Department. This serves the dual purpose of broadening the viewpoint of lower levels, and of making possible the recognition of how conditions in any lower unit such as section, or division, affect the Departmental performance and results.

6. Application of Supervisory Controls

A definition of control is: "To exercise directing, guiding, or restraining power over". In its proper application, control is a supervisory function of every management level or zone, and of each management employee. The foreman or "first line supervisor" exercises control over his workers. The next higher level such as Division chief exercises control over his foremen, and so on right up the line.

In our discussion of controls and control plans we have developed the concept of the types of controls and control plans that are essential for the management of the business. If you will consider the three words in the definition we just gave, "directing, guiding, restraining", and apply them to the control plans we have discussed, you will see that such plans are designed to accomplish this triple objective.

The control of organization structure; the required functions of each phase or unit of the business; the proper delegation of responsibility and authority; the inter-related responsibilities of different organizations; the control product quality, the control of budgets and costs; the control of wages, salaries, manpower and methods; the control of production; the control of product lines; all of these are aimed at directing, guiding and restraining each management employee (and worker). And as has been stated before, each of these controls has as a fundamental objective the assurance of satisfactory quality or reasonable cost of the product, or both.

We have stressed the importance of having control plans developed by competent specialists on the particular phase of business activity involved. But it has also been pointed out that for best results such plans must take into account the suggestions, recommendations and advice of all management levels and organizations that are responsible for the implementation and exercising of the controls.

No matter how excellent and adequate control plans may be, or how accurately the data and reports measure actual results, nothing is accomplished unless each supervisor exercises the controls that are his supervisory responsibility. Control plans and methods, and control data and reports are only the tools. These tools are applied and used by people. Each individual management employee is the medium through which controls are actually accomplished. But it is not enough merely to provide the tools. The finest tools are of little value unless people know how to use them properly. For full effectiveness in the use of any tool, whether it be the "control tool" of the management employee or the "production tool" of the worker it is essential that the user understand *why* as well as *how*. This "why" is the reason or principle underlying the use of the tool that provides an understanding of purpose.

More is required than the knowledge of how controls are applied, although every management employee must know this. The application of supervisory controls involves more than analysis. Judgement is also required, and sound exercise of judgement is dependent upon understanding of the basic principles involved.

The first practical step in the application of supervisory control is a planned management training program that establishes an understanding of the basic company policies and structure. Supervisors must know the fundamentals of the company cost and accounting structure; principles of budgeting and budget preparation; etc. Following this should come the study of the actual control plans as they affect the particular management level and individual supervisor. The third step is training in the analysis of control data and reports in order to locate and arrest difficulties. Each supervisor has the dual responsibility of learning himself and of training his subordinates *effectively* And in application of controls he has the further responsibility of holding his subordinates *accountable* for the accomplishment of their objectives.

When we say that supervisors must have an understanding of fundamentals we do not mean that every management employee in every level or some of management should be trained identically and to the same degree. It should not be expected that the lowest level supervisor will require or be given the broad concepts required of a Vice President. But insofar as his own particular job is concerned this lowest level supervisor (foreman) should understand that he is just as responsible for quality and cost as the higher levels. He must know why the failure of his workers to meet production rates, or to make good quality, or to be economical in the use of materials will affect the company's economic condition and thereby affect their own job. He must be capable of training his workers and of conveying to them in simple terms an understanding of the principles of quality and productivity as well as their individual responsibility in the accomplishing of objectives. In other words this lowest level supervisor must be trained so he can "exercise directing, guiding, or restraining power over". And progressively at each higher supervisory level such training must be planned and applied to fit the particular level and type of job.

In considering the problem of training or education of management personnel there are two dangers which must be continuously guarded against. The first is to consider this work as academic with little or no stress on the practical day to day application on the job. When training is too formalized and has the atmosphere of a school classroom much of the benefit is lost. The people who are being trained are learners, it is true, but they are more. They are the people who are actively guiding the business and some of them will undoubtedly be your future leaders. Therefore they must have a feeling of participation in what you are doing just as they must have this feeling on the job. Training should be well planned but it should not be school-like.

The second danger is to assume that once a course is given its purpose is permanently accomplished and it can be dropped. It is human nature to forget or to apply individual interpretations to particular things dependent upon the makeup of the individual and his experience and viewpoint. Therefore, training in any of its aspects must be a continuing job. We need to be reminded over and over of things we know but which are overlooked or ignored due to the pressure of day to day activities. And it is the responsibility of each supervisor to be continuously on the alert, stimulating the minds of his subordinates, and periodically providing the "refresher" training that is essential.

One of the most valuable and important phases of training that is frequently not realized or is overlooked is the day to day personal contact of the supervisor with his subordinates. It is in such day by day working together that real leadership shows up. We all learn by observing how others work. And we unconsciously pick up mannerisms, methods of approach, and ways of doing things from those with whom or for whom we work. Every one of us, to some degree at least, follows the example set by someone else. The importance of setting the best example in real leadership cannot be overstressed. Someone has said: "Show me a company where people work in tenseness or fear, and I will show you a management of tyrants and drivers rather than leaders".

Supervisory and worker training are only one phase of supervisory control application. A second phase is job administration. This is the function of assuring that instructions or orders are issued; that work is carried out; that routines are followed; that data and reports are prepared (*accurately* and *promptly*) and that all of the necessary but sometimes annoying recording details are properly done.

Most of us are inclined to be bored with many of the repetitive routines, and with the so called "paper work" of our jobs. And it is a normal human trait to avoid or put off such things just as long as possible. But *if our control plans are sound and are not over-complex such routine is essential and each supervisor must discipline himself* and make sure that his subordinates *discipline themselves in adequately and promptly* performing this part of their jobs. Failure of supervisors to recognize the importance of job administration and a tendency to alight this control function is a weakness not only in Japan but also in the United States.

In our discussions of cost and quality controls we covered the various forms of controls required, but their coordination and application was not reviewed. . This work might be referred to as job planning and is still another phase of the application of supervisory control. The effectiveness of such planning is dependent first upon the adequacy of control plans, and second upon the proper definition of jobs with due consideration to the needs of the supervisory level for sufficient freedom from detail (through delegation of responsibility and authority) to permit *time for planning*. It is also dependent, of course, on the adequacy of training as well as a further control - the control over personnel - which we will discuss later.

As with other control functions this planning applies to all supervisory jobs but there is a change in emphasis at different management levels. Little planning is required of the foreman except of a routine nature. But as we progress toward this function it assumes greater importance, and at high levels, it represents, or *should represent*, the major part of management time and effort.

Control over personnel, particularly supervisory or key personnel, is a major function upon which the success of the company depends. By such control we mean the selection of individuals who have the ability and capacity for adequately fulfilling the responsibilities of the job to which they are assigned. The effectiveness of its application is entirely dependent upon the soundness of the foundations of job analysis, definition and description and the evaluation of performance which are used as guides in this personnel selection.

In the case of the worker it is not too difficult to evaluate performance. Three primary measurements, all of which are capable of verification, provide the basis. These are quantity of work (productivity), quality of work, and job attitude (dependability and cooperativeness). However, in the case of supervisors there are other factors that might be called management skills that are more difficult to measure. Such things include leadership ability, initiative, judgement, administrative ability, planning ability, etc. Beyond this, the quantity and quality of work are less tangible and therefore harder to evaluate.

Often the application of control in the selection of supervisory personnel is through an arbitrary decision on the part of a superior that is based on unsupported individual judgement. It frequently happens that selections are made because of friendship. This is perfectly natural because people that you know and like are easier to work with. However, there is a danger involved that should not be overlooked. Because you like a person, and know his character, does not necessarily mean he has the qualifications needed for the job. Sometimes such a selection may result in promoting a man who will not contribute to the job through good performance. He may be just a rubber stamp for his superior, or even be so ineffectual that someone else will have

to carry the load. Therefore all the qualifications and requirements of the job must be weighed. Then, and then only should friendship be a deciding factor.

Sound evaluation of personnel for supervisory or management jobs must be based on a system of periodic ratings of every employee who is now holding such a job as well as potential future candidates. Such a rating system must take into account all of the required qualifications and skills as well as actual performance in order to avoid the dangers inherent in individual judgement. This system can be called "Merit Rating".

Merit rating not only provides the guide for consideration for advancement but also can be used as a sound basis for recognition of performance in the form of pay increases. It permits review with the rated employee of shortcomings, and needs for improvement, as well as outstanding performance for commendation. Frequently, also, the analyses of such ratings will indicate the need for training to correct some general weakness that is disclosed. Such ratings can be equally valuable for all employees, whether management or workers. Data Sheet No. III - 6.1 is the rating form used for all civil service workers of the U.S. Government.

The last phase of application of supervisory control which we will discuss is employee morale. When we use the term employee here we mean *every person working for the company* because it applies alike to everyone. But what is the basic factor in morale? Summed up it might be described as job satisfaction. There are a number of approaches to the analysis of job satisfaction. One that we consider very sound was presented by Mr Thomas H. Reid in a Civilian Personnel News Letter of the Secretary of the U.S. Army. Following is a brief excerpted summary of his discussion that was entitled "Human Relations". He said:

> "The personnel field has problems and solutions which are common to industry, Government. This comes about because personnel management is the art and science of dealing with people. People are pretty much the same in the mass, regardless of the suits they wear, or the source of their pay envelopes.
>
> Industry is learning that personnel management must become less an art, and more a science. Haphazard methods and practices just won't do in efficient management. It can never be a precise science as accounting is, for example, but we have come a long way toward organizing our own job.
>
> Our raw material is human nature and our end products are job confidence and job satisfaction. Both these products must be obtained if management is to be successful. It is job satisfaction that makes the difference between the interested and the disinterested worker, between the efficient and the inefficient organization.

We need to study our raw material just as a manufacturer knows the goods with which he works. We should learn to be as analytical in our study of human nature as the chemist is analytical in his study of physical material. The logical way to begin is to break job satisfaction down into component parts. Aspects of every employee's human nature dictate his desire for these five factors in job satisfaction."

(a) Fair Pay

The wish to survive is a basic instinct and pay is a factor of importance in that connection so it is being put first. From the standpoint of job satisfaction, however, the *fairness* of pay is just as significant as the *amount* of pay. The question in the worker's mind is not so much how good his pay is, but how fair it is. A janitor is rather well satisfied that his pay is less than a vice president's. He recognizes that this is equitable. But he does want fair pay for the particular job he is doing. He becomes upset when a neighbour down the street who is also a janitor receives more than he. What matters most (assuming a living wage) is that the scale of pay differential by skills is as it should be.

(b) Security

There are three kinds of security in which the worker is interested. These are:

1. Security by the day – Suppose he became ill. What about pay?

2. Security by the year – What are his chances of keeping his job? How will he do on an average annual earning basis?

3. Security for life – What happens when he retires? Is there a pension? Is there something to see to it that security is not a factor that stops when he stops working?

(c) Opportunity

This factor is especially important to the younger employees. They are a natural desire to get ahead, and want to know that there is opportunity for advancement. Good merit rating and promotional planning are necessary to insure that a worker will have a chance to advance as his abilities develop and openings occur.

(d) Recognition

This factor costs the least and yet is so often missed. The value of a pat on the back for a job well done is frequently overlooked by supervisors. They pass by and fail to give the praise that would improve morale and production without costing anyone anything.

(e) Participation

Some may think that this factor is merely a part of recognition but it means more. It actually means doing things together – giving the worker a chance to get into the act. There is a feeling in the mind of every person, no matter how lowly or how high, that he would like to be a part of things. Just analyze that aspect of human nature. The average person who has enough money for food, clothing and shelter will spend his next few dollars in joining some club, society, or other organization. He will go to endless time and trouble to participate in such outside activities. If we who are paying these people for working with us could foster t hat desire to participate, what a profitable undertaking it would be.

> What an increase in efficiency and output we would experience if we could get people to feel they are participating on the job as in outside activities. The factor of participation has been overlooked to a considerable extent by management men everywhere.

These, then, are the five factors that tend to bring about job satisfaction. The analysis of these factors must be followed by careful planning and skilful practice. No intelligent supervisor today can get by just by being a good fellow. More and more, the art of dealing with people gives way to the greater emphasis and improved results of the science of dealing with people.

General

Probably all of us have, at one time or another, been faced with the problem of what to do in checking the work or performance of a subordinate, because it does sometimes happen that the subordinate will say, or think: "You have given me a job to do. Why do you have to check what I am doing? Don't you trust me to do the job?"

Such an attitude on the part of the subordinate is very unfortunate. He may feel that you have caused him to lose face with his people. He may resent the "checking" and become antagonistic or disinterested. In such a case he no longer is a part of the company team and the job suffers.

Now how can we keep such things from happening and still assure ourselves that the job is being done? Actually, the way we approach the subordinate is most important. If you give anyone the impression that you are *trying* to find something wrong to complain about, they will resent it. That is human nature. And if you question what is being done in such a manner that the person is embarrassed by being shown up in front of associates or subordinates he *has* lost face.

Of course, if you have control plans set up and have responsibility, authority and accountability properly defined your only real problem is one of approach. It is easy to make clear to anyone that the application of controls requires verification of what is being done. You are not checking the individual as a personal matter, but are checking the job. This is no different than an inspector checking the quality of work, or the foreman checking the output of the worker. And no one questions either of these things or considers them to show a lack of trust in the doing of the job. And each level or zone of management, since it is accountable for the results accomplished by subordinates, *must be sure* that the job is properly done in order that he can give to higher levels the true and accurate information about actual conditions. The higher levels cannot do their job unless they are certain that plans, policies and programs are being executed as planned.

What, then, are the things we must watch for in our approach to subordinates?

First we must be sure that *we* are not looking at their job from the standpoint of trying to find something wrong. This is entirely different than making a critical analysis with the idea of trying to do better. One is a negative approach, the other is positive. It is true that the inspector for example, is trying to find out what is wrong. But why is this? One reason, of course, is to protect the company's reputation for quality. But another reason, insofar as the management of the company is concerned, is to make it possible, through teamwork, to correct the cause of the

trouble – to do a better job. This concept of teamwork, of working together, should be basic approach of each supervisor in the analysis of the job of his subordinates.

Second, then, we must make sure that every subordinate understands that when we question anything or make suggestions we are part of a team that is working together to get the best results. We cannot do this if we take the old attitude of "I am the boss – do as I say". As Mr Reid said, a feeling of participation is important to everyone.

Third, in our approach to the subordinate we must remember that he is a human being who feels just the same as we do. If a reprimand is necessary (which is seldom if *you are a leader*) it should be given in private.

Fourth, no one likes to be "short circuited". That is, he does not like to have someone pass him by and give instructions to his subordinates. It is rarely that such direct action is necessary. It may make you feel like a big man to show the person or tell them directly what to do, but *don't forget* that it makes the subordinate that you bypass feel very small.

Fifth, *if you* are a good enough leader, you can usually find ways of encouraging your subordinates to see what is needed without "telling" them. When you can do this you have helped the subordinate to develop his own ability to think and analyze, and you have boosted his morale by making him feel that he has contributed something, has had an idea of his own. In the final analysis this is the true measure of your own bigness, your own ability as a leader.