CHAPTER - IV

ORGANIZATIONAL & ADMINISTRATIVE STRUCTURE OF BHEL
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1. Most of us seek our identification in one organization or the other. 'Where are you working? is a common question: and on its answer often depends our own social position in the community. Some organisations carry more social esteem, and their employees, especially those operating at higher levels, naturally feel 'special' when they say, they work in them. Today, we are living in an Age of Organisation. We derive our livelihood from one organisation but we come into contact with multiple ones for one thing or the other. In modern society a baby is generally born away from its home in an impersonal organisation called hospital where even parents are allowed to meet the infant only at stated hours. Many formally join a club for purposes of entertainment. We become members of a religious association for obtaining spiritual happiness. Examples can be easily multiplied. Organisation is something, which affects every one, especially in the industrialized, urbanized society of today. We are all members of not only one, but several organisations. W.H. Whyte's Organisation Man (1956) identified a new breed of administrators (or executives) working for large organisations, and whose lives they dominate. The organisation men are totally dedicated to their organisation, adapting their personality to fit the organisation. They have no real friend, are devoid of roots in the local community and spiral upwards within the organisation, so committed they are to the organizational goals.

The Oxford English Dictionary defines 'organization's as the action of organizing, the structure of an organized body, the fact or process of becoming organized.' The word 'organize' is defined as to form into a whole with interdependent parts; to give a definite and orderly structure to. Organization is thus a structure, which means that it is formed to achieve some purpose. An organisation is a conscious creation. Secondly, it consists of human beings, and finally, these human beings are directed to achieve some explicit goals. When human beings are employed to achieve the goals. Division of labour inevitably follows and a hierarchical authority structure emerges. The basic unit of an organisation is role, not persons. This must be kept in mind. This is why it continues in existence despite change or transfer of personnel.

But workers who are human beings necessarily play roles. A worker is a total/human being, and to the organisation, be it private firm or a government department or a university, the total person goes for work. The organisation, however, is interested only in the work, but work and worker cannot be separated. The worker, one must remember, is a human being who is a total person: father, son, brother, friend, neighbor all rolled into one. The employer would have been ideally happy if the person could separate the worker in him and send the latter only to his organisation. But this is not physically possible. The total man, as said earlier, goes to the place of work. His organisation has necessarily to deal with such human beings and use them of realization of organizational objectives. How to motivate the personnel and integrate them to the organisation is a problem intriguing most employers.
Organisation conveys varying meanings and connotations to different people. But one common thread runs through all of them: it consists of a set of relationships of jobs to jobs, of processes to processes, of persons to persons. Organisation is a network of such relationships, arranged to accomplish a common objective.

No single social science viewpoint is discernible on the nature of organisation. This is because social science is divided into several disciplines, some of which are heterotypical of each other. The social psychologists and group dynamics people concentrate on studying the small face-to-face intimate group but they are not interested in structure and hierarchy indeed, political science, public administration and economics are the three social sciences taking the deepest amount of interest in organisations. This is because the world's largest hierarchies are located in government and the corporations. The cultural anthropologist is also interested in organisation and a new sub-discipline of industrial anthropology is now born. Students of social welfare are interested in community organisations. Psychologists study concepts like leadership, communication, motivation, morale etc. Political scientists and public administrations generally study government, and economists are attracted to corporation. Sociologists study groups, informal organisations etc.

Scholars who belong to different sub-disciplines study organisations. These include the experimentalists. The sociometrists, the group dynamics, the clinical specialists, and the cultural anthropologists. These categories are rather arbitrary and even overlapping but are broadly accurate.

1.1 ORGANISATIONS: MEANING

Organisations is a group of people working together cooperatively under authority toward achieving goals and objectives that mutually benefit the participants and the organisation. Kossen states that, "An Organisations is a group of individuals coordinated into different levels of authority and segments of specialization for the purpose of achieving the goals and objectives of the organisation". On the other hand, Allen defines an Organisations as "The process of identifying and grouping the work to be performed, defining and delegating responsibility and authority, and establishing relationships for the purpose of enabling people to work most effectively together in establishing of objectives.

The essence of these definitions is that people who work together require a defined system or structure through which they relate to each other and through which their efforts can be co-ordinate every organization has goals or objectives for its existence. In the case of Personnel Management, it is to optimize "the effectiveness of human resources". These goals can be achieved more suitably if the behavior of the workers and the composition of the organisation, can be predicted and integrated co-operatively. The formal organisation structure attempts to give order and unity to the actions and efforts of those who work together.

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1.2 ORGANISATION PROCESS

The organisation process is the forming of structural inter-personal relationship. This process involves eight steps (i) determination of organisation goals or objectives to be strived for (ii) determination of the task requirements (i.e. the amount of skills, effort and knowledge) necessary to achieve the goals; (iii) division of tasks into different jobs to find out how many personnel will be needed for the complete tasks; (iv) Integration of jobs into departments or their work groups to take advantage of the specialization and efficiency; (v) selection of personnel to fill jobs; (vi) assignment of work positions to the individual; (vii) granting the authority to the people to carry out the duties of their jobs; and (viii) determination of superior subordinate relationships for facilitating the performance evaluation.

An organisation is a mechanism with which a management directs, coordinates and controls the activities of man. It is distinct from an administration. As Sheldon has said, "An organisation is the formation of a effective machine, the management of an effective executive and the administration of an effective direction. Administration determines the goals; the management strives towards it. Administration determines the organisation; the management uses it. An organisation is a machine of management in its achievement of the ends determined by its administration.

1.3 FUNCTIONS OF AN ORGANISATION:

An organisation tries to establish an effective behavioral relationship among selected employees and in selected work places in order that a group may work together effectively.

There are three kinds of work which must be performed whenever an organisation comes into being. viz. division of labour, combination of labour and co-ordination i.e. the work, the people and the relationship between them. These are known as the fundamentals in every successful organisation. These are now briefly dealt with.

(i) Division of Labour: Since an organisation is a structure of human association for the achievement of common goals, it involves individuals and groups of individuals. When two or more individuals join together to perform certain tasks, it follows that some division of work is done. Properly or improperly, fairly or unfairly, work is divided among those who participate in a productive organisation. With effective planning and organisation in an enterprise, the division of labour leads to a fixing of responsibility, the delegation of authority, specialization and other conceptual schemes which are frequently called the principles of an organisation.

(ii) Combination of Labour: With work divided and assigned to the members of an organisation, their activities are grouped together, forming operations: and operations are arranged to establish systems and procedures. From a structural point of view. This grouping of activities results in units, departments and divisions of an organisation. The basis for this grouping of activities may be the skills of the workers, the tools and machinery used the nature of the product, the materials employed, or some other element. Whether it is logical or not, there is always some reason for the arrangement of tasks in a work place.
(iii) Co-ordination: This all-inclusive principle emerges because of the need in every organisation for the integration of activities and the co-ordination of individuals and groups of individuals performing their tasks. Co-ordination is achieved through leadership: in the structural sense, it involves the fixing of responsibility and the delegation of authority. It establishes controls which provide for an efficiently scheduling and performance of activities.

1.4 **HIERARCHY OF FORMAL ORGANISATION:**

In any organisation there is what is termed a 'hierarchy' refers to various levels of authority in an organisation, ranging from the Board of Directors at the top to the operating workers at the bottom. The formal organisation structure is usually portrayed in the form of pyramid. At the base of the pyramid are the operating employees, the worker (i.e. those persons who do not supervise other employees) Moving up the pyramid are found the first line supervisors (usually referred to as Supervisors or Foremen): such persons need both a technical knowledge of their job and skill in human relations since they have direct authority over the operative employees.

Over these people, are found middle management personnel consisting of superintendents, Plant Managers, and Heads of Department. Individuals at this level sometimes literally feed caught in the middle, both pushed and pulled by other managers on each side of them. Such personnel are responsible for implementation of the policies framed by the top management people. They need leadership abilities and communication skills.

At the apex of the pyramid is top management (which includes the senior executives, Vice-presidents and the President) They constitute the administrative level, which determines the objectives and policies of the organisation. For them conceptual skill is of utmost importance.

Above them, may be the Board of Directors, elected by the shareholders of a corporate body. They influence over all policy since they select top management.

1.5 **ORGANIZATION CHART:**

Organization charts define the superior subordinate relationships. Which are formal documents that indicate the chain of command and the titles that have been assigned to the managers and other personnel's? These charts are somewhat like "road maps" as they are guide to official relationship Road maps indicate the relationship or roads, culverts and bridges to specific locations on the land. Organization charts indicate people's locations or positions in the hierarchy and their relationships within a formal organization. They aid in determining which of the basic types of organizational authority structures particular enterprise has adopted.

1.6 **ORGANIZATIONAL AUTHORITY STRUCTURE:**

This organizational authority structure may be vertical or horizontal. The vertical structure clearly states that the lines of authority pass from top to bottom. At the top, the ultimate power lies in the hands of the top management or other supreme authority, who holds the highest position in the hierarchy. He has subordinates who are directly accountable to him; his subordinates have their own subordinates; and so
the hierarchy goes until the lowest level is reached. This structure is based upon two traditional principles. One, the Scalar principle, which is related to the chain command and asserts that authority and responsibility in an organization should flow in a clear unbroken line from the point of ultimate authority (the boss at the top) to the workers at the bottom of the hierarchy. Two, the Unity of Command, which means that no subordinate shall be responsible to more then one superior, principally because the orders from one may conflict with the orders from another and, thus place the subordinate in a difficult and awkward situation. This vertical authority structure also determines the social status standing of the individuals; i.e. those at the top usually stand at the upper levels of the social status ladder then those who stand at the bottom.

Horizontal organisation authority structure indicates the relationship between peers, colleagues, and fellow workers across the organisation. Individuals located on the same level normally have no authority over each other. They are rather equal in terms of the amount of authority and formal influence they have. They are more or less equal in social status also. Such structure helps to clarify authority relationship. To understand communication patterns. And to discern more about social interactions Personnel's at this structure often work in a team.
1.7 **LINE ORGANIZATION**

In a line organization, authority descends from the top of the hierarchy to its bottom level (down the channel of command,) step by step. Through downward delegation of authority, and responsibility runs form bottom to top (up the chain). As a result, all major decisions taken and orders given by the top executives are passed down to their immediate subordinates who, in turn, break up decisions in specific instructions for the purpose of their execution by another set of subordinates. When authority flows from the top to the subordinate at the lowest level in a more or less straight line, it is known as line organisation, and the subordinates under it are responsible to their immediate superiors. A line organisation has a number of common characteristics. First, each manager has direct authority over his subordinates who, in turn, have direct authority over their subordinates, and so on down the organisation. Second, everyone in the organisation reports to only one immediate superior, i.e. "there is one man, one boss." Third, managers have complete authority in their own areas of operation. Fourth, authority flows downward through the organisation and responsibility flows upward.

1.8 **MERITS OF A LINE ORGANIZATION:**

The following advantages are inherent in this system:

(i) It is the simplest type of organization, which can be easily defined and explained to the rank and file.

(ii) It is economic and effective, for it makes rapid decisions and effective co-ordination possible, as one individual controls all the activities affecting a department.

(iii) Responsibility is fixed and unified at every level: hence each individual knows to whom he is responsible and who is or are, in turn, responsible to him.

(iv) It provides for greater control and discipline in the organisation.

(v) The system is capable of adjusting itself to changing conditions for the simple reason that each executive has sole responsibility in his own sphere.

(vi) It develops all-round officers who are qualified to take over higher positions of line command in a department.

1.9 **DEMERITS OF A LINE ORGANISATION:**

The drawbacks of the system are:

(i) It overloads the executive with pressing activities so that long-range planning and policy formulation are often neglected.

(ii) It does not make for specialization, for one executive is required to do all the work.

(iii) As it is based on one-man management, the decisions that are taken are rather arbitrary. "The system gives room for arbitrary, opinionated and dictatorial operations:"

(iv) The distribution of work may be according to the whims of the executive and not in accordance with any scientific plan.

(v) It does not provide any means by which a good worker may be rewarded and a bad one punished.
(vi) It is likely to encourage nepotism. Sycophants and peace-seekers besiege every despot: promotion becomes a matter of flattery, and security is a reward for servility.

(vii) It cannot fully develop the co-operative features of group activity.

(viii) Lack of a broad understanding alone leads to non-co-operation among departmental line officers; the co-ordination of the activities of various line departments then becomes difficult.

(ix) As the division of the labour is incidental, a crude method for the division of labour and fixation of work prevails because of lack of expert advice.

Moreover, a line organisation cannot function effectively in large enterprises. Prof. Sargent Florence sums up the drawbacks of a line organisation under three heads: "(i) failure to get correct information and to act upon it; (ii) red-tape and bureaucracy, and (iii) lack of the specialized skills of experts. While commands go down the line under the hierarchical system information is supposed to be coming up the line."

Further, because of the absence of specialized skills each executive in inclined to be a jack of all trades and master of none.

1.10 **SCOPE OF A LINE ORGANISATION:**

From this discussion, it is obvious that those industries which depend on the ability and ingenuity of workers cannot adopt this type of organisation. However, a line organisation may be adopted:

(i) Where business is carried on a small scale and the number of subordinates and operatives is not very large;

(ii) In industries which have a continuous manufacturing process (such as sugar, oil refining, spinning and weaving);

(iii) Where the work is of a routine nature (i.e. where a large number of processes are easily or simply directed);

(iv) Where the entire work process is automatic and requires little intelligence on the part of a worker; and

(v) Where the relations between labour and management are cordial.

It is to be noted that most large organizations cannot be managed effectively in a pure line authority structure. Rapid technological changes, as well as the need for breadth and depth of knowledge of legal financial and labour-management problems have necessitated the development of a service function usually referred to as staff authority.

1.11 **STAFF ORGANISATION:**

Staff managers ordinarily do not have direct authority over the line members. Because of their technical or professional knowledge, staff members, commonly provide assistance or advice to the line members, which help to free line members from details either not directly related to daily work or requiring specialized knowledge and skills. The staff member provides service for or advice about activities such as planning, research or the determination of executive manpower needs. The staff specialist serving the general manager may be in-charge of purchasing or personnel departments, both of which assist line operations. A personnel manager would not be directly in charge of the operative employees, but would be responsible for assuring that personnel needs are met; personnel managers, however, within their
own departments, would be empowered with direct line authority over their subordinates.

1.12 PERSONAL STAFF PERSONNEL MANAGEMENT RESPONSIBILITIES

In fulfilling the responsibility, the Personnel Manager carries out three major distinct functions as follows:

1. A line function. He directs the activities of the people in his own department and in service areas, i.e. he exerts line authority.

2. A coordinative function. He also functions as coordinates of personnel activities. He and his department act as the right arm of the top executive to assure him that personnel objectives, policies and procedures which have been approved and adopted by the line organization are being consistently carried out by line managers.

3. Staff service function. Service to line management is the bread and butter of the personnel managers’ job. He assists in the hiring, training, evaluation, rewarding consoling promoting and firing at employees at all levels. It also administers the various benefit programmers (health and accident insurance, retirement vacation, etc.) It assists the line managers in their attempts to comply with equal employment and occupational safety laws. It plays an important role with respect to grievances and labor relations.

As a part of his service functions, he also carries out an innovator role. They do this by providing up to date information on current trends and new methods of solving problems.

1.13 LINE VERSUS STAFF ORGANIZATION AUTHORITY

Personnel functions permeate through all the functional departments. These are performed at the operational level by line management while the staff personnel executive advises, assists, counsels the line management at all levels (the president and his executive staff. The department heads and the foremen) in the performance of personnel functions.

Lawrence Appley clearly expresses the distinction between the line and staff functions in the following words: The line organisation includes those people who are engaged in the manufacture and distribution of the products or services for which the organisation exists. The staff is engaged in those activities that assist the line in the attainment of its objectives. The line cannot exist without the staff and the staff cannot exist without the line. Both are equally important. While the staff and the line frequently deal in the same activities their relationship to these activities are distinctly different. The staff advises and the line decides. The line executive is directly in charge of persons who are employed in the production line, while the staff executive (work study engineers, industrial engineers, and other departments in the organisation.
The internal organizational structure of the personnel department varies widely in different companies, depending upon their size. For example, in small companies personnel functions are discharged by line executives, as shows in figure:

![Organizational Structure Diagram]

But, in a large company where personnel activities are generally of a compels nature a separate department is organized for the purpose. This department is variously known as the personnel department or the Industrial /Relations Department as is headed by the Personnel Manager or Personnel Director or Vice-President, Personnel or by the Industrial Relations Director of Labour Relations Officer, Labour Superintendent or Employment Officer, depending upon the nature of duties assigned to him and the terminology used. His position is under the President (or the General Manager) of the organisation. He has under him Interviewing Officers Training Officers Secretary, Medical Doctor/Welfare Officer, head of department gatekeepers, etc. These subordinates undertake or are entrusted with the responsibility of recruitment and employment training industrial relations employee services and security work.
A personnel Department organizational set up is given in figure No: 2

It will be seen from figure 2 that personnel manager has under him subordinates who look after the Employees section the Training and Development section the Wages and Salary Administration section the Health Safety and Benefits section and the Labour Relations section The personnel in charge of these sections are generally known as employment officer training director wage and salary administrator labour welfare officer security officer, health officer labour relations officer etc.

Personnel Departments or Units may be organized on three basis (i) Functional basis (ii) service basis and (iii) clientele basis.

2. **ORGANISATION THEORY**

'Theory means speculation, the analysis of a set of acts in their ideal relations to one another; Impetus to organisation theory comes from an effort to improve administrative productivity or performance as well as form a disposition to learn more and more about human behaviour in organisations. Naturally, organisation theory evokes universal interest. Let this also be remembered that there is no one theory of organisation. The more correct way is to say that there are organizational theories. Principally, these theories are:

2(a)-1  CLASSICAL THEORY

The classical theory has the following three strands:
   i. Scientific Management
   ii. Formal Organisation Theory and Bureaucracy. These are discussed one by one

(i) Scientific Management:

Scientific Management owes its origin to Frederick Winslow Tylor (1856 - 1915). Scientific Management refers to that approach to problems of organisation based on the work of Taylor.

The first coherent theory of organisation is referred to as Scientific management, which came to be formulated in the beginning of the twentieth century. At that time, the conditions in the factories were rather unplanned. There was nearly complete absence of standardization of methods of work. The workers were left entirely to themselves in the matter of choosing the methods to be employed for doing the work. Whether these methods were the efficient ones, and whether the tools were of the right kind, were none of the responsibilities of management. It was against such a general background of management.

Frederick Winslow Taylor, an engineer by training, is regarded as the father of Scientific Management, for it was he who first advocated the systematic adoption of the methods of science to problems of management in the interest of higher industrial efficiency. Tylor himself did not coin the word "Scientific Management" to refer to his thoughts. Louis Brandies first used this concept in 1910. From that time onwards Taylor also began using this term. He pointed out. Management is a true science. Resting upon clearly fixed laws, rules and principles as a foundation." he argued that management comprised a number of principles, which commanded applicability in all types of organisations:

Scientific Management, which includes the following four principles:

1). Develop a science for each element of a man's work, which replaces the old rules of thumb method. (That is, the development of a true science).

2). Scientifically select and then train, teach and develop the workman whereas in the past he chose his own and trained himself as best as he could. (That is the scientific selection of workmen).

3). Cooperate with the workers so as to ensure all of the work being done in accordance with the principles of the science which has been developed. (That is his scientific education and development).

4). There is an almost equal division of the work and the responsibilities between the management and the workmen. The management should take over al work for which they are better fitted than the workmen, while in the past all of the work and the greater part of the responsibility were thrown upon the worker. (That is intimate friendly cooperation between management and the labour).
work and the greater part of the responsibility were thrown upon the worker. (That is
intimate friendly cooperation between management and the labour).

Taylor's view, thus, was that a manager should i) develop, through scientific
analysis and experiment, the best method for performing each task (ii) select the train
workers to use the best methods; (iii) cooperate with workers to ensure performance
in accordance with the principles of science (iv) and view management and the
workers as two equal components in an enterprise. In Taylor's own words: The
principal object of management should be to secure the maximum prosperity for the
employer, coupled with the maximum prosperity for each employee.

Taylor's views were extended and developed by his colleague Henry Lawrence
Gantt (1861-1919) and by the industrial engineers, Frank Bunder Gilbreth (1868-
1924) and Lilian Evelyn Moller Gilbreth (1878-1972), who, laid the foundations of
the modern science of work study.

**Taylor put forward three principles of reorganization:**

1. Greater division of labour: Production process were to be analyzed
systematically and broken down to their component parts, so that each worker's job
was simplified and preferably reduced to a single, simple task, Greater specialization
would lead to greater efficiency, while the deskillling that followed that simplification
of tasks would also allow cheaper, unskilled labour to be hired, Greater division of
labour would in turn remove the planning, organizing and hiring functions from the
shop floor, Greater specialization was also to be encouraged among managers.

2. Full managerial control of the workplace was to be established for the
first time, and managers were to be responsible for coordination of the production
process that greater division of labour had fragmented.

3. Cost accounting based on systematic time and motion study was to be
introduced to provide managers with the information they needed in their new roles as
the controllers of the workplace.

Taylor was deeply concerned about the quality of the relationship the existed
between management and workers in the factories around him and about the
inefficiency and work dodging that were a feature of the industrial life he
experienced. He came quickly to the belief that these troubles were due to managerial
laxity. There was a universal tendency to leave the details of work performance to the
discretion of the workers and work was therefore performed inefficiently; the
manager has only the crudest understanding of how much work could reasonably be
expected of a worker and this led to constant disagreements and bitterness between
management and men and the workers were inadequately motivated to give of their
best. Taylor accordingly devoted his life to the development of techniques for the
study of work and the determination of the most efficient way for each task to be
performed. By careful observation and timing by stopwatch, objective standards of
performance could be determined and incentive system devised which would reward
the high performer and penalize the low performer.
Taylor thus believed that managers must accept full responsibility of planning, organizing and supervising work. The skill and experience of the better workers were to be analyzed and classified so that they might be reduced to rules, laws and formulae. Therefore, once the best way to do a job had been ascertained by trained observation, the worker should be scientifically selected and would assume the duties for which they were better fitted than the workmen and the latter would be free from responsibilities they were not fit to discharge. Taylor was of the opinion that every employee has two needs; high wages and the opportunity for personal advancement. The worker was thus viewed, and treated, as an individual workhorse in social isolation. It was a fundamental tenet that managers should never deal with workers in groups.

The Taylor approach attracted many disciples, most notably Gilberts. Scientific management spread rapidly to virtually all industrial countries. It stands manifested not only in the growth of work study, production engineering, production scheduling etc, but also in the promotion of an attitude of mind which seeks the collection and analysis of date as the basis for decision making and the increasing rationalization of production processes.

Scientific management takes a rather mechanistic and economic view of human nature. According to Scientific management, workers are like cogs in a machine; a view of which has been discovered to be true by later researchers. Scientific management fails to take account of how people at work are affected by social variables like informal group behavior. Scientific management is described as a micro-Approach to the study of organisations: how can performance at the shop floor level be maximized.

Scientific management addressed itself to the problems of the shop floor that is the bottom part of an organisation where the work performed is of a repetitive and routine nature. Taylor's scientific management was supremely concerned with organization efficiency interpreted in only mechanistic terms. Scientific Management viewed man as but an adjunct of the machine; it, therefore, sought to make him like a machine and as efficient as a machine itself, this is rather degrading view, and unacceptable to modern man. It must always be remembered that than is not a machine. Secondly, Scientific Management oversimplified the worker motivation. Scientific management is also called the physiological organisation theory. It is concerned with only that range of human behaviors, which related to production.

2(a)-II CLASSICAL ORGANISATION THEORY: BUREAUCRACY

The word 'bureaucracy' implies an organisation characterized by rules, procedures, impersonal relations, and an elaborate and fairly rigid hierarchy of authority, responsibility relationships. In an ideal sense, the most efficient and rational organisation is one in which there is clearly defined hierarchy of offices, each office with a clearly defined area of jurisdiction, each office filled by an individual tested to possess the highest technical qualifications, and the entire set of offices linked together by a system of rules, procedures and impersonal relationships. Weber developed the model as a reaction against personal subjugation. He believed that bureaucracy provides an ideal weapon to harness and routinize human and mechanical
energy which fueled the industrial revolution. Weber firmly believed that everything that about an organisation should help in achieving its goals.

‘Bureaucracy’ as we are all aware, are found in political religious, business, military, educational, and other organisations. Imagine for a moment human organisations without structure, without stability, and without order. Confusion prevails.

**Element of Bureaucracy:**

1. **Hierarchy:** Hierarchy is away of ranking various positions in descending order from top to bottom of an organisation. In a bureaucratic structure, each lower office is under the supervision and control of a higher one. Ultimately, no office is left uncontrolled in the organisation. The hierarchy serves as lines of communication and command, and as a means for delegating tasks.

2. **Division of Work:** All tasks necessary for the accomplishment of goals are divided into highly specialized jobs. Each persona’s job is broken down into simple, routine, and well-defined tasks. As a result, each employee knows the areas in which he operates and the areas in which he operates and the areas in which he must abstain from action. Jurisdictional disputes are automatically avoided. Further, division of labour allows for specialization of efforts and permits employees to perform a manageable number of tasks. It improves one’s skill at performing a task though repetition.

   i. **Official Rules, Regulations and Procedures:** To ensure uniformity and to regulate the behavior of jobholders, there is heavy dependence on formal rules and procedures in bureaucratic organisation.

   ii. **Official Records:** Bureaucratic organisation is characterized by maintenance of proper official records. The decisions and activities of the organisation are formally recorded and preserved for future reference. This is made possible by extensive use of filing system in the organisation.

   iii. **Impersonal Relationships:** Another important feature of bureaucracy is the impersonality of relationships among employees. Official positions are free from personal involvement, emotions and sentiments in a bureaucratic structure.

   iv. **Administrative Class:** Bureaucratic structures generally have administrative class responsible for coordinating the activities of the members. Known as bureaucrats, these official are selected based on their competence and skills. They are paid a salary, with increases according to age and experience, and receive a pension when they retire. Promotion is based on seniority and achievement, decided by judgment of superiors.

   v. **Function of Bureaucracy:** Bureaucracy provides several powerful functions, often described as advantages, in organisation. People can specialize in their respective fields and show improved performance. Bureaucracy brings rationality to an organisation. Judgments are made according to objective. Further by
structuring the duties responsibilities and reporting relationships in a command
hierarchy, bureaucracy provides from or substance to an organisation.

Bureaucracy contributes to democracy by its emphasis on qualifications
and merit as important bases for gaining and holding a job, Patronage, favoritism and
other arbitrary bases do not have a premium value in bureaucratic structures; one’s
ability counts for everything. Because the opportunity to train, apply and be selected
for a job is open to every citizen, significant degree of democracy is achieved.

3. **RIGIDITY** : Critics of Bureaucracy claim that it is rigid, static and inflexible.
Often strict adherence to regulations produces timidity, conservatism and techniques.
it tends to encourage status quoism and breads resistance to change. Compliance with
rules may provide the cover to avoid responsibility for failures.

4. **IMPERSONALITY** : Bureaucracy emphasize mechanical way of doing
things. Rules and regulations are glorified in place of employee needs and emotions.
No wonder, Bureaucracy has been labeled as a “organisation without persons.”

5. **Displacement of objectives** : As organizational procedures become more
formalized and individuals more specialized and individuals more specialized, means
often become confused with ends. Specialists, for example, may concentrate on their
own finely tuned goals and forget that their goals are a means for reaching the broader
objectives of the organisation.

6. **Compartmentalization of Activates** : Specialization and division of labour
are encouraged in bureaucratic structures to improve organizational efficiency. But
such strict categorization of activities may often restrict people form performing tasks
that they are capable of performing. For example, a pipe fitter can install a pump, but
is prohibited by work rules from making the electrical connection even if he is totally
qualified to do so. Bureaucracy would also encourage a tendency to perpetuate
existing jobs even when they become redundant. The typical bureaucracy tries to
preserve all the old jobs and add new ones for new requirements resulting in wastage
of scarce inputs.

7. **Empire Building** : Bureaucracies often turn managers into empire builders.
The empire builder values the status, power and pay of an important position. The
number of subordinates may measure the amount of status, power and pay of an
important position, The amount of status, power and pay may be measured by the
number of subordinates. Thus one way of increasing status, power and pay is to
enlarge one’s office. By adding more people more space, and more physical facilities
— whether required or not an empire may be built. As Max Waber observed, once it is
fully established, it is hard to destroy bureaucracy even if it has outlived its
usefulness.

2(b) **The Systems Theory of Organisation** :

All organizational theories discussed so far are of pre-Second World War
origin. Since the Second World War an explosion of interest in organisations has
taken place. A system is thus characterized by three properties; first, it is a set of
interactions taking place within itself. What this means is that a change in one activity
generates changes elsewhere, and the whole system gets animated with impact.
Secondly these inter-related activities or elements have a boundary set open them. The very concept of a system implies that it has a boundary it ends at some point from where other systems begin. But these other systems are included and absorbed in environment. The environment is that third property of a system. As time passed, the age of multinational corporations or organization arrived. Organisations began to become multi products and thus engaged in diversifications. The top level managers were thus increasingly called upon to take into account while making decisions the wood.

The organizational theories discussed above their relevance but only to an extent. There is a need to integrate them and add something more to them in order to gain a true insight into organization. The modern theory is, therefore, called the Systems Theory. An organization is viewed as a system comprising parts, each of which makes a contribution to the operation of the organization and each of them is dependent on others for its own needs. The system of parts is self adjusting to disturbances which hinder the fulfillment of organizational objectives, besides; organisations are viewed as parts of still larger systems such as the economic system.

The first basic part of the Systems Theory of organisation is the individual and the personality structure that he brings to the organisation. An individual's personality includes motives and attitudes, which condition the range of the expectancies he hopes to satisfy by participation in the system.

The second part of the system is the formal organization, which as one knows is the formal arrangement of functions that makeup the structure of a system. Writers like Argyrlos perceive a fundamental conflict in the interplay between the demands of a system and the individual personality. At any rate, the individual employee has certain expectancies regarding the job he is to perform, and, by the same token, the job also makes demands on the man. The interaction between organizational and individual demands produces its own set of in congruencies.

The third part of the Systems Theory of organization. An international pattern exists between the individual and the informal group, which has the effort of modifying, more or less, the expectancies and demands of each. The informal group makes demands on its members in the form of anticipated behaviour and the individual also has expectancies, which he hopes to get by associating with people on the job.

The fifth component of the Systems Theory is the physical setting in which the job is performed. The physical surrounding of work in which the man-machine systems interact gives rise to problems, all of which cannot be solved purely in a technical, and engineering way: the psychological, social and physiological characteristics of people in the work environment have to be taken into account and accommodated. Machines and processes should be designed to fit the psychological and physiological properties of men rather than hiring men to fit machines.

Organisation, moreover, do not exist in a vacuum. They are subject to pressures from the outside world such as culture, technological change, education, politics, natural and human resources as well as the economic framework. All these constitute the external environment. Part of the administrator's task is to ensure the integration of these variables in meeting the organization of these variables in meeting
the organizational objectives. The distinctive qualities of the system theory are the part their inter-dependency processes, and the goals of systems.

The systems theory is based on the existence of parts and their existence of parts and their inter-relatedness. The inter relatedness. The inter-relatedness implies interaction.

As essential feature of a system as already mentioned is the inter-relatedness of its parts. This implies that parts must interact with each other. The question, the, is: what are processes to achieve this desired interaction? These processes, called the linking processes, are three, namely communication, balance, and decision making. Communication is formal - informal, vertical-horizontal, line-staff. It links the parts as it connects action of each of them.

Finally, decision making necessarily covers a very wide spectrum of topics in the system, and it keeps the various parts of the system energized, activated and involve.

Systems theory releases itself from the limited perspectives and orientations of the other organizational theories discussed earlier. It provides a useful framework for looking at various factors and considering them in searching for solutions. Systems Theory is an improvement on what has gone before. Its formulation in the field or organization was influenced by similar theoretical developments in the physical, biological and social sciences. Systems Theory views an organization as a system: it is made up of number of sub-parts or sub components while at the same time it is also affected by an environmental supra-system which comprises economic, social, political and technological influences.

3. ORGANISATIONAL & ADMINISTRATIVE STRUCTURE OF BHEL JHANSI

Most of us seek our identification in one organisation or the other. 'Where are you working?' is a common question: and on its answer often depends our own social position in the community. Some organisations carry more social esteem, and their employees, especially those operating at higher levels, naturally feel 'special' when they say, they work in them. Today, we are living in an Age of Organisation. We derive our livelihood from one organization but we come into contact with multiple ones for one thing or the other. In modern society a baby is generally born away from its home in an impersonal organization called hospital where even parents are allowed to meet the infant only at stated hours. Many formally join a club for purposes of entertainment. We become members of a religious association for obtaining spiritual happiness. Examples can be easily multiplied. Organization is something, which affects every one, especially in the industrialized, urbanized society of today. We are all members of not only one, but several organizations. W.H. White's Organization Man (1956) identified a new breed of administrators (or executives) working for large organizations, and whose lives they dominant. The organization men are totally dedicated to their organization, adapting their personality to fit the organization. They have no real friend, are devoid of roots in the local community and spiral upwards within the organization, so committed they are to the organizational goals.
The Oxford English Dictionary defines 'organization's as the action of organizing, the structure of an organized body, the fact or process of becoming organized.' The word 'organizes' is defined as to form into a whole with inter dependent parts; to give a definite and orderly structure to. Organization is thus a structure, an or dourly one at that, which means that it is formed to achieve some purpose. An organization is a conscious creation. Secondly, it consists of human beings, and finally, these human beings are directed to achieve some explicit goals. When human beings are employed to achieve the goals. Division of labour inevitably follows and a hierarchical authority structure emerges. The basic unit of an organization is role, not persons. This must be kept in mind. This is why it continues in existence despite change or transfer of personnel.

But workers who are human beings necessarily play roles. A worker is a total/human being, and to the organization, be it private firm or a government department or a university, the total person goes for work. The organization, however, is interested only in the work, but work and worker cannot be separated. The worker, one must remember, is a human being who is a total person: father, son, brother, friend, neighbor all rolled into one. The employer would have been ideally happy if the person could separate the worker in him and send the latter only to his organization. But this is not physically possible. The total man, as said earlier, goes to the place of work. His organization has necessarily to deal with such human beings and use them of realizations of organizational objectives. How to motivate the personnel and integrate them to the organization is a problem intriguing most employers.

Organization conveys varying meanings and connotations to different people. But one common thread runs through all of them it consists of a set of relationships of jobs to jobs, of processes to processes, of persons to persons. Organization is a network of such relationships, arranged to accomplish a common objective.

No single social science viewpoint is discernible on the nature of organization. This is because social science is divided into several disciplines, some of which are heterotypical of each other. The social psychologists and group dynamics people concentrate on studying the small face-to-face intimate group but they are not interested in structure and hierarchy indeed, political science, public administration and economics are the three social sciences taking the deepest amount of interest in organizations. This is because the world's largest hierarchies are located in government and the corporations. The cultural anthropologist is also interested in organization and a new sub-discipline of industrial anthropology is now born. Students of social welfare are interested in community organizations. Psychologists study concepts like leadership, communication, motivation, morale etc. political scientists and public administrations generally study government, and economists are attracted to corporation. Sociologists study groups, informal organizations etc.

Scholars who belong to different sub-disciplines study organizations. These include the experimentalists. The sociomers, the group dynamics, the clinical specialists, and the cultural anthropologists. These categories are rather arbitrary and even overlapping but are broadly accurate.
3.1 DEPARTMENTAL STUDY IN BHEL JHANSI:

1. TRANSFORMER COMMERCIAL

The main objective of this department is interaction with customers, brings out tenders and mobiles and also responds to them. It is the department that bags contracts of building transformers after delivery. Further interaction regarding faults, failures and maintenance is done by this department. All such snags are reported to them and they forward the information to the concerning departments.

One of the major tasks of this department is to earn decent profits out of all negotiations. Transformer industry of the late has become very competitive. The company offering the lowest price gets the contract but this process may continue unit a company does the work on very low profits. To avoid such a situation a body by the name of Indian Electrical Manufactures Association IEMA was set up. This association helps to maintain a healthy competitive atmosphere in the manufacturing of electrical appliances.

The work of the commercial department can be broadly classified into two:

a. Tenders and Notices.
   b. interaction with design department.

2. FUNCTIONS OF TRANSFORMER COMMERCIAL

1. MARKETING: This deptt. does the work of providing maximum satisfaction to customer by providing the desired type of product at right price of right time. Main function of this deptt. is to take care of sale of the product manufactured.

2. TENDERING: There are 13 RODS (Regional operating decision) situated in almost all the state capitals. They are responsible for taking care of demand in there respective regions. They keep the commercial deptt. Information from time to time.

PROCESS:

a. Tenders floated by customer.
   b. Tender specification sent to commercial deptt. by RODs.
   c. Commercial deptt. sends the demanded specification to Engg./ Design deptt. for cost estimation.
   d. One the based of cost pricing is done by commercial deptt.
   e. Tender submission.
   f. Preparation of comparative statement by customers.
   g. Selection of lowest to best quotation.
   h. Negotiations.
   i. Issue of purchase order.
3. **AFTER SALES SERVICES**

This deptt. provides after sales services for the product manufactured by BHEL Jhansi with on warrantee period as well as for outside warrantee period (with service charges extra).

4. **TRANSFORMER ENGINEERING/ DESIGN DEPTT.**

1. Assisting commercial deptt. (at tender stage) by sending the details of material required and factory cost of producing the required product.
2. Preparation of final design of the product for approval of customers.
3. Assisting production deptt. in manufacturing of the product.
4. Preparing the design/ drawing for each and every job and in form of symbols in manufacturing process.
5. Assisting QC deptt. in preparing Quality plans.
6. Preparation of new and improved design of Product.
7. Preparation of design of any new product demanded by the customers.

5. **PRODUCTION PLANNING & CONTROL DEPTT. (PPC)**

The main functions of this department are :-

a. Co-ordination of all departments.
b. Inventory controls.
c. Purchase.

In manufacturing one job (i.e. a product) various department axerk together. They are :

* Commercial  *
* Production Planning & Control  *
* Technology  *
* Insulating  *
* Testing  *
* Stores  *
* Finance  *
* Design  *
* Fabrication  *
* Coil Winding  *
* Assembly  *
* Quality control  *
* Informatics

It is important therefore that these departments are linked together by a common body. PPC forms the link between these deptt.

Inventory control is one of major requirement of any company. Storage of excess of material is not desirable because it leads to blockage of many that can be invested elsewhere. So, it is important that the company maintains just enough inventory as required for the completion of a job. The design of every job is unique, therefore, therefore, only those items which are of general use e.g. transformer, insulation may be stored.

Procurement of material is also important. The department ensures that necessary material is made available in time. The materials are purchased from another BHEL units, the transaction is called inter unit transfer (IUT).
6. BUS DUCTS

Bus duct are used as connection between generators and transformers. Bus duct are used in power connection over 150 MW. Bus duct does the function of getting power from generating source to the transformer. There are two types of bus duct.

1. IPB (Isolated Phase Bus duct) :- There are separate lines for all the three phases. IPB is circular in shape. This type of bus duct is used for higher rating.
2. SPB (Segregated Phase Bus duct) :- It is rectangular in shape. There are three chambers for different phases. This type of bus duct is used for carrying low power.

3.2 TECHNOLOGY

Main functions of technology department are:

1. Preparation of method sheet. In the method sheet different operations are arranged in sequence to maintain the quality of the product.
2. Estimation of standard time with the help of time schedule.
3. Time study for new jobs.
4. Procedure for job card processing. (Comparing standard time with the Actual time).
5. Giving ETA (Extra time allowance) whenever extra time is needed.
6. To conduct study for man and machine utilization.
7. To develop motivation among the employees through suggestion, competition, slogan competition and productivity projects.

3.3 QUALITY POLICY OF BHEL

To strive for excessive as a supplier of Quality product & services.

Central Quality Services (CQX)

First we get acquired with a few terms concerning this department.
Two basic functions of CQX.

1. **Quality Assurance**: All those plants and systematic action necessary to provide adequate confidence that a product or service will satisfy the given requirements is called quality assurance.

2. **Quality Control**: The operational techniques and activities that are used to fulfill requirement for quality are quality control.

3. **Quality Inspection** :-Activities such as measuring, testing, gauging one or more characteristics of a product or service and comparing these with specified requirement to determine conformity are termed as quality inspection.
specified requirement to determine conformity are termed as quality inspection.

CQX

Inspection of
Incoming Material  Inspection of Transformer  Inspection of Locomotive

Inspection at every stage is essential because in case of a fault to entire assembly of transformer will have to disassembled and the work done all over again. BHEL has also got ISO 9001 certificate in Jan. 1994 for quality assurance in design, div. Production, Installation & servicing.

ISO – International Origination For Standardization.

3.4 WORKS ENGINEERING AND SERVICE DEPARTMENT

This department has got two main functions.

i. Maintenance

ii. Providing different services to factory civil township.

i. MAINTENANCE: Maintenance means to maintain the facilities in a system upon some desired level of efficiency. Some measures of performance i.e. to keep assets in a satisfactory condition to restore these to that condition.

TYPE OF PLANT MAINTENANCE

1. Break down maintenance
2. Preventive maintenance

ii. SERVICES: WE&S department provides services facilities to run the factory & unit township.

1. Providing electricity to the factory & township & in case of power breakdown.
2. Providing communication facilities.
3. Planning the electricity substations & maintenance of the same.

Stores: There are three sections.

1. Control receiving section.
2. Custody section.
3. Scrap disposal section.

Functions: First commercial department gives an idea about the product to the Engg. Deptt. then this deptt. suggest that what is material and what is its quantity. Designing deptt. make the design and technology deptt. set the time for the completion of a job. Then purchase deptt. issue the tender. Stores deptt. is the part of purchase deptt. so when material come in the store (stores received voucher) and dispatch the material to quality check. The quality control department checks the material by the purchase material inspection review and send the copies of CRS
(Control receipt section) to the purchase and store deptt. then there are two situation arises, if material rejected then it go for replacement or rectified, if material is ready so the store accept the material.

3.5 **LOCO COMMERCIAL DEPARTMENT**

i. BHEL is having a centralized marketing group. Which is involved in doing marketing for BHEL products. These marketing groups have been divided into different groups (on the basis of Nature of products).
   1. Industry group
   2. Power group
   3. Thermal group
   4. Hydro group

Loco commercial Deptt. of BHEL, Jhansi looks after sales part only.

ii. **Functions of Loco Commercial Deptt.**
   1. Sales.
   2. After Sales Services.
   3. Supplying the spare parts.

3.6 **LOCO PRODUCTION DEPARTMENT**

BHEL is producing mainly two types of locomotives.

(1) DESL (Diesel electric shunting Loco)
(2) AC Locomotive (Alternative Current Locomotive)

(1) Diesel Electric Shunting locomotive are run by Diesel, The following various types of DESL are being manufactured.
   (i) BOBO- 350 HP
   (ii) BOBO-700 HP SINGLE POWER
   (iii) BOBO-700 HP TWIN POWER

(2) AC loco runs on electric main line on broad gauge. It is manufactured in collaboration with HITACHI - JAPAN. Important specification of A.C. Locomotive the wag-5 are:
   (1) Power - 5000 HP
   (2) Rectifier-Usha Rectifier.
   (3) Speed 80 Kms/Hrs.
   (4) Transformer-25 KV
   (5) Weight-118 Tones.

3.7 **INFORMATICS DEPARTMENT**

This deptt is involved in computerization works under the various deptt. it has two main function.

1) It maintain the computer centre
2) It prepare various reports

The centre is equipped with a min frame computer ICIM series 39, Hard disk, magnetic tape, 32 terminals & PCs MSX also has remote are business message
3.8 PERSONNEL DEPARTMENT:

To achieve the organizational objectives it is necessary to co-ordinate the resources of the organization i.e.

- MEN
- MONEY
- MACHINERY
- MATERIAL

It is an effective combination of these factors that the success or failure of organisation depends.

BHEL has been a pioneer in public sector in many fields including the area of human resource managements. Its many innovative approaches and experiments on this areas been a trend setter in our country.

3.9 THE ROLE OF PERSONNEL DEPTT. IN BHEL JHANSI

In the modern era, the PERSONNEL DEPARTMENT typically performs a variety of roles, such as the rolled conscience, of a counselor a Mediator a company spokesman problem-solvers and a change agent. It performs many miscellaneous roles in accordance with the needs of situation.

3.9 (A) PERSONNEL ROLE:

(a) Advisory: Advisory management on effective use of Human Resources
(b) Man Power: Recruitment, promotion, selection, planning, etc
(c) Training and development of line man.
(d) Measurement of Assessment of Individual And Group Behaviour

3.9 (B) WELFARE ROLE:

(a) Research In personnel and organizational problem
(b) Managing Services: Canteen, Crèches etc
(c) Group Dynamic: Group counselling, motivation, leadership, communication etc.

3.9 (C) CLERICAL ROLE:

(a) Time keeping
(b) Salary and wages Administration-Incentives
(c) Maintenance of records

3.9 (D) FIRE-FIGHT LEGAL ROLE:

(a) Grievance Handling
(b) Settlement of disputes
(c) Handling Disciplinary actions
(d) Collective bargaining
3.10 FINANCE DEPARTMENT

Finance is the life of an organisation and it is very essential for an organisation to have smooth and efficient financial management & finance department looks into it in BHEL Jhansi. Finance department in BHEL is calibrated into various sections.

1) Sales Sections
2) Costing Sections
3) Cash Sections
4) Purchase Sections
5) Revenue Sections
6) Administration
7) Miscellaneous Sections
8) Supply bill section
9) Works sections
10) Fixed asset sections
11) Books & budget sections
12) Pay & Provident fund sections
13) Price stores ledger sections
14) Export Sections
15) Internal Audit Sections
16) TA/LTC Sections

These sections perform their functions individually, from time to time coordination is maintained between finance and other departments.

4. B.H.E.L. HARDWAR

At Hardwar against the picturesque background of Shivalik Hills, the following main units of BHEL are located:-

1. HEAVY ELECTRICAL EQUIPMENT PLANT (H.E.E.P)
2. CENTRAL FOUNARY AND FORGE PLANT (C.F.F.P)
3. POLLUTION CONTROL RESEARCH INSTITUTE (P.C.R.I)

1. H.E.E.P.

Against the picturesque Shivalik foothills of the Himalayas and on the bank of the Holy Ganges at Ranipur near Hardwar, is located BHEL’s Heavy Electrical Equipment Plant (HEEP). *This plant was set up in technical collaboration with USSR, for the manufacture of power plant equipment, AC/DC motors of various sizes with associated control equipment and started production in January 1967.*

In 1976, BHEL entered into a collaboration agreement with M/S Kraftwerk Union, AG of Germany for design, manufacture, erection and commissioning of large size steam turbines and turbo generators of unit rating up to 1000 MW. In 1989, BHEL also signed a collaboration agreement with M/S Siemens, Germany for transfer of technology for manufacture of large gas turbines. More than 40 percent of the country’s electrical energy is generated from the power equipment supplied by BHEL, Hardwar.
HEEP Hardwar has exported its products to Iran, Russia and Germany. The products exported includes condensers for 800 MW thermal sets, turbine rotors, curtis wheel blades, gas turbine combustion chambers, haulage winches and electrical machines.

2. **C.F.F.P.**
The Central Foundry Forge Plant was set up at Hardwar with French collaboration. The construction started in 1974 and production was commenced in 1976. This plant has an in-built high degree of sophistication normally associated with much larger plants & has successfully developed various intricate castings and forgings, which were hitherto imported. CFFP has successfully manufactured various types of steels, e.g. creep resistant steel, heat resistant steel, stainless steel armor steel etc. as per India and International Standard.

2.1 **STEEL CASTINGS**
HP, IP,LP Cylinders for Thermal Sets. Francis Runners, Kaplan Blades, Pelton Runners for Hydro Sets, 'A'-Brackets for Ship Building. Manipulator Guard, Cheek, Trunions, Gear Rims for other core sectors.

2.2 **STEEL FORGINGS**

- Rotors, Discs, Castings, guides for Thermal Sets.
- Turbine/Generator Shafts, Thrust Collars for Hydro Sets.
- Propeller Shafts for Ship Building.
- Spindles, Rings, pinions, Feed rolls for Steel Plants.
- Special Forgings For Nuclear and Defence Sectors.

Most of the castings and forgings produced by CFFP are of import substitution nature. CFFP has also exported motor frame and steam turbine castings and forgings to former USSR and Germany. *CFFP has also won the national award for import substitution*. CFFP has been recognized as a well-known steel marker and Foundry & Forge Master by Indian Boiler Board. The American Bureau of Shipping has also approved CFFP for the manufacture of Casting and Forgings for Ship Building Industry.

3. **P.C.R.I**
This National Institute on Pollution Control Research has been set at BHEL, Hardwar with assistance from United Nation Development Programmer (UNDP). *The objectives of the Institute are to evolve technologies and provide services to control industrial pollution with respect to air, water, noise and solid waste*. The Institute has already conducted a number of studies on the effect emission of industrial pollutants in and around the industries and thermal power stations. The Institute is rendering consultancy services to large number of Government and private organizations.

**MAJOR EQUIPMENTS:**
- Mobile Air Monitoring units;
- Induction Coupled Plasma Units;
- Atomic Absorption Spectrophotometer;
- Dust Density Monitor;
- Micro Computer & Digitizer;
- Diesel Smoke Meter;
- Automatic Emission Tester;
- Sound Level Meters, Instrumentation Tape Recorders.
4. **ORGANIZATIONAL CHART OF FINANCE DEPARTMENT (HEEP)**

**GENERAL MANAGAR (GM)**

- Dr. GENERAL
  - Sales, works Section, Payment,
  - Store Bills Section,
  - Store Finance
    - PSL, SV, Cash.
    - System

- Sr. MANAGER
  - Books Selection, Budget,

- Sr. MANAGER
  - Foreign
  - Cost, Pay Roll, Computer
  - MIR,

- Sr. MANAGER
  - Sales Section,
  - Sales Tax & Excise,
  - Pay Roll

- Sr. MANAGER
  - Books & Budget Section,
  - MIR, Store Finance.

The chart shows the various sections of Finance Department of HEEP, Hardwar.

4.1 **PRODUCT PROFILE OF BHEL**

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>RANGE</th>
<th>ANNUAL INSTALLED CAPACITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. THERMAL SETS</td>
<td>STEAM TURBINE &amp; TURBO GENERATOR IN UNIT SIZE UP TO 1000 MV</td>
<td>3500 MW</td>
</tr>
<tr>
<td>2. HYDRO SETS</td>
<td>HYDRO TURBINE &amp; MATCHING GENERATORS OF VARIOUS RATING WITH</td>
<td>625 MW</td>
</tr>
<tr>
<td>3. ELECTRICAL MACHINES</td>
<td>MEDIUM AND LARGE SIZE &amp; DC ELECTRICAL MACHINE OF VARIOUS CAPACITIES UP 6600 MM</td>
<td>450 MW</td>
</tr>
<tr>
<td>4. APPRATUS &amp; CONTROL GEARS</td>
<td>COMPLETE SETS TO MATCH PRODUCTS</td>
<td></td>
</tr>
</tbody>
</table>
At present nearly 37% of the country’s electrical energy is generated from the set manufactured by BHEL Hardwar.

BHEL is widely recognized as the largest engineering and heavy electrical equipment company of its kind in India. The success story of BHEL however goes back to 1956 when it first plant was set up in Bhopal. There more major plants in Hardwar, Hyderabad & Tiruchirapalli followed thus these plant have been at the core of BHELS efforts to grow and diversify and diversify and become one of the most integrated power and industrial equipment, manufactures units, 9 service center and 4 power sector sites spread all over India and aboard.

BHEL manufactures over 180 products and 30 major product group and meets the needs of core sectors like power, industry, transportation (including railways), defense, telecommunication, oil business etc, its products have established an enviable reputation for high quality and reliability. This is due to the emphasis placed all along on design, engineering and manufacturing to international standards by acquitting and adapting some of the best technology from leading companies in the world, together with technical development in its own R&D center BHEL has acquired ISO 9000 to ISO 14000 certification for its operation and has also adopted the concept of Total Quality Management (TQM).

4.2 PRODUCT PROFILE

1. PRODUCT CAPACITY RATINGS

- Thermal Sets: Upto 1,000 MW
- Hydro Sets: Maximum hydrominer Turbine diameter 6,600 manufacturing up to 115 MW
- Gas Turbines: 60200 MW 150 ratings
- Light Aircraft: Two Seater
- AC/DC Machines: 5,200,000 KW
- Apparatus and Control Gears: To match with the power equipment
- Steam Turbines for combined Various combinations cycle power plant
- Heat Exchangers/condensers: Manufacturing up to 800 MW ratings
- Medical Equipment: Linac (for cancer treatment)
- Super Rapid Gun Mount: Naval Guns

4.3 FINANCE FUNTIONS

1. COST SECTION

Cost section of the company is divided into following two sections viz, PRODUCT COST & CENTRAL COCT and these deals with the following function:-
Determination of periodic profits including inventory valuation.

Determination of pricing policy of the company.

Work related to capital expenditures of the company.

Developing variance Management Information report for different parts of management for purpose of cost control and reduction.

Valuation of worked in progress and finished goods.

Interaction with management of top management link for achieving cost control and cost reduction and thereby improving bottom line of the company.

Preparation of cost sheet of different product and their analysis for future planning.

2. **SALES SECTION**

The main function of sales section is accounting of sales function/invoice on customer, debtor’s management, service tax and sales tax payment etc. Sales can be categorized as following. The functioning of the sales section of the finance department is divided into two categories.

A. **DOMESTIC SALES: -**

The Domestic Sales is divided into two parts: -

Sales of BHEL/Inter Unit Sales: -

This type of sales is also Known as Transfer out. This sale is made to various units of BHEL, like Hyderabad, Bhopal, Ranipet, Varansi, Trichy and Jhansi etc. For these units the selling price of the material is determined mutually by both the units & accordingly invoice/debit notes are prepared by the dispatching unit. Since there is no sales from overall BHEL point of view no Sales Tax is charged on the Invoice. However since There is manufacture Excise Duty is charged at the prevailing rate which is at present 16% only, on the Assessable value of the material.

**Non BHEL Sales/External Sales: -**

This type of sales is known as Non BHEL Sales. Orders are procured by the Commercial Department of BHEL, both at Corporate level and at the unit level. Corporate level orders are procured either by the Power Sector or by the Industry Sector. Sales Invoice is raised on the customer based on the billing breakup approved in between the customer and the commercial department of BHEL. The Sales Invoice consists of the material assessable value along with the Excise Duty prevalent on the product and the Sales Tax applicable as per the nature/destination of the goods. If the movement of the goods is within the state sales Tax is applicable whereas if the movement of the goods involves Inter state movement, CST is applicable. The Invoices are prepared in triplicate, the original for the buyer, Duplicate for the transporter and the triplicate for the assesses.
The main functions of Sales Section can be summarized as follows:-

1. Vetting of estimates/quotation for sales of product/service, wherever financial concurrence is required.
2. Scrutiny and vetting of agreement for sales of produces and source.
3. Invoicing for sales/advance or progressive payment/erection income and other claims on the customer.
4. Maintenance of subsidiary records like sales journal/sales daybook, sundry debtors, ledger advances from customer’s ledger etc.
5. Payment, recovery and accounting of sales tax, excise duty etc.
6. Accounting of claims on carriers/insurance companies for missing items/damages on outward consignments.
7. Scrutiny, payments and accounting of bills of carriers and insurers and other miscellaneous claims relating to the outward consignments.
8. Review and reconciliation as well as follow up of recovery of outstanding dues from the customers in coordination with commercial department.

B. EXPORT SALES:

Export sales is divided into two parts:

(i) Physical Export.
(ii) Deemed Export.

(i) PHYSICAL EXPORTS

Physical Export is those export where goods physically leave the cost/border of India. As on the date BHEL is executing a power plant project based in Iraq and another Mega Power project is proposed to be set up in Libya. In case of Exports to Iraq supply is against OIL FOR FOOD PROGRAMME of UNO. Hence Sales Invoices are generated as per approved Billing Breakup approved by UNO. The total exports to Iraq (FOUR UNITS) are divided in two currencies Euro and USD. Iraq 1&2 is in Euro and Iraq 3&4 is in USD. Since it is a case of Physical Export materials are cleared on basis of bond executed with the Asst. Commissioner of Excise and Customs. No Excise Duty is paid however the ARE bond is debited with the amount of Excise Duty calculated on the assessable value of the goods. The excise duty formalities are taken care of by the excise cell. The ARE bond No. date of debit is mentioned on the face of the invoice.

(ii) DEEMED EXPORTS

Deemed export are those exports in which there is no physical movement of goods outside the country. They are deemed as export as per Chapter 10 of the Export-Import policy of India 1997-2002 formulated by Ministry of Commerce. The following supplied are categorized Deemed Exports:

- Supply of goods to EQU’s, EPZ’s, STP’s, EHTP’s etc.
- Supply of goods to EQO’s EPZ’s STP’s EHTP’s etc.
- Supply of Capital Goods to EPCG License Holders.
- Supply of goods to projects financed by Multilateral or bilateral agencies/Funds as notified by the Deptt. Of Economic Affairs,
Ministry of Finance under ICB or under Limited Tender system in accordance with the procedures of Those agencies/Funds?

- Supply of Capital goods and spares to Fertilizers if the supply is made under ICB.
- Supply of goods to any project or purpose in respect of which the Ministry of Finance permits imports of goods at Customs duty.
- Supply of goods to the Power, Oil and Gas sectors in respect of which the Ministry of Finance extends the benefits of Deemed Exports.

The Various benefits available under Deemed Exports are as follows:

- Special Import License/Advance International License.
- Deemed Exports Drawback Scheme/Duty Drawback Scheme.
- Refund of Terminal Excise Duty. BHEL HEEP Haridwar avails the Deemed Export Benefits under Chapter 10 clause 10.2(d) i.e. Supply of goods to projects financed by Multilateral/Bilateral agencies like World Bank, Asian development Bank, OECF etc. This orders are procured under Global Tender or in other words ICB (International Competitive Bidding). At present BHEL Hardwar has Deemed exports supply to numerous projects of NTPC like Faridabad, Talchar, Simhadri, Ramagundam, Rihand etc. Supplies to these project enables BHEL to avail various deemed export benefits as per the exim policy, like import of raw material and component without payment of customs duty, special import license, non payment of excise duty on dispatch of goods, refund of excise duty and custom duty if paid on both the raw materials and finished products etc.

3. **PAYROLL SECTION**

This section deals mainly with the following functions:

1. Preparation of monthly wage bills.
2. All account work related to personal payments and discloses profit and loss account of the company.
3. Dealing with income tax authority with regard to personal taxation of employee.
4. Dealing with other statutory authority such as P.F. Commissioner, ESI (employee states insurance).
5. To ensure correct payment of salary and wages and other benefits to employees in line with policies.
6. Payments and accounting of all miscellaneous expenditures incurred on post and telegraph, telephone and miscellaneous payments.

4. **STORES SECTION**

For the convenience of performance of various function it is divided in to further there sections which are as follows:

Stores bills.
Stores review.

Foreign payment.

They deal mainly with the following items of works:

Payment of suppliers' bills including bills for advances-indigenous and foreign.

Pricing of stores receipt vouchers including fixed assets vouchers and fixed assets receipt vouchers.

Maintenance of accounts of advances to suppliers, claims recoverable, claims for short suppliers, rejections and rectifications of materials and sundry creditors.

Opening of letter of credit and arranging payments to foreign suppliers under foreign credit/deferred payment agreements.

Payment of bill for ocean freight, port trust dues, custom duty, local agents commission and clearing agents bills, transit insurance bills of contractors for transport/handling etc. and accounting of such payments are made at regional offices.

Maintenance of accounts of material issued on loan and materials issued to subcontractors.

Keeping account of earnest money and security deposits received from tender and suppliers.

Adjustment of stores in transit to be made at the close of the year.

5. FOREIGN PAYMENT SECTION

The foreign payment section deals with all for Imports of Raw Materials, Spares components, Capital Equipments as well as payments to collaborators. Further the section also deals with Insurance of all assets, building, incoming and outgoing materials etc. In addition to the above all accounting of Imports are also dealt with by the section.

Foreign Payment Section of BHEL, HEEP, Hardwar also looks after the total INSURANCE coverage of the unit. The various Insurance Policies which are usually taken are as follows:

1. Fire Insurance Policy
2. Marine policy
   a) Inward policy:
      * Indigenous
      * Imports
      i. FOB Policy
      ii. Custom Duty Policy
   b) Outward Policy
      * Indigenous
      * Exports
3. Cash-in –Transit policy
4. GPA (Group Personal Accident Policy)
5. Vehicle Policy
6. Fidelity Guarantee of Cashiers/Storekeepers

BHEL has insured all of its ASSETS & BUILDINGS for Rs. 477 Crores (book value) for the year 2003-2004 under Fire & Insurance Policy.

There are some Special Contingency Policies also which are not done By BHEL, HEEP, and Hardwar regularly such as Storage Policy for Materials held on behalf of customers, Special Well Policies, Laptop Insurance Policies etc.

For awarding insurance works to various Insurance Companies tenders are floated with the due approval of the competent authority. Since Hardwar does not have any private Insurance Co., tenders are floated on the four subsidiaries of GIC (General Insurance Company) namely:

- M/s New India Assurance Co.
- M/s United India Insurance Co.
- M/s National Insurance Co.
- M/s Oriental Insurance Co.

Business is awarded on totality basis taking into account various factors like the claims settlement record of the Insurance Co. as well as service providing record of the Insurance Companies.