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PROFILE OF STUDY UNIT

BHARAT ELECTRONICS LIMITED – AN OVERVIEW

The main objective of the present study is to explore the nexus between HRM and productivity in BEL Ghaziabad sister unit of Bharat Electronics Ltd., Bangalore. The study is confined to the public sector because of its domination in Indian economy. However, the growing criticism about its disappointing profitability and efficiency has made the study all the more necessary and relevant. In India, the major part of investment in public sector, (over 80%) went into enterprises producing goods, mostly basic and capital goods, and the remaining into services. The study has, therefore, limited itself only to a specific selected public sector manufacturing enterprise viz. BEL belonging to the Central Government.

BEL was set in 1954 with the vision of attaining self-reliance in defence electronics. Starting with the manufacture of a few Tran receivers at Bangalore, BEL now makes a wide range of hi-tech products like radars, sonars, defense communication equipment, telecommunication equipment, broadcasting equipment, component electronics voting machines electronics warfare system, up to electronics at its 9 manufacturing units spread over the length and breadth of the country. BEL has also set up a wide network of offices and service centers countrywide as well as two offices overseas (New York and Singapore).

BEL was primarily set up to meet the specialized defense electronics needs of the armed forces. This continues to be BEL's focus but realizing the need to diversify in a highly competitive marketplace, the company has also diversified into areas of civilian need. Some of the successful civilian products include the electronic voting machines, solar powered LED-based traffic signal
granting enhanced autonomy and delegation of powers to consistently profit-making PSU’s by conferring Mini Ratna Status.

**NINE UNITS OF BHARAT ELECTRONICS AT A GLANCE**

Bel has 9 production units established at different parts of the country. They are:
- Bangalore.
- Ghaziabad.
- Pune.
- Taloja (Maharashtra)
- Hyderabad.
- Panchkula (Haryana).
- Chennai.
- Machilipatnam (A.P.)
- Kokdwara (Uttarakhand)

- **BANGALORE (KARNATAKA):**

  BEL started its production activities in Bangalore on 1954 with 400W high frequency (HF) transmitter and communication receiver for the Army. Since then, the Bangalore Complex has grown to specialize in communication and Radar/Sonar Systems for the Army, Navy and Air-Force.

  BEL's in-house R&D and successful tie-ups with foreign Defense companies and Indian Defense Laboratories has seen the development and production of over 300 products in Bangalore alone. The Unit has now diversified into manufacturing of electronic products for the civilian customers such as DoT, VSNL, AIR and Doordarshan, Meteorological Dept, ISRO, Police, Civil Aviation and Railways. As an aid to Electorate, the unit has developed Electronic Voting Machines that are produced at its Mass Manufacturing Facility (MMF).
• **GHAZIABAD (U.P)**

The second largest Unit at Ghaziabad was set up in 1974 to manufacture special types of RADAR for the Air Defense Ground Environment Systems (Plan ADGES). The Unit provides Communication Systems to the Defense Forces and Microwave Communication Links to the various departments of the State and Central Govt. and other users. The Unit's product range include Static and Mobile Radar, Tropo scatter equipment, professional grade Antennae and Microwave components.

• **PUNE (MAHARASHTRA)**

This Unit was started in 1979 to manufacture Image Converter Tubes, Subsequently, Magnesium Manganese-dioxide Batteries, Lithium Sulphur Batteries and X-ray Tubes/Cables were added to the product range. At present the unit manufactures Laser Sub-unit for tank fire control systems and laser Range Finders for the Defense Services.

• **MACHILIPATNAM (ANDHRA PRADESH):**

The Andhra Scientific Co. at Machilipatnam, manufacturing Optics/Opto-electronic equipment was integrated with BEL in product line includes passive Night vision Equipment, Binoculars and Goggles, periscopes, Gun Sights, Surgical Microscope and Optical Sights and Mussel Reference Systems for tank fire control systems. The Unit has successfully diversified to making the surgical Microscope with zoom facilities.

• **CHENNAI (TAMIL NADU):**

In 1985, BEL established another Unit at Chennai to facilitate manufacture of Gun Control Equipment required for the integration and installation and the Vijayanta tanks. The Unit is
now manufacturing Stabilizer Systems for T-72 tanks, Infantry Combat Vehicles BMP-II, Commander's Panoramic Sights & Tank Laser Sights are among others.

- **TAHOJA (MAHARASHTRA):**
  For the manufacture of B/W TV Glass bulbs, this plant was established in collaboration with coming, France in 1986. The Unit is now fully mobilized to manufacture 20" glass bulbs indigenously.

- **HYDERABAD (ANDHRA PRADESH):**
  To coordinate with the major Defense R&D Laboratories located in Hyderabad, DLRL, DRDL and DMRL, BEL established a Unit at Hyderabad in 1986 Force Multiplier Systems are manufactured here for the Defense services.

- **KOTDWARA (UTTRAKHAN):**
  In 1986, BEL started a unit at Kotdwara to manufacture Telecommunication Equipment for both Defense and civilian customers. Focus is being given on the requirement of the switching Equipment.

- **PANCHKULA (HARYANA):**
  To cater the growing needs of Defense Communications, this Unit was established in 1985. Professional grade Radio-communication Equipment in VHF and UHF ranges entirely developed by BEL and required by the Defense services are being met from this Unit.
QUALITY APPROACH OF BEL

- QUALITY POLICY

Bharat Electronics consistently delivers enhanced value to its customers, through continual improvement of its products and processes.

- QUALITY OBJECTIVES

Quality objectives of Bharat Electronics are as follows:

- Effective and efficient design and development process, considering the present and future needs of customers.

- Enhanced customer satisfaction by in-time delivery of defect free products and effective life cycle support.

- Continual up gradation and utilization of infrastructure and human resources.

- Mutual beneficial alliances with suppliers.

- Continual improvement of processes through innovation, technology and knowledge management.
3.0 BEL GHAZIABAD

In the mid 60's, while reviewing the Defense requirement of the county, the government focused its attention on strengthen the air Defense system, in particular the ground electronics system support, for the air Defense network. This led to the formulation of a very major plan for an integrated Air Defense Ground Environment System known as the Plan ADGES with Prime Minister as the presiding officer of the apex review committee. At about the same time, Public attention was focused on the report of the Bhabha Committee on the development and production of electronic equipment. The Ministry of Defense immediately realized the need to establish production capacity for meeting the electronic equipment requirements for its Plan ADGES.

BEL was then entrusted with the task of meeting the development and production requirement for the Plan ADGES and in view of the importance of the project it was decided to create additional capacity at a second unit of the company.

In December 1970 the Govt. sanctioned an additional unit for BEL at Ghaziabad. In 1971, the industrial license for manufacture of radar and microwave equipment was obtained. Construction activities and production was launched in 1974.

Over the years, the unit has successfully manufactured a wide variety of equipment's needed for Defence and civil use. It has also installed and commissioned a large number of systems on turnkey basis. The Unit enjoys a unique status as manufacturer of IFF systems needed to match a variety of Primary Radars. More than 30 versions of IFFs have already been supplied traveling the path from vacuum
technology to solid state to latest Microwave Component based system.

The operations at BEL Ghaziabad are headed by General Manager with Additional / Deputy General Manager heading various division- Design Engineering Divisions, Development and Engineering-R, Development and Engineering-C and Development and Engineering- Antenna.

DEPARTMENTS OF BEL, GHAZIABAD :-

The various departments of BEL (GZB) are :-

- Human Resource Development
- Design and Engineering & DEVELOPMENT
- Work Maintenance
- Test Equipment and Automation
- PCB Fabrication
- Quality Control
- Works Assembly
- Microwave Lab
- Environment and Testing Laboratory
- Personnel and Administration
- Production control
- management Services
- Information Systems
- Antenna Fabrication
- machine Shop
- Fabrication Shop
- Finance and Accounts
- Material Management
- Plant and Service
3.1 HUMAN RESOURCE MANAGEMENT IN STUDY UNIT

TYPES AND METHODS OF TRAINING IN BEL

On the basis of purpose, several types of training programmes are offered to the employees. It should be noted that these programmes are not mutually exclusive. They invariably overlap and employ many common techniques. The significance types of training programs are as follows:

1. Induction or orientation training,
2. Job training,
3. Apprenticeship training,
4. Internship training,
5. Refresher training,
6. Training for promotion,

1. **Induction or orientation training**: Induction is concerned with introducing or orienting a new employee to the organization and its procedures, rules and regulations. When a new employee reports for work, he must be fellow employees.

   It is better to give him a friendly welcome when he join the organization, get him introduced to the organization and help him to get a general idea about the rules regulations, working conditions, etc. of the organization. A training which are arrange for new employee is called induction training. Or a
training which about all working condition of any organization is called induction training.

2. **Job training**: Job training relates to specific job which the worker has to handle. It gives information about machines, process of production, instructions to be followed, and methods to be used and so on. It develops skills and confidence among the workers and enables them to perform the efficiently.

3. **Apprenticeship training**: Apprenticeship training programme tends more towards education than merely on the vocational training. Under this, both knowledge and skills in doing a job or a series of related jobs are involved. The governments of various countries have passed laws which make it obligatory on certain classes of employees to provide apprenticeship training to the young people. The usual apprenticeship programmes combine on the job training and experience with class-room instructions in particular subjects. Some employers look upon apprentices as a source of cheap labor.

4. **Internship training**: Under this method, the educational or vocational institute enters into arrangement with an industrial enterprise for providing practical knowledge to its students. Internship training is usually meant for such vocations where advanced theoretical knowledge is to be backed up by practical experience on the job. For instance, engineering students are sent to big industrial enterprise for gaining practical work experience and medical students are sent to big hospitals to get practical knowledge. Also known as unpaid training (UPT).

5. **Refresher training or retraining**: As the name implies, the refresher training is meant for the old employees of the
enterprise. The basic purpose of refresher training is to acquaint the existing workforce with the latest methods of performing their jobs and improve their efficiency further. In the works of Dale yoder, "retraining programmes are designed to avoid personnel obsolescence.

Thus, refresher training is essential because of the following factors:

(a) The workers require training to bring them up-to-date with the knowledge and skills.

(b) Rapid technological changes make even the qualified worker obsolete in course of time because new technology is associated with new work-methods and job requirements.

(c) Refresher training becomes necessary because many new jobs which are created due to changes in the demand for goods and services are to be handled by the existing employees.

6. Training for promotion: The talented employees may be given adequate training to make them eligible for promotion to higher jobs in the organization. Promotion of an employee means a significant change in his responsibilities and duties. Therefore, it is essential that he is provided sufficient training to learn new skills to perform his new duties efficiently. The purpose of training for promotion is doing develop the existing employees to make them fit for undertaking higher job responsibilities. This serves as a motivating force to the employees.
Training Methods in BEI

A) On-the-job Methods

1. On-the-Job Training: An employee is placed in a new job and is told how it is to be performed. It aims at developing skills and habits consistent with the existing practices of an organization and by orienting him to his immediate problems. A variety of training aids and techniques are used such as procedure charts, lecture manuals, sample problems, demonstrations, oral and written explanations etc.

2. Vestibule Training or Training; Centre Training: It involves classroom training imparted with the help of equipment and machines identical to those in use such at the place of work. It is often used to train clerks, bank tellers, inspectors, machine operators, typists, etc.

3. Simulation: It is an extension of vestibule training. The trainee in closely 'duplicated' real job conditions

4. Demonstration and Examples: Here the trainer describes and demonstrates how to do a certain work. He performs the activity himself, going through a step-by-step explanation 'why', 'how' and 'what', of what he is doing.

5. Apprenticeship: A major part of training time is spent on the on-the-job productive work. Each apprentice is given a programme of assignments according to a predetermined schedule which provides for efficient training in trade skills. This method is appropriate of training in crafts, trades and technical areas.
(B) **Off-the-job or Classroom Methods** : Location of this training may be a company classroom, an outside place owned by the organization, an education institution or association, which is not part of company.

These methods are:

(1) **Lectures**:

These are formally organized talks by an instructor on specific topics. This method is useful when philosophy, concepts, attitudes, theories and problem solving have to be discussed.

(2) **The Conference Method**:

Under this method, a conference is held in accordance with the organized plan. Mutual problems are discussed and participants pool their ideas and experience in attempting to arrive at better methods of dealing with these problems.

(3) **Seminar or Team Discussion**:

The group learns through discussion of a paper on a selected subject. The paper is written by one or more trainees. The material to be analyzed is distributed in advance in the form of required reading. At times a real or hypothetical business problem or situation demanding solution, is presented to the group members are trained to identify the problems present, they must suggest various alternatives for tackling, analyze each of these, find out their comparatives suitability and decide for themselves the best solution.
(4) Role-Playing:

This method is also called 'role-reversal', 'socio-drama' or 'psychodrama'. Here trainees act out a given role as they would in a stage play. Two or more trainees are assigned roles in a given situation, which is explained to the group.

(4) Programmed Instruction:

This involves two essential elements:

(a) A step-by-step series of knowledge, each building upon what has gone before, and

(b) A mechanism for presenting the series checking on the trainee's knowledge.

3.2 HUMAN RESOURCE MANAGEMENT IN STUDY UNIT AND ITS CHANGING NATURE

The organizational set up of the company and of the various departments of the company can be described as following given in other pages. The organizational set up is different from department to department. Here some departments of the company are described which is related to the human resource development department. These are given below:

» **HRD Department**

Main objective of this department is to provide training program for the employee, unpaid trainee, and apprentices. HRD department provides 70 types of technical training programs & 36 types of managerial programs and 9 types of special programs.
Welfare Department

Main duty of this is to act and the welfare of the employees like uniform distribution, canteen facilities, cultural and sports activities, medical facilities, maternity and paternity benefits. This department also provides school facilities for the children of the employee. This department also provides scholarship for the children of the employee. This department also provides scholarship for the higher education of the maximum two children of an employee. Welfare department also provides crèches facilities to their employee so that they can work in a very good mental and behavioral environment.

Industrial- Relation Department

This department is headed by AGM (P&A). The aim of the department is to solve out of the employee & to make & hormonal relation between the employee and the management. The main duties, which are assigned to this department are maintaining discipline within the organization, to provide representation in different participate forms. This department helps to make and to hold meeting of the worker with the management.

Personnel Department

The main function of this deptt. is to take disciplinary action, review of punishment, conciliation of cases, career plans, correspondence with CO/Govt. and with outside agencies. Matters related to bonus, PPI/MP/Incentive scheme etc. meeting with Trade Unions, redressal of the employees' grievances, absenteeism cases etc. matter related to contract labor, medical cases and the implementation of worker, participation in management scheme.
> **Safety Department**

There is also a safety department, which works for the safety of the whole company. The main aim of this safety department is to provide safety measures to the workers to save them from various hazards. This department provides them helmet, Gumboots and globes mask coats etc. so that they can save themselves in their respective department where they work in very inconvenient atmosphere.

**Establishment Department**

The main function of the establishment department is the recruitment and selection. And provide the essential data to account department and EDP department for effective and efficient work. This department plays very important role in Bharat Electronics Ltd. This department also provides the N.O.C. (no objection certificate) for employees who want to do job some where else. Establishment department also provides the lone facilities whether home lone, car lone, and education lone.

**3.3 HUMAN RESOURCE POLICY IN BEL**

This company provides very good working conditions to the worker and their employees. There are air conditioners in every department. Some departments are air cooled here. There are some divisions where the production processes going on are also air-cooled. This company provides very hygienic and very clean atmosphere so that the workers can work here easily and without tension.

The employees also feel very comfortable and very peaceful at workplace. They provide safety measures also to the workers and the
employees of the company. There are more than 2500 employees. For these employees, there are two shifts for the production process. Working conditions are key factor for any organization to establish the objective. If working conditions are not so good or effective, no organization can achieve their goals.

3.4 OTHER ASPECTS OF STUDY UNIT

CORPORATE MOTTO, MISSION AND OBJECTIVES

The passionate pursuit of excellence at B.E.L is reflected in a reputation with its customer that can describe in its motto, mission and objectives:

CORPORATE MOTTO

"Quality, Technology and Innovation"

CORPORATE MISSION

"To be the market leader in defence Electronics and in the other chosen fields and products"

CORPORATE OBJECTIVES

Objectives that Bharat Electronics possesses are as follows:

- To become a customer-driven company supplying quality products at competitive prices at the expected time and providing excellent customer support.
• To achieve growth in the operations commensurate with the growth of professional electronics industry in the country.

• To generate internal resources for financing the investment required for modernization, expansion and growth for ensuring a fair return to the investor.

• In order to meet the nation's strategic needs, to strive for self-reliance of materials and components.

• To retain the technological leadership of the company in Defence and other chosen field of electronics through in-house research and development as well as through collaboration / co-operation with Defense / National Research Laboratories, International companies, Universities and Academic Institutions.

• To progressively increase overseas sales of its products and services.

BEL's operations derive considerable strength from the assured orders from the defence segment. ICRA believes that notwithstanding the current high entry barriers in BEL's segment of operations, competition from private players is likely to emerge in the medium to long term. In the short term however, despite the higher capital expenditure envisaged and long collection cycle, the strong order book position, continued advances from defence customers, and the high cash balances currently will translate to comfortable liquidity.

BEL was born to meet the growing needs of Indian Defence services for electronic systems. Employing the best engineering talent available in the country, BEL has progressed manufacturing state-of-art products in the field of Defence Electronics like communications including encryption, Radars and strategic components.
Over the years, BEL has diversified to meet the needs of civilian customers as well and has provided products and network solutions on turnkey basis to customers in India and abroad.

**ENVIRONMENTAL POLICY**

Bharat Electronics is involved in the design, development, production and supply of professional electronic equipments and services with a Corporate Mission "To be the market leader in Defence Electronics and other chosen fields and products". It recognizes the impact of our day-to-day operations on the environment.

In order to minimize the harmful effects on the environment by such operations, it commits itself to:

- Continual improvement of our environmental performance and prevention of pollution, reduction of waste and consumption of resources (materials, water, fuel & energy) in all our operations, by implementing and maintaining an Environmental Management System.

- Minimize any significant environmental impact of all our activities, products and processes throughout their life cycle, by applying the most economically viable application of the best available technology for prevention of pollution.

- Set, maintain and review environmental objectives and targets as well as develop environmental performance evaluation procedures and associated indicators. Complete with all the relevant legislations, regulations and industry codes associated with our environmental impacts and where no legislation exists endeavor to set appropriate standards.
• promote environmental awareness among all employees and ensure their participation in implementing this environmental policy at their place of work. Suppliers will also be made aware of the need to preserve environment and prevent pollution, in line with the company environment policy.

The management of BEL is convinced of the need for quality enhancement, on a continuous basis, in the company. Need was felt to impart education / training to all the officers on various facets of quality management. Accordingly an Institute called Bharat Electronics Quality Institute (BEQI) was established in 1999. Regular training programs are conducted for all the employees working in different units of the company. Business Excellence models being followed by different organizations are studied and efforts are being made to implement the best possible practices in the functioning of the organization.

Bharat Electronics Limited, a premier Professional Electronics Company of India, has established and nurtured a strong in house R & D base over the years to emerge and remain as a market leader in the chosen areas of business in professional electronics. The Ghaziabad unit in BEL fully shares its philosophy of main training the higher standards of professional excellence.