

BHARAT ELECTRONICS LIMITED

**MINISTRY OF DEFENCE
DEPARTMENT OF DEFENCE PRODUCTION**

**COMMITTEE ON PUBLIC UNDERTAKINGS
(2013-2014)**

TWENTY SIXTH REPORT

(FIFTEENTH LOK SABHA)



सत्यमेव जयते

LOK SABHA SECRETARIAT

NEW DELHI

CPU NO. 959

26

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Presented to Speaker, Lok Sabha on 12.10.2013

Presented to Lok Sabha on 09.12.2013

Laid on the Table of Rajya Sabha on 09.12.2013

LOK SABHA SECRETARIAT
NEW DELHI

OCTOBER 2013 / ASVINA 1935(S)

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COMPOSITION OF THE
COMMITTEE ON PUBLIC UNDERTAKINGS
(2012-2013)

Chairman

Shri Jagdambika Pal

Members, Lok Sabha

2. Shri Hansaraj Gangaram Ahir
3. Vacant*
4. Shri Bansa Gopal Chowdhury
5. Dr. Mahesh Joshi
6. Shri Shailendra Kumar
7. Dr. (Smt) Botcha Jhansi Lakshmi
8. Shri Vilasrao Baburaoji Muttemwar
9. Shri Adhalrao Shivaji Patil
10. Shri Ponnam Prabhakar
11. Shri Rajendrasinh Rana
12. Shri Nama Nageswara Rao
13. Shri Uday Singh
14. Dr. Prabha Kishor Taviad
15. Shri Bhisma Shankar *alias* Kushal Tiwari

Members, Rajya Sabha

16. Shri Anil Desai
17. Shri Janardan Dwivedi
18. Shri Naresh Gujral
19. Dr. V. Maitreyan
20. Shri Mukhtar Abbas Naqvi
21. Shri T.M. Selvaganapathi
22. Dr. Janardhan Waghmare

* *Vacancy caused due to passing away of Shri Ambica Banerjee, M.P. on 25 April, 2013.*

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(2013-2014)

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3. Shri Praveen Singh Aron
4. Shri Sanjay Bhoi
5. Smt. Shruti Choudhary
6. Shri Bansa Gopal Chowdhury
7. Shri Raja Ram Pal
8. Shri Adhalrao Shivaji Patil
9. Shri Rajendrasinh Rana
10. Shri Nama Nageswara Rao
11. Shri Magunta Sreenivasulu Reddy
12. Prof. Saugata Roy
13. Smt. Sushila Saroj
14. Shri Uday Singh
15. Shri Bhisma Shankar alias Kushal Tiwari

Members, Rajya Sabha

16. Shri Naresh Agrawal
17. Shri Anil Desai
18. Shri Janardan Dwivedi
19. Shri Naresh Gujral
20. Shri Mukhtar Abbas Naqvi
21. Shri Tapan Kumar Sen
22. Dr. Janardhan Waghmare

SECRETARIAT

- | | | |
|-------------------------|---|------------------|
| 1. Shri A. Louis Martin | - | Joint Secretary |
| 2. Shri P.C. Koul | - | Director |
| 3. Shri G.C. Prasad | - | Deputy Secretary |

INTRODUCTION

I, the Chairman, Committee on Public Undertakings (2013-14), having been authorized by the Committee to submit the Report on their behalf, present this Twenty-sixth Report on Bharat Electronics Limited.

2. The Committee took oral evidence of the representatives of Bharat Electronics Limited on 27 December 2012 and that of the Ministry of Defence (Department of Defence Production) on 12 February 2013.

3. The Committee considered and adopted the Report at their Sitting held on 6 September, 2013.

4. The Committee wish to express their thanks to the representatives of Bharat Electronics Limited and Ministry of Defence (Department of Defence Production) for tendering evidence before them and furnishing the requisite information to them in connection with the examination of the subject.

5. For facility of reference and convenience, the Observations / Recommendations of the Committee have been printed in bold letters in Part-II of the Report.

**New Delhi
6 September, 2013
15 Bhadrapada, 1935 (Saka)**

**SHRI JAGDAMBIKA PAL
Chairman,
Committee on Public Undertakings**

ACRONYMS

Sl. No.	Abbreviation	Description
1.	AVD	Approved Vendor Directory
2.	BEL	Bharat Electronics Limited
3.	BIS	Bureau of Indian Standards
4.	BPC	Bulk Production Clearance
5.	BSS	Battlefield Surveillance System
6.	CAG	Comptroller & Auditor General
7.	CAIR	Centre for Artificial Intelligence
8.	CDMA	Code Division Multiple Access
9.	CIDSS	Command Information Decision Support System
10.	CII-EXIM Bank	Confederation of Indian Industries - Export Import Bank
11.	CKD	Completely Knocked Down
12.	CMS	Combat Management System
13.	CQAE (WE)	Controllerate of Quality Assurance Electronics (Weapon Equipment)
14.	CQB	Close Quarters Battle
15.	CRL	Central Research Laboratories
16.	CSI	Customer Satisfaction Index
17.	CSR	Corporate Social Responsibilities
18.	CSS	Coastal Surveillance System
19.	CVC	Central Vigilance Commission
20.	C4I	Command, Control, Communications, Computers & Intelligence
21.	D&E	Development & Engineering
22.	DARE	Defence Avionics Research Establishment
23.	DEAL	Defence Electronics application Laboratories
24.	DFCC	Digital Flight Control Computer
25.	DGQA	Directorate General of Quality Assurance
26.	DLRL	Defence Electronic Research Laboratories
27.	DPE DPSUs	Department of Public Enterprises
28.	DPSUs	Defence Public Sector Undertakings
29.	DRDE	Defence Research & Development Establishment
30.	DRDL	Defence Research and Development Laboratories
31.	DRDO	Defence Research & Development Organization
32.	DRTS	Digital Radio Trunking System
33.	DSP	Digital Signal Processing
34.	ECI	Election Commission of India
35.	EMI/EMC	Electro Magnetic Interference / Electro Magnetic Compatibility
36.	EPS	Earnings Per Share
37.	ERP	Enterprise Resource Planning

38.	EVM MK-V	Electronic Voting Machine Mark-V
39.	EUM	End User Monitoring
40.	EW	Electronic Warfare
41.	FDI	Foreign Direct Investment
42.	FINAS	Future Infantry Soldier as a system
43.	FOM	Figure of Merit
44.	GBE-SDN	Gigabit Ethernet based Ship Data Network
45.	GSEPC	General Staff Equipment Procurement Committee
46.	GSM	Global System for Mobile Communications
47.	GSR	Ground Support Radar
48.	GSQR	General Staff Qualitative Requirement
49.	HR	Human Resources
50.	HLS	Homeland Security System
51.	HPA	High Power Amplifier
52.	II Tubes	Image Intensifier Tubes
53.	IIM	Indian Institute of Management
54.	JSG	Joint Service Guides
55.	JSS	Joint Service Specifications
56.	JVC	Joint Venture Company
57.	LASTEC	Laser Science & Technology Centre
58.	LCA	Light Combat Aircraft
59.	LD	Liquidated Damages
60.	LOB	Lines of Business
61.	LRDE	Electronics & Radar Development Centre
62.	LSCO	Electronics Components Standardization Organization
63.	MAG	Maintainability Advisory Group
64.	MIL SPECS	Military Specifications
65.	MTNL	Mahanagar Telephone Nigam Limited
66.	MTRDC	Microwave Tube Research & Development Centre
67.	NPR	National Population Register
68.	NSTL	Naval Science & Technologies Laboratory
69.	NVD	Night Vision Device
70.	OEM	Original Equipment Manufacturer
71.	ORDAQA	Office of the Regional Directorate General of Aeronautical Quality Assurance
72.	PAT	Profit After Tax
73.	PBT	Profit Before Tax
74.	PoC	Proof of Concept
75.	PDI	Pre-Despatch Inspection
76.	PLC	Product Life Cycle
77.	PO	Purchase Order

78.	PSTN	Public Switched Telephone Network
79.	QML	Qualified Manufacturers List
80.	QPD	Qualified Products Data
81.	QPL	Qualified Products List
82.	RoC	Registrar of Companies
83.	RFD	Result Framework Document
84.	R&D	Research and Development
85.	RFP	Request for Proposal
86.	SAG	Scientific Advisory Group
87.	SAP-SRM	System Application Product-Supplier Relationship Management
88.	SBU	Strategic Business Unit
89.	SDR	Software Defined Radio
90.	SCAPCC	Services Capital Acquisition Plan Categorisation Committee
91.	SECC	Socio Economic Caste Census
92.	SKD	Semi Knocked Down
93.	SNR	Signal to Noise Ratio
94.	SRM	Supplier Relationship Management
95.	SQAE	Senior Quality Assurance Establishment
96.	TOT	Transfer Of Technology
97.	UAV	Unmanned Ariel Vehicle
98.	VVPAT	Voter Verifiable Paper Audit Trail

PART - I
CHAPTER I
GENERAL

(a) Historical Background

1.1 Bharat Electronics Limited (BEL) was established in 1954 at Bengaluru by the Government of India under the Ministry of Defence. Initially with the technical collaboration from M/s CSF, France, BEL manufactured transreceivers, used by the Indian Army for radio communication. With a small beginning in the field of radio communication, BEL, today, is a multi-technology, multi-product Company. The Company has nine manufacturing Units spread across the country. Each of the Units is working in specific business areas as given below:

Sl.	Unit	Year of setting up	Major Products
1	Bengaluru The mother unit has following Strategic Business Units (SBUs) viz Military Communication, Electronic Warfare & Avionics, Military Radar, Naval Systems, Telecom & Broadcast Systems, Export Manufacturing & Components	1954	Military Communication, Electronic Warfare Systems, Radars, Weapon Systems, Naval Systems, Sonars, Network Centric Systems, Simulators, Satcom solutions, Electronic Voting Machines, Turnkey solutions, Components, Homeland Security System
2	Ghaziabad	1974	Radars, Communication Equipment, Antennas, Microwave components, Satcom & Cellular Communication
3	Pune	1979	Batteries, X-ray Tubes, Electro Optics, Laser Range Finders & Target Designators
4	Machilipatnam	1983	Night Vision Devices, Thermal Imagers
5	Panchkula	1985	Tactical Communication Equipment, Portable Radars
6	Kotdwara	1986	Defence Communication Equipment, Switch boards, Encrypted message terminals for defence, Fire Detection System
7	Navi Mumbai	1986	Hydraulics for Stabiliser, Shelters, Mast, Antenna System
8	Chennai	1985	Tank Electronics, Stabiliser Drives, Advanced Land Navigation Systems, Integrated Fire Control Systems, Gun Upgrades
9	Hyderabad	1986	Electronic Warfare Systems

1.2 The Company's Mission, Vision, Values & objectives were formulated and approved by the Board on 27 October 2005 keeping in view the global scenario and the business environment in which the Company is operating. The Mission statement implies

what the Company aims to accomplish and the same is further cascaded down to “Role of the Company”. The functions of the Company is derived from objects of Memorandum of Association. The role, objectives & functions of the Company is listed below:-

(b) Role and Objectives

1.3 The role of BEL is to provide state-of-the-art products/systems in defence electronics and other chosen areas of professional electronics for Indian defence forces and other customers.

1.4 The objectives of the Company are:

- To be a customer focused Company providing state-of-the-art products & solutions at competitive prices, meeting the demands of quality, delivery & service,
- To generate internal resources for profitable growth,
- To attain technological leadership in defence electronics through in-house R&D, partnership with defence/research laboratories & academic institutions,
- To give thrust to exports,
- To create a facilitating environment for employees to realize their full potential through continuous learning & team work,
- To give value for money to customers & create wealth for shareholders,
- To constantly benchmark Company’s performance with best-in-class internationally,
- To raise marketing abilities to global standards, and;
- To strive for self-reliance through indigenisation.

1.5 The objectives of the Company are in the form of statements which are illustrated in Quantitative and Qualitative form as follows:-

1. Quantitative

- (a) Turnover
- (b) Gross Margin
- (c) PBT
- (d) PAT
- (e) Networth
- (f) Exports

- (g) EPS
- (h) Dividend
- (i) R&D expenditure, etc.

2. Qualitative

- (a) Quality compliance
- (b) Customer Satisfaction
- (c) Effective HR Management
- (d) Fulfilling Corporate Governance
- (e) Development of New Products
- (f) Sustainable Development measures
- (g) CSR, etc.

1.6 The MoU Guidelines on objectives stipulate that these objectives should cover quantitative and qualitative; commercial and non-commercial; and static as well as dynamic aspects of the operations of the enterprise. Efforts should be made to ensure that all the objectives get reflected in MoU Assessment Format. As per these guidelines, the micro objectives are covered in MoU which is approved by the Administrative Ministry in the form of Static/ Financial and Dynamic parameters like Gross Margin, Gross Sales, Financial Ratios, Six Sigma projects, Statistical Process Control, CII Exim Bank award, Customer Satisfaction, Training & e-learning, Development of new projects, Capital Expenditure, Sustainable Development, CSR, Employee Satisfaction Survey, etc.. Hence, all MoU parameters are considered as micro objectives. Yearly micro objectives are prepared in the form of an annual plan with targets for manufacture of products and systems, development of new products/systems, investments for upgrades & new facilities, financial and various other parameters. The extent of compliance to these micro objectives is measured by the ratings assigned to BEL based on Company's performance every year. The Committee have been informed that BEL strives to fully comply with these set targets and has been rated in the "Excellent"/"Very Good" category.

Functions of the Company

1.7 The functions of BEL are to :-

- Provide end-to-end solutions starting from design, development and manufacture of strategic defence electronic products / systems in the areas of Radars, Weapon systems, Electronic Warfare Systems, Communication products, C4I systems, Underwater systems, Electro-optics products for Indian Army, Navy & Air Force and select Civilian products. These products are developed through in-house efforts, by using DRDO lab designs or through Transfer of Technology (ToT) from foreign OEMs,
- Ensure that the products are of international quality & standards, provide long term product support and obsolescence management,

- Upgrade the systems supplied whenever required, and to;
- Provide world class technology to defence forces.

(c) Organisation Structure

1.8 In the last decade, the business environment has undergone rapid and far reaching changes as a result of technology upgradation, new government policies, competition, etc.. In this dynamic environment, it is essential for the Company to reorient itself to meet the changing needs of the Organization. Against this backdrop, the Company has taken several initiatives in the areas of Marketing, R&D, HR, etc. to fit into the fast changing business environment. Some of the prominent changes in the organizational structure are listed below:

- The Bengaluru unit (mother unit) of the Company was restructured into six Strategic Business Units (SBUs) viz. Military Radar, Naval Systems, Military Communication & Electronic Warfare, Telecom & Broadcast Systems, Export Manufacturing & Components in the year 2000, each headed by General Managers/Executive Directors. This revamp in organizational structure helped the Company to effectively meet the emerging customer requirements, adaptation to latest technology, enhanced product support, etc..
- Re-organization of the second largest Unit i.e., BEL Ghaziabad into 2 Strategic Business Units Viz. Radars, Network Centric Systems & Systems Strategic Business units. This major step is taken to ensure improved business focus and spread of operations.
- Electronic Warfare & Avionics has been one of the fast growing & emerging business segment in the recent times. In order to have strong foothold, the Company further bifurcated during the year 2007 Military Communication & Electronic Warfare SBU into exclusive Strategic business unit equipped with state of the art R&D facilities, Test labs, etc.. This change has helped the Company to meet the demands in field of Airborne & Shipborne Systems.
- Similarly to give more thrust to Naval business, Naval Systems SBU has been split into two SBUs viz, Sonars & Communication Systems and Radar & Fire Control Systems.
- Missile Systems has been one of the emerging business segments in the prevailing business environment. In order to give more thrust, Radar SBU of Bengaluru Complex has been split into two SBUs Viz, Missile Systems & Military Radars.
- In order to give more focus on platform based solutions, “Systems” SBU of BEL Ghaziabad has been reorganised in to a full fledged “ Satcom and Cellular Communication Systems” SBU.

CHAPTER II

PERFORMANCE

(a) Physical and Financial Performance

2.1 BEL's targets and actuals in respect of value of production and profit before tax since 2008-09 are stated to be as follows:-

(Rs. in Crore)

Sl.No.	Value of Production				Profit before tax		
	Year	Target	Actual	%	Target	Actual	%
1	2008-09	4799	5273	109.9	1025	1097	107
2	2009-10	5127	5248	102.4	1010	1045	103
3	2010-11	5590	5520	98.8	1269	1161	91
4	2011-12	5987	5794	96.8	1185	1075	91
5	2012-13	6385	6290	98.05	1019	1125	110

2.2 There has been no marked improvement in the performance of BEL during the last four years as is evident from the value of production and profit before tax figures given above. When asked to explain the reasons for the stagnation in the Company's performance and decline in profits, the CMD, BEL stated during the evidence on 27 December 2012 as follows:-

"Previously, we were in the component business and manufactured small equipment basically. That was the scenario at that particular time. Now that the requirement has changed, we have migrated from equipment manufacturing to the system integrator now. That is one reason. Secondly, this particular business has been opened to the private sector and we have to aggressively quote so that we can stop the entry of private sector in this particular area. That is the main reason for our profits coming down. In fact, we acted very strongly and have taken the particular competition as a challenge so that we can survive in this particular area."

2.3 When enquired from the Secretary, Defence Production as to whether he was satisfied with the performance of BEL, he replied during evidence as under:-

"...it is indeed a fact that there has been stagnation over these last four years or so. There is no denying that."

The witness also added:-

"Sir, it is quite right. The only point that I am trying to submit is that in the current financial year, the expectation of BEL is that the target which has been given to them which you have also mentioned Rs. 6385 crore, they are hopeful of achieving that target. They are moving on that. There are one or two contracts where they are facing certain difficulties and where – since you had asked – the Ministry is also trying to help out. You would appreciate that there are contacts. If I may give

a specific example, there is a contract which relates to Command Information and Decision Support System (CIDSS) which is a large contract and which has been approved by the Cabinet also but at the last minute now the Army is saying that they still want certain changes which are having certain repercussions. We would have to now discuss it with our DG (Acq.) as well as the Army. That is the role which the Ministry plays so that this particular contract can move forward. It is because this is a contract, as I mentioned, already approved by the Cabinet and yet because of the dynamics in the Ministry, the requirements of the Army as of now projects have become slightly different. We are facing difficulties. So, this is the sort of issue which we keep on trying to resolve on behalf of BEL. Two contracts are stuck like that. Another contract if I may submit is relating to LYNX U2 Fire Control System for Indian Navy.

The Ministry has banned a particular company because of its certain practices which were fraudulent. That is another major contract which they were implementing and it got stuck up. We are trying to help out in what other way the requirement of Navy for that particular radar can be satisfied. Our role invariably is also to help out BEL in achieving its target by interceding on their behalf with the Services which always have requirements which sometimes changes a little bit and sometimes the delays occur because they go through a very detailed trial procedure.”

2.4 In a post evidence reply, BEL attributed the marginal improvement in performance to the following:-

- BEL has more than 350 distinct products in the core areas of Defence Electronics and other chosen professional electronics. The Company's products range from small Semiconductor Devices to huge Equipment / Systems. The product mix of the Company keeps varying depending on the customer requirements. The order from customer for the same product/system is not uniform and is restricted to few batches.
- Previously, BEL was basically in the component business and manufactured small equipments only. Now with the change in technology trend and emerging requirements from the different customers, BEL has migrated from equipment manufacturing to the system integration.
- BEL is a pioneer in manufacturing Defence Communication Systems. The Company has 3 dedicated Strategic Business Units (SBU) for the manufacture of Communication Sets. These products yielded good turnover & profit till few years back. The change in technology trend in recent years from standalone equipment to Turnkey/Platform based solutions has resulted in decline in the demand for the communications sets and increase in customer requirements for system oriented projects. These projects have high material cost and have impacted the profit margins.

- Now the Defence Market is opened up to private players and also the evolution of DPP since 2005 has brought in intense competition necessitating the Company to squeeze its profits and to aggressively quote in order to survive in the competitive environment. This is one of the main reasons for stagnant profits and low growth in Value of Production. However, BEL has acted very strongly and taken this competition as a challenge. In this regard, the Company has been giving additional thrust to new product development, process improvement, marketing, diversification, joint ventures, etc..
- Many of the projects were first time inducted projects and execution of these complex system oriented projects involves activities like Software Development, Integration of Sub-systems / Modules, Installation & Commissioning etc. These projects undergo sizeable changes during the Proof of Concept (PoC) stage.
- The delivery schedule as per the contract of large system oriented projects is spread over 3-4 years. At times, the deliveries are delayed due to customer clearance/accord of Bulk Production Clearance (BPC), Harbor Acceptance Test (HAT)/Sea Acceptance Test (SAT), site readiness, etc., impacting the turnover.
- In addition to the above, other factors like increase in the staff cost, pay revision resulting in payment of huge arrears, etc., have also resulted in stagnation of Profit Before Tax”

2.5 Considering the stagnant performance of BEL during the last four years, when asked if BEL would be able to achieve the projected value of production of Rs. 6385 Crores during 2012-13, the Department of Defence Production in their post evidence reply (February 2013) stated that there are constraints like delays in BPC, debarring of vendor (M/s Rheinmetall for Lynx U2 project), issues related to CIDSS, BSS, etc.. While the Company is making all out efforts to overcome these issues BEL is likely to achieve a turnover of Rs. 5800 to Rs. 5900 crore during 2012-13 on account of the constraints mentioned above.

2.6 It has been observed from the information furnished by BEL that apart from the Product Support Centre at Kochi, no major project has been undertaken by BEL during the last three years. When asked whether the Department of Defence Production has reviewed the performance of BEL from this angle and whether any directions were given by the Department to BEL in this regard. The Department of Defence Production in a written reply stated about the Company’s infrastructure requirements, R&D projects and modernisation plans. The reply was, however, silent on the issue of any major projects undertaken by the Company in recent past, as is evident from the reply furnished by the Department which is reproduced below:

“The Ministry has been periodically reviewing and monitoring the progress of major R&D projects of BEL apart from the Company’s infrastructure requirements, modernization plans, etc. The Department have provided adequate thrust and necessary guidelines for continuous upgradation of its infrastructure/modernization

of facilities to enable the Company to be in tune with the changing needs of the technology/products and to be globally competitive. This enables the Company to maintain its infrastructure at par with international standards. When new products are introduced, the corresponding technology and facilities are also induced.”

The various modernization programmes for BEL during the Eleventh Plan period (2007-12) are listed below:-

- Test facility for Stabilizer & Automatic Loading Gear for T90 Tanks at Chennai.
- Near Field Antenna Development Test Range Facility at Ghaziabad.
- Combat Management System-C4I System for Naval Platforms at Ghaziabad.
- EMI / EMC Chamber at Chennai.
- Modern manufacturing facility of Digital Flight Control Computer (DFCC) for Light Combat Aircraft (Tejas) at Bengaluru Unit.
- Newly constructed D&E building at Hyderabad.
- Product Support Center at Kochi.
- Walk-in Chamber at Bengaluru Unit.
- Gigabit Ethernet based Ship Data Network (GBE-SDN) at Bengaluru Unit.
- Altitude Chamber at Bengaluru Unit.
- Anechoic Chamber at Hyderabad.
- Test setup for AKASH at Bengaluru Unit.
- Single Point Diamond Turning Machine at Machilipatnam Unit.

The Company spends around Rs. 250-300 Crores on capital investments every year from its internal accruals.

2.7 In a written note submitted to the Committee, BEL has stated that their export turnover during the year 2011-12 was US\$ 38.45 million as against the previous year export of US \$ 41.53 million. The range of products exported include Coastal Surveillance Radar System, Radar Finger Printing System, HF communication sets, Radar Warning Receiver, Fitted-up Shelters, Electronic Voting Machines, X-Ray tubes, electro-mechanical parts (like Stators, Casing, etc.) and electronic assemblies.

2.8 A very significant portion of Export is related to offset. The Company executed large offset contracts for companies such as M/s Fincantieri, Italy, Boeing, USA & Northrop Grumman, USA. BEL has over the years taken a number of initiatives to increase exports. The Company plans to increase its exports through direct exports and offsets. It has identified African and South East Asian countries for special focus on product exports.

2.9 When asked about the reasons for decline in exports during 2011-12 as compared to previous year and whether BEL has made any efforts to improve the situation, BEL in their written reply stated that BEL achieved export of US\$ 41.53 M during 2010-11, mainly due to the business generated from Offset Sales. Offset sales was 64% of the total export sales value. Subsequently, executable Offset Orders have come down resulting in the

decrease of export sales to US\$ 38.45 M for the year 2011-12. The main reason for this shortfall is not considering deemed export status for the planned supply of communication equipment and energy system, for a value of US\$ 6 M, for the project Low Level Transportable Radar (LLTR), contracted with M/s Thales. This was considered as domestic sales. However, BEL is expecting substantial growth in offset business during next 2-3 years. In this regard, BEL has been interacting with all the major foreign companies like Boeing, Lockheed Martin, Raytheon, Northrop Grumman, BAE Systems, SAAB, Thales for possible offset business arising out of various RFPs issued by the Ministry of Defence (MoD).

2.10 When asked about the export potential of BEL and how much of that is being realized, it was stated that they are vigorously pursuing the possibilities to export various products and systems to potential friendly countries of India with the concurrence of MoD. Also, BEL is anticipating sizable export orders on account of the "Offset" policy incorporated in Defence Procurement Procedure (DPP). BEL has identified Contract Manufacturing (Build-to- Print and Build-to-Spec) as one of the new areas to address the emerging opportunities with foreign OEMs, with reference to offset business. Seven Units of the Company have also obtained AS9100 Certification to facilitate tapping the export market. Business potential for BEL during the next 2-3 years is around 200-300 US\$M. Export turnover is likely to grow substantially in the coming years.

2.11 BEL has been signing MoU with Administrative Ministry since 1989-90. The MoU ratings obtained by the Company since the beginning i.e. 1989-90 are as follows:

Year	Composite score	Rating
1989-90	1.50	Excellent
1990-91	1.26	Excellent
1991-92	1.81	Very Good
1992-93	4.08	Fair
1993-94	1.78	Very Good
1994-95	2.14	Very Good
1995-96	2.47	Very Good
1996-97	1.46	Excellent
1997-98	1.71	Very Good
1998-99	1.46	Excellent
1999-00	1.38	Excellent
2000-01	1.46	Excellent
2001-02	1.34	Excellent
2002-03	1.03	Excellent
2003-04	1.04	Excellent
2004-05	1.13	Excellent
2005-06	1.50	Excellent
2006-07	1.44	Excellent
2007-08	1.65	Very Good
2008-09	1.31	Excellent
2009-10	1.06	Excellent
2010-11	2.054	Very Good
2011-12	2.166	Very Good

2.12 When asked for reasons for MoU Rating going down from 'excellent' to 'very good', during 2010-11, and remaining the same again in 2011-12, CMD, BEL during the course of oral evidence on 27 December 2012 stated :-

"Sir, the reason for this was the PBT. In fact, whatever PBT was achieved was lower than the MoU target. This was the major reason for downgrading the Company from 'excellent category' to 'very good category'. In fact, it happened because we did the wage negotiations where the arrears were to be paid to the employees from 2007 onwards. As a result of the enhancement of the wages to the workers PBT achieved was less and the Company got downgraded. Arrears were due from 2007, and the money was disbursed in 2010 and 2011. Now, the impact has gone, and in the coming years the employees cost will also come down. Since, increased wages is already there, we are taking care of it in our new products when we are quoting. We are taking care of the enhanced value addition there on. So, it will get levelled out in the coming years."

(b) Order Book Position

2.13 The Order Book Position of the Company as on 1st April during the last four years is stated to be as under:-

Order Book position (as on)	Value (Rs. in Crore)
01.04.2009	10387
01.04.2010	11350
01.04.2011	23600
01.04.2012	25748

2.14 BEL pointed out in a written reply that thin order book of some of the Units operating in Radio Business is a major concern.

2.15 When asked if the Order Book Position on various products would improve in the coming years, CMD, BEL during the course of oral evidence on 27 December 2012 stated:

".....we are confident that with the order book we already have about Rs. 25,000 crore on hand, and orders that we are going to acquire in the pipeline, which will be about Rs. 7,000 crore in the current year; about Rs. 10,000 crore in the next year; and the following year it will be again another Rs. 10,000 crore. So, about Rs. 27,000 crore will be added in a period of next three years. With that, we feel that, our order book would enable us to not only achieve good growth in turnover, but also improve the topline and consequently the bottomline."

2.16 Emphasising the need for curtailing the evaluation time for newly developed equipments, the CMD, BEL during the course of oral evidence submitted as under:-

"There are two-three different stages. If a new case is there which means we develop an equipment and then the Army evaluates it and afterwards it takes about

one to three years to place an order. So, if such orders placement could be cut down to one and a half year, it would help all the public sector and other companies to respond because so much of money gets blocked into that. The items for which evaluation has already taken place, there also the time taken by the Ministry of Defence at the moment is quite long. It varies from about one year to three years time for already inducted equipment. I think if this thing can be brought down, in fact, it will help the Units also to perform better and to do a better planning. What we suffer is that if the load is not there our manpower gets idle, in fact, we have to pay them salaries. As you know, the cost of production is quite high. We have to use the profit of one unit to support the other unit. At the moment, we are doing this for Pune, Panchkula and Kotdwara. We are running into losses at these three places. We are supporting them from Ghaziabad and Bangalore. Similarly, suppose a new product is to be inducted, the evaluation is taking three to five years and may be even longer. I will cite one example. The L-70 gun on which we are working for upgradation for the last 10 years. The order is yet to be placed which means bids are yet to be opened for that. Definitely, after some time the companies will say that why to invest the money which is locked up for ten years. I think with your intervention, in fact, if that help can be given to BEL or the other DPSUs definitely it can help us to perform better for the country”

2.17. Secretary, Defence Production during evidence further added that:-

“As far as Defence Production policy is concerned, we say that to harness abilities of the country as a whole we would like to have participation of the private sector and the Ministry is moving along with that policy. In any case, therefore, the Services are also free to suggest but government takes the final decision. The Services are free to suggest that in a particular area they would like to have a competitive environment and sometimes we are able to convince them fully where BEL has full strength. For example, electronic warfare is an area where BEL is extremely strong and electronic warfare is considered to be sensitive for the country. Therefore, in that area we do not want, whether it is a foreign vendor or an Indian private vendor, them to enter wherever there are extremely sensitive projects. If there is a project for inscription we necessarily direct it towards BEL. But there are certain projects where the country as a whole as the ability and in such cases they go for open competitive bidding and where we try to ensure that they get nominated on single vendor basis to get orders as a long-term strategy. I am trying to apprise the hon. Committee that in such areas which are nationally sensitive, it would be our endeavour to continue to ensure that BEL gets the order. This requirement would continue and this is not going to remain static. That is an area of growth.

2.18 BEL stated in a note that they are facing competition mainly from Indian companies like Tata Group, L&T, Mahindra Defence Systems, ECIL, ITI, HCL, Alpha Technologies, Astra Microwave, Data Patterns, HBL, etc. and also with global OEMs like Elta / IAI, Selex, Atlas Elektronik, etc. Many Indian companies are tying up with foreign OEMs for assistance on technology and bidding with them.

2.19 When asked how many products / systems of BEL face competition and how many are monopolistic in nature, the Company in their post evidence reply stated that BEL has several business verticals, mostly in Defence Electronics. Our major business areas are - Radar and Fire Control Systems, Missile Systems, Communication Systems, Electronic Warfare & Avionics Systems, Network Centric Systems (C4I), Electro Optics, Tank Electronics, Anti Submarine Warfare and Civilian products. In the “Buy Global” category of purchases, BEL has always faced international competition and has won quite a few contracts in Electronic Warfare segment. The major market opportunities lost are in the segment of Radar, C4I, Communication etc. With the changes in Defence Procurement Procedure encouraging private participation, BEL is facing the competition from indigenous private sector companies in all its major business segments such as Communication, Radar & Fire Control, Network Centric System (C4I), Anti Submarine Warfare (ASW), Electronic Warfare & Avionics, Electro Optics & Tank Electronics.

2.20 It is observed from the material furnished to the Committee that the Ministry of Defence (Department of Defence Production) in a letter dated 30.3.2011 had pointed out that there was insufficient awareness about commercial aspects, the terms of trade, etc. in public undertakings including BEL which had led to loosing out on orders in multi-vendor cases. In this context, the Ministry had suggested to BEL setting up of a commercial department to work out the costs and pricing policy, a marketing department to establish and strengthen the brand identity of the Company and also a unit which would specialise in contracting.

2.21 When asked about the number of order and their value which were lost in multi-vendor environment during the last five years, BEL in a written reply submitted that BEL has lost around 28 contracts amounting to the tune of Rs. 1624 crore in primary business, the details are as given below:-

SI. No.	PRODUCT	Order Value (Rs. in Crore)
1	Radio Frequency(RF) Seeker	12
2	Wide Band Instrumentation Radar	13
3	Radar Air Warning L-band Mk III	45
4	Combat Management System (CMS)	239
5	Avian Radar	250
6	Digital Armored Vehicle Intercom System (DAVIS)	280
7	Wide-band Code Division Multiple Access (WCDMA)	304
8	VLF with AMC	434
9	Small Projects (20 contracts)	47
	Total	1624

2.22 To a query about reasons leading to loss of such contract, the following reasons were extended by the Department:

- In the case of a Global Tender, the pricing by an Overseas vendor when compared to the Company, is more competitive due to the fact that the Overseas vendor incurs 'nil' customs duty, excise duty and sales tax. In case of services, the "reverse Charge" mechanism in India further puts the burden of service tax on import of services on the Company and not on the Overseas Vendor.
- Due to the Company's emphasis to increase the content of indigenisation in the product as compared to Imports, the cost of the product will be generally higher mainly because the Company has to pay Excise Duty/Service Tax at the time of procurement of material/services from indigenous source, on which CENVAT CREDIT for Excise Duty/ Service Tax is not available. Imports are exempted from payment of duties under Duty exemption Certificate but Excise Duty on input material is an additional cost as "CENVAT" benefit is not available to the Company, due to the fact that the end product is not excisable. Whereas, this does not apply to the Private Sector Vendors as they are able to avail CENVAT CREDIT for the Excise Duty & Service Tax paid for procurement of goods & services used in the manufacture of goods for Defence. For ascertaining the L1 status the taxes & duties on final product are not considered.
- The sub systems required for the manufacture of finished products, the Company procures from the OEM or reputed companies where the cost of the product is generally high compared to the low cost / low quality product as provided by the competitor. The Company has well established state of the art infrastructure which has been upgraded to the latest technologies. Whereas the private competitor need not possess these kind of infrastructure and resorts to outsourcing at a very low cost.
- The Company is governed by strict and mandatory vigilance guidelines and administrative restrictions in the form of reservation, exit policy, compensation, additional audits. These often become deterrents in prompt decision making, thus resulting in increased operational costs. Private Companies operate without any such restrictions making them efficient and cost effective.

Thus, the end product value in many of the tenders lost by the Company is higher as compared to an Overseas Competitor as well as a Private Sector Competitor.

2.23 With a view to gain further clarity in the matters of customs, excise duty and other such Government levies/charges which were working to the disadvantage of the Company, during the course of the oral evidence held on 12 February, 2013, a specific question was put to the Secretary, Department of Defence Production. In response, he stated:

"I would like to express thanks to the Committee – the issues concerning to customs and so on, these were brought to our notice for the first time because of

questioning by the Committee. BEL also brought out to our attention for the first time now. I would assure the hon'ble Committee that these are the issues which prima-facie we have examined; we find that there is a lot of merit in what BEL is telling. There are somethings which I can set right in the Ministry, I will do that; there are certain things to be taken up with the Finance Ministry, I will do that also. I would like to express my thanks to the Committee that one aspect which was not known to us.....”

2.24 On a specific query on CAG's observation that the Company was operating on a thin vendor base which was not being shared among units while inviting quotations, thereby depriving the Company of reaping the benefits of competitive price, BEL informed the Committee that standardization and creation of approved vendors is done centrally by Corporate Standard Departments based on the reference documents – USMIL / QPL / QPA / QMC – for imported components, LCSO approval documents for indigenous components, BIS guide for raw materials and chemicals etc. The vendors are identified from (a) request from parties, (b) listed with reputed industries, (c) information available in internet, (d) advertisement in media. This is a continuous process and efforts are made to add more vendors to the list on a regular basis. The number of new vendors identified and approved in the last three years is as under:

Year	2008-09	2009-10	2010-11	2011-12
No. of Vendors added	2756	2071	1900	2051

BEL has stated that for non-standard items approved vendor list is created by the respective D&E divisions of the units based on evaluation and approval by Design Agency i.e., DRDO, CDOT, NPOL, etc or BEL R& D in case of in-house developed items and in case of ToT products, based on the recommendation of the ToT partner. Sometimes customers nominate a particular vendor or issue specifications of the product which has to be sourced from the particular supplier. In cases where orders are received from customers for supply of equipments / systems as upgrades of the previous supplies, items already evaluated and cleared are only to be used. In such cases i.e., Design Agency approved, Proprietary items of ToT parties / their recommended OEMs and customers specified / nominated sources, BEL has no choice but to procure these items from single specified source.

It has been stated further that BEL has already initiated following actions for increasing the vendor base:

- Initiated In-house development programmes for sub systems / assemblies to enable BEL as alternate vendor.
- Proposed to take up with DRDO for involving BEL in vendor selection process to explore alternate vendors.
- Suitable instructions to Units/ SBUs by fixing annual targets for procurement through multi vendor route has been issued.
- Implementation of e-procurement system in SAP.

- With regards to non sharing of vendor base amongst various unit of the Company, suitable action has been taken. ERP system has been modified to enable all units to share the data base of vendors which is maintained 'Plant Wise'.

2.25 On the same issue, CMD, BEL during the course of oral evidence on 27 December, 2012 further clarified as under:-

“..... BEL-DRDO interface for vendor development. We have now institutional meetings with DRDO and subsequent to that point BEL is not allowed to develop vendors because after all the design control is by DRDO. Therefore, any change in vendor has an implication on the performance of the system. So, DRDO rightly said that you cannot unilaterally decide on the choice of vendors because it would have implications on the performance. BEL and DRDO together should work to develop alternate vendors. So, that has been now put in place. We are collaborating truly and vendor development is being done. We, in fact, take the responsibility of trying out the alternate vendor so that alternate vendors are in place and this contingency management is carried out.”

2.26 When asked about the reasons for rise in competition and the measures taken by BEL to aggressively compete in market, CMD, BEL during the course of oral evidence on 27 December 2012 stated:-

“.....previously, we were in the component business and manufactured small equipment basically. That was the scenario at that particular time. Now that the requirement has changed, we have migrated from equipment manufacturing to system integrator. That is one reason. Secondly, this particular business has been opened to the private sector and we have to aggressively quote so that we can stop the entry of private sector in this particular area. That is the main reason for our profits coming down. In fact, we acted very strongly and have taken the particular competition as a challenge so that we can survive in this particular area. Since we have already established now as Akash missile system integrator or a major system integrator, in the next year, and the coming years, the response to this particular issue will be much better as compared to the previous years”

Sir, in the last five years we have accumulated orders worth about Rs. 38,000 crore. Now, in this, almost 70 per cent is on the basis of a single vendor nomination to BEL, and the remaining 30 per cent is through competition within the country; through other private sector companies; and through other international competition. Now, as a policy, we are conscious that these nominations to BEL would diminish in the future. Therefore, we would be requiring to take on competition both within the country as well as through the global route, which the defence forces are adopting. As a result of that we have now put in place mechanisms by which our productivity improves regularly.

We have a Cost Reduction Committee, which focuses on reducing our costs, and we are also sensitising our marketing personnel to become much more

aggressive in our approach to addressing the market. So, all these strategic initiatives coupled with our in-house R&D efforts are there. It is because much of the product cost comes from the material cost. Therefore, there is a need to drive down the material cost down, which means we have to focus on in-house development. Now, the R&D activities have been triggered as more than 100 projects are in the pipeline where the development activities are taking place either through in-house R&D or in collaboration with the DRDO laboratories.”

2.27 When asked about the development of future markets, Secretary, Department of Defence Production during the course of oral evidence on 12 February 2013 stated:-

“The future market in this is security sensitive and high-value denied items. For this, BEL are the best people for us. They understand the requirement and go ahead. Now, the future is directed energy weapons which would be laser-based – laser-dazzlers and laser beams to attack the UAVs. We have just started working. These are all big businesses. So, future comfort is there in this one time advantage. When we come to low-end, where something is available and where it is also available for the users from the outside, there is some problem. What comes from outside is coming from well established production line. It comes like Mark-II, Mark-III and Mark-IV. Initially, we take our Mark-I and compete with that. So, we always have that disadvantage. Sometimes, we are allowed to make it and sometimes the users feel that outside system is better, we leave it. So, we leave it for acquisition and it is okay. On security sensitive things, high-value items and complex systems, we are working very well together and both are very happy.”

2.28 Regarding the marketing initiatives taken by the Company, Department of Defence Production in a written reply have stated that they have initiated various actions and marketing strategies including recruitment of ex-service personnel, conducting marketing conferences, imparting short term and long term professional training in marketing to executive by top business schools like Indian Institute of Management (IIM). Besides, the Company is in the process of creating a central marketing research group with the objective of securing required marketing intelligence, address the marketing challenges, identifying new business opportunities and gaining competitive intelligence. With these initiatives the Company is confident of achieving desired performance in the coming years.

(c) Quality of Products

2.29 In a note furnished to the Committee, it has been stated that BEL adopted the Total Quality Management (TQM) philosophy in the year 1990 under the acronym "TORQUE" which stands for "Total Organisational Quality Enhancement".

2.30 Customer satisfaction survey was conducted during the year for six products from different Units / SBUs. In the survey, overall customer satisfaction was found to be 81.33%. As part of the customer satisfaction initiatives during the year, the Company organised a Technology Seminar for the Naval customers.

2.31 When asked whether the Department of Defence Production conducts independent quality checks of the products supplied by BEL, the Department in their post evidence reply submitted that the Ministry have well established procedures, norms and guidelines with stringent acceptable quality standards, parameters and criterion for all the supplies to services. Quality checks are carried out with the objective of ensuring total security of the Nation. The validation of product/system/services supplied by BEL and other agencies with respect to Quality is carried out by the Ministry through their associated Defence Institutions/Establishments like Directorate General of Quality Assurance (DGQA) etc. Residential Inspectors have been deployed at the manufacturing units of BEL & other DPSUs as well as at the user sites. DGQA conducts validation and inspection on the quality of the products through agencies/establishments as follows:-

Products for Army	:	SQAE -Senior Quality Assurance Establishment CQAE-Controllerate of Quality Assurance Electronics MAG -Maintainability Advisory Group
Products for Navy	:	CQAE (WE)
Products for Air Force	:	ORDAQA -Office of Regional Director AQA (Aircraft)

2.32 Besides, other establishments like CAIR (Center for Artificial Intelligence), DARE (Defence Avionics Research Establishment), DEAL (Defence Electronics application Laboratories), DLRL (Defence Electronic Research Laboratories), DRDE (Defence Research & Development Establishment), DRDL (Defence Research and Development Laboratories), LRDE (Electronics & Radar Development Centre), LASTEC (Laser Science & Technology Centre), MTRDC (Microwave Tube Research & Development Centre), NSTL (Naval Science & Technologies Laboratory), SAG (Scientific Advisory Group) etc., continuously interacts with the DPSUs for various checks and validation of the products/systems/services based on the nature of the projects.

2.33 When asked about the media reports on certain defence equipments including Night Vision Devices (NVD) being returned by the Armed Forces on account of poor quality and faulty equipments, the CMD, BEL during the course of the oral evidence held on 12 February, 2013 clarified:

“The article which you referred to belongs to Shri Rajesh Shukla. The total article is not correct. We have called the Business Standard editor also and told him, why did you publish this article without asking us? He has apologized and a rejoinder will be published there”.

2.34 Clarifying further in the matter, the Secretary, Department of Defence Production stated:

“I will only add that as the private sector enters, we apprehend that news items would be a little more common.”

2.35 During the course of the Oral Evidence held on 12 February, 2013 when this question was put to the representative of DRDO, he stated:

“Sir, you mentioned about electro optics. Electro optics is a vast field. 2 ½ years back there were a lot of articles that the Army is night blind and they are unable to fight. It is because of two reasons. One is, image intensifier based sights in short distance. For 200 m and 300 m, we require a hand-held image intensifier or weapon sights are required for aiming at short distance. The second thing is thermal imager at long distances. For 20 kms., again, huge optics is required. After this, there was a meeting with hon. Defence Minister in the chair where everybody was present. We worked out a plan in consultation with the Army and today I am happy to say that everywhere situation is under control regarding this night fighting capability.

As Chairman, BEL mentioned, our tanks, T-72, T-90, BMP came from Russia. The commander is night blind. He is not able to see beyond 30 metres. Now we have given them the equipment through which he can see 3 ½ kms. The users on the ground are very happy. Actually, DRDO is not a commercial organisation. Our happiness comes when we see that what our young engineers develop reaches the hands of the soldier who is in the field. So, when we take the equipment to the field and he expresses happiness and says, ‘Yes, this is what I want, I am now able to see 3 ½ kms. and I want this for all my tanks’. Now, as the Secretary mentioned, there is a large order coming up with Bharat Electronics.”

2.36 When asked whether the Department has made any assessment or obtained any feedback from users, the Department in a written reply stated that assessing customer perception in BEL is an ongoing activity. There are many interfaces with the customer wherein the reactions/feedbacks of the customers are available. Some of these avenues are:

- (i). Top Management interactions with the senior officers in the customers’ organization
- (ii). Institutional meetings at defined intervals with major customer. Meetings are held at the working group levels of both the sides followed by the meetings at senior officer level.
- (iii). Various interactive forums like product presentations, trials, evaluations, PNCs etc wherein senior officers (including General Managers) from various departments like R&D, Engineering, Production, Marketing & Sales attend.
- (iv). Day-to-day interactions of the Production & Quality personnel with the DGQA officers and staff attached to the plants as well as liaison offices / detachments (like MAG of the Army) of the Services in the Units of BEL.
- (v). Interaction by the liaison teams at the depots / docks.

- (vi). Interaction by the installation/product support personnel at the user sites.
- (vii). Feedbacks collected during the warranty & guarantee period of service.
- (viii). Customer complaints received during the life cycle of the product.
- (ix). As a part of Quality month celebrations during the month of November, customer meet is conducted by units / SBUs to capture the perceptions of the customers.

The above listed fora are being treated as an indirect source for assessing the customer perceptions on the products & services provided by the Company. Traditionally, many corrective actions/follow up actions were initiated in the Company based on such feedbacks.

(d) Customer Satisfaction

2.37 In a written note furnished to the Committee, the Department of Defence Production have informed that their endeavour is to enhance the customer satisfaction level. It has been conducting customer satisfaction surveys every year. This survey is being conducted through an independent professional body to bring in objectivity. Different sets of questionnaires are designed depending upon the products. The study is to evaluate Customer Satisfaction index based on the following attributes:

- Product performance
- Maintenance
- Service
- Overall perception

2.38 The responses are rated in a 10 point scale. The agency has its own special software to analyse the responses to give out meaningful and actionable guidelines to the management. A report indicating the areas of weakness and possible actions needed to improve the ratings, is submitted for initiating necessary actions.

2.39 Around 8-10 products are chosen every year and index arrived at. The average Customer Satisfaction Index (CSI) for the past 5 years is around 80%. To summarize, the feedback from customer on BEL's product has been positive and meets the desired performance levels.

2.40 In a note furnished to the Committee, BEL stated that a Customer Coordination Cell has been set-up. When asked if the Cell has become operational and is it functioning effectively since its inception, BEL in a written reply stated that there is a Customer Coordination Cell that was set up on 8 December 2011 and has been fully operational since then. The Cell has been functioning very effectively since its inception and carries out the following functions:-

- Capture Customer Complaints.
- Attend to Customer Calls on Toll Free Number.
- Provide Feedback to Customers on status of Customer Complaints.
- Generate Weekly, Monthly & Quarterly Reports on Customer Complaints to Product Support groups and Management.
- Generate trend curves on Customer Complaints for analysis.
- Provide Suggestions for continuous improvement of the CRM module of SAP.

The Customer Coordination Cell is headed by an Additional General Manager(AGM).

The following is the summary of activities carried out by Customer Coordination Cell up to December 2012:

Number of Customer Complaints registered in CRM	3634
Number of Customer Complaints Resolved	3296

The Complaints are monitored effectively by generating reports based on following criteria:-

- SBU-wise complaint data.
- Product-wise complaint data.
- Service-wise (Army, Navy, Air Force) complaint data.
- Speed of resolution of Complaints.
- Complaints pending for more than specified duration, say 2 weeks.

By effective monitoring, Company is able to reduce the percentage of pending complaints from 47% in March 2012 to 9% as on December 2012, even though the cumulative total of complaints received have increased from 1024 to 3634 during the period.

2.41 It is observed from post evidence reply furnished by BEL that out of 83 products delivered to the armed forces during the last five years, there was delay in delivery of 27 products. The delay period ranges from one month to more than two years for certain products. The products include NISHAN, HHTI, ADVANCED LAND NAVIGATION SYSTEM, COMBAT NET RADIO (CNR), LUP BOOSTER, ELLORA, etc. The major delays are in delivery of products such as TRANSPORTABLE SATCOM TERMINAL, FCS LYNX U1 P16 AND CMS (SNF) where the delay period is of more than two years.

2.42 BEL has stated that generally the products like STARS-V, VPS, RRF, VRC6100, EK896, Digital Mobile Radio Relay, Sonobuoy, Tarang, CAR Rohini, etc., are delivered ontime. There are certain delays mainly in system integration and network centric systems due to the accord of Bulk Production Clearance, change in configuration by customer, site readiness etc. Some of the actions initiated to improve ontime delivery are:

- Proactive product development.
- Introduction / upgradation of infrastructure

- Improvement in Operational processes
- Project Management Training to officers
- Optimum utilization of SAP

2.43 When asked if there was any arrangement for After Sale Service provided by BEL to its customers and if so, whether the customer are satisfied with the arrangement, BEL in its written reply stated that there is a very good arrangement for providing After Sale Service to its customers. Every SBU has a Product Support group which addresses all requirements of After Sales Service during Warranty and beyond Warranty throughout the life of the equipment. Besides this, BEL has set up the Customer Coordination Cell with Toll Free number (1800-425-0433) to capture all Customer requests for After Sales Service. Three AGMs have been appointed (one for each Service) at Corporate Office to monitor the Customer Complaints/requests pertaining to After Sales Service. BEL has also been proactively proposing Annual Maintenance Contracts (AMC), Rate Repair Contracts (RRC) and Refurbishment packages for its products supplied to customers. Structured progress review meetings such as Weapons Electronics & Sensors Maintenance Management Committee (WESMMC) for Navy, Product Performance Reviews (PPR) for Air Force, Spares Production Progress Review (SPPR) for Army and Institutional Meetings are held periodically with senior officers of the Defence Services to address all Product Support issues.

BEL has also set up Water Front Support facilities at Mumbai, Visakhapatnam and Kolkata and Product Support Centre at Kochi to provide immediate product support to the fleet of Naval ships and units in these stations. For Air Force, Regional Support Centres have been set up at Chandigarh, Hyderabad, Pune, Sulur and Guwahati and in addition, resident engineers have been positioned at Jodhpur, Wadsar, Ambala, Aya Nagar and Barnala to provide After Sales Service. The Regional Service Centre (RSC) set up at Delhi provides After Sales Service to the three services and Civilian Customers. BEL has also set up a Liaison Cell at COD Agra and positioned resident engineers at Kolkata, Tezpur and Jammu to provide customer support services for Army.

In addition to the above, the Regional offices and Marketing Centres at Delhi, Mumbai, Kolkata and Visakhapatnam liaise with customers and provide after sales support through the concerned SBUs and Service Centres of BEL.

The Customers are satisfied with the After Sales Service provided by BEL. However, there are certain suggestions received from customers as well as certain proactive steps taken by BEL to improve After Sales Service, as indicated below:

- (a) Stocking of Critical Spares at RPSCs and Strategic Equipment Sites: Based on request from Air Force, critical spares have been placed at Regional Product Support Centres (RPSCs) and strategic equipment sites which have reduced the down time of equipments considerably.
- (b) Obsolescence Management: An effective Obsolescence Management is being implemented using COTS software integrated with BEL's SAP system. This

will indicate components which are likely to become obsolete / out of production in the near future, so that appropriate action can be initiated for Last Time Buy.

- (c) Recruitment of Ex-service men: In addition to the existing Ex-service men at various service centers, additional Ex-service men are being considered for recruitment to improve After Sales Service.
- (d) Frequent Operator & maintainer Training: Frequent operator and maintainer training are being provided to the Customers whenever the crew changes or on request. This will result in proper usage of the equipment and its maintenance.
- (e) Root Cause Analysis and Six Sigma Projects: Root cause analysis are carried out to address the frequent failures and Six Sigma projects are initiated to improve the design/manufacturing process, so as to improve the overall Quality and reliability of the equipment.
- (f) Life Cycle Support for Equipment: Customers are requesting for 12 year product support for all new contracts/orders. Accordingly, BEL is providing proposals inclusive of 12 year support for new products. The initial ordering of the systems inclusive of 12 year product support, enables BEL to cater for adequate spares, infrastructure and manpower to provide satisfactory After Sales Service.

(e) Performance Review

2.44 It is the responsibility of the Department of Defence Production to identify the problems beyond the control of the BEL management and provide possible solution. When asked to indicate, how many problems of BEL were reported to the Department and how effectively action was taken, the Department of Defence Production stated in reply that Ministry of Defence extends necessary support to BEL by not only identifying the problems beyond its control, but has also been helping the Company to overcome and resolve those issues. Few of such instances are given below:

- Whenever BEL comes across issues related to export clearance, the Ministry extend help in resolving the same. One such example is for the Slew Ring Bearings used in Akash Weapon System, where the Ministry had helped BEL to obtain export clearance through discussions with Indian Embassy German Wing & German Authorities. This resulted in the progress of the project as per the timelines.
- During the execution of Akash Weapon System project, BEL was facing problems due to delayed supply of missiles by one of the consortium partners, since this type of missile was manufactured by OEM for the first time. The Ministry intervened and facilitated to resolve these issues and enabled supply of missiles.

- Obtaining Site Clearance for some of the sites during the execution of Coastal Surveillance System Project across the Indian Coastline was a concern and also impacted the delivery schedule. The Ministry intervened appropriately to enable BEL to overcome these issues.

2.45 When asked how many quarterly performance review meetings of BEL were held by the Department during each of the last three years, the Department of Defence Production in a written reply submitted that the Ministry of Defence conducts regular review meetings covering business performance and other related aspects. Totally, 25 performance appraisal meetings related to Project Performance, Modernization, Fund Drawal, R&D, Order Acquisition etc., were held during the last 3 years (2008-09, 2009-10 & 2010-11) and 7 meetings were held during 2011-12. Some of the major actions initiated by the Company arising out of reviews by the Ministry are given below:

- Review meetings chaired by Secretary, Department of Defence Production with shipyards & other DPSUs on progress of major projects enabled BEL to overcome the issues related to Sonars and Ship Data Network.
- New requirements & delivery commitments of Navy customer necessitated the formation of additional Strategic Business Unit (SBU) in the area of Naval Radar & Fire control systems.
- In the backdrop of 26/11 terrorist attack at Mumbai, the Company initiated proactive action to establish chain of static sensors at coast line of the country to dynamically detect and track suspicious vessels entering Indian waters.
- Setting up of BEL Product Support Centre at Kochi to provide waterfront support for the Southern Naval Command.
- Preparation of Strategic Vision Document of the Company. The business, both Defence & Non-Defence has been analyzed and planned in its entirety. The study covered in detail various business aspects like Marketing, Technology, Product development, Infrastructure, Manufacturing processes, Human Resources, etc.
- Implementation of e-procurement module to bring in more transparency & Cycle Time reduction in procurement.
- To further ensure Transparency & Probity in Procurement, Supplier Relationship Management (SRM) is being implemented across the Company.
- Customer Coordination Cell at Bengaluru to serve as single point window for complaint registration on wide range of BEL products and maintain status of complaint online.
- Thrust by the Ministry on indigenisation resulted in development of structured three year R&D Plan to benefit the Company in the long-run.

2.46 When asked what specific directions / instructions were given by the Department to ensure that BEL's targeted physical and financial performance are achieved, it was stated that the Ministry has been extending necessary assistance in acquisition of orders to meet the targeted turnover. The review meetings conducted by the Ministry on progress of major projects involving customer representatives has enabled to resolve critical issues related to projects and thereby ensuring smooth dispatch of the project. The Ministry regularly issue formal directions/instructions to BEL to initiate necessary actions towards achieving the targeted physical and financial performance. The performance of the Company is periodically reviewed and monitored to enable BEL to take appropriate corrective measures to achieve its annual targets. The Ministry lay great emphasis on delivery of equipment on time to meet requirements of the Armed forces.

2.47 When asked about the problems, if any, faced by BEL, BEL stated that intervention of the Department of Defence Production in the following areas could help BEL to tide them:-

- (a) Funding of Strategically Critical Technology Projects e.g. IR Detector (Cooled & Un-cooled), II Tubes, IF & RF Seekers, High Power Laser etc.
- (b) Placement of order of Security Sensitive Projects on DPSUs only – EW Systems.
- (c) Level Playing Field: Regulation of Private sector for Defence Business – Same policies as applicable to DPSUs (Vigilance, Security, CAG, etc.).
- (d) Custom Duty Exemption for proactive Development Projects.
- (e) Disposal of obsolete inventory to generate revenue-Amendment required in Custom Duty rules.
- (f) Exemption of Octroi (approx 3.5%) for BEL and BEL Optronics Devices Limited in Pune (Maharashtra).
- (g) Shorter evaluation cycle time for indigenized products.
- (h) Early placement of order for which trials have been completed successfully.

2.48 When asked if the aforesaid issues were brought to the notice of the Department of Defence Production by BEL and if so, has the Department taken up the above matters with the concerned ministries, the Department of Defence Production in their post evidence reply stated that BEL has discussed with Department of Defence Production on the above issues, some of which fairly recently. BEL has been directed to submit proposals in this regard and matters will be taken up with concerned Ministries on receipt of proposals from BEL.

2.49 It was observed from a written reply furnished by BEL that during the last five years, the Company had lost around 28 contracts amounting to Rs. 1624 crore in primary

business. One of the main reasons for this loss of contracts was stated to be that in case of a global tender, the pricing by an overseas vendor when compared to the Company was more competitive due to the fact that the overseas vendor incurred 'nil' customs duty, excise duty and sales tax. In case of services, the 'reverse charge' mechanism in India further put the burden of service tax on import of services on the Company and not on the overseas vendor. When asked if the Ministry of Defence was aware of this problem faced by BEL and if so, what efforts were made by the Ministry to address this problem, the Secretary, Defence Production during evidence submitted as under:

"I would like to express thanks to the Committee – the issues concerning to customs and so on, these were brought to our notice for the first time because of questioning by the Committee. BEL also brought to our attention for the first time now. I would assure the hon. Committee that these are the issues which prima facie we have examined; we find that there is a lot of merit in what BEL is telling. There are some things which I can set right in the Ministry, I will do that; there are certain things which are to be taken up with the Finance Ministry, I will do that also. I would like to express my thanks to the Committee that one aspect which was not known to us..."

CHAPTER III

RESEARCH & DEVELOPMENT

(a) Research and Development

3.1 In a written note furnished to the Committees, BEL stated that Research and Development activities formally started at Bharat Electronics Ltd. since early 1960s in its only plant at Bengaluru at that time. As the Bengaluru plant grew with time in terms of various divisions dealing with varieties of products, R&D facilities were set up for each division to focus on new product development and providing product support in the respective areas. With the passage of time as the Company kept expanding in terms of multi-unit corporate with multi-product and multi-technology portfolios, R&D facilities of the Company also kept pace in terms of expanding the facilities for each unit. At present, all the 9 Units of BEL have their in-house R&D facilities concentrating product and technology developments to support the business objectives of these BEL Units. R&D Policy of the Company is to enhance BEL's pre-eminence in Defence Electronics and other chosen fields and products.

3.2 Other than these in-house R&D Centres for each Manufacturing facilities, Bharat Electronics has set up two Central Research Laboratories at Bengaluru and Ghaziabad to carry out R&D activities for the development of state-of-the-art technology modules required for the development of products taken up for development or to be taken up in future. BEL also has a Central – Development & Engineering division located within Bengaluru unit to cater for development of technology modules in the fields of RF, Microwaves, DSP, Encryption, Power Supply, Radar Signal Processing & Software as required by the product development R&D units across all units of BEL.

3.3 The analysis of turnover of the Company for the year 2011 - 12 indicates that 54% of the turnover is from BEL developed products, 27% of the turnover is from products developed in association with DRDO and other National Labs and remaining 19% is from products for which technologies were acquired through foreign ToTs. During 2011 - 12, BEL has spent a sum of Rs. 468 crore on R&D. The total expenditure as percentage of turnover during the year was 8.21%.

3.4 The R&D expenditure as percentage of turnover in comparison to the R&D expenditure as percentage of total expenditure is given below:-

Sl. No.	Achievement Details	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
1.	R&D Expenditure as % of turnover	3.55%	5.10%	5.26%	6.05%	7.02%	8.21%
2.	R&D Expenditure as % of total expenditure	4.53%	6.62%	5.67%	6.99%	8.24%	8.24%

3.5 Regarding the development of new products by the R&D Division, BEL has informed that during 2011 - 12, different R&D Divisions of BEL have completed development of

varieties of new products / systems / technology modules. Some of the new products / systems introduced during the year include Coastal Surveillance System, Tablet PC, Integrated Anti Submarine Warfare Complex, Advanced Torpedo Defence System, Digital Radio Trunking System, Integrated Radio Line Modem., Remotely Operated Vehicle, Thermal Imaging Camera for Flycatcher Radar etc.

3.6 Scientists from Central Research Laboratories and other R & D divisions of BEL have contributed 55 Technical Papers in the national and international journals during the year.

3.7 It is observed from the Annual Report (2009-10) that BEL had submitted only two patent applications during the year. When asked how the Company plan to increase its research activities so as to increase the number of patent applications in future, BEL in their written reply clarifying further stated that previously, BEL had not patented the technologies developed in-house for defence equipment. However, in order to protect the intellectual property rights for the new technologies/processes developed or being developed within the Company, an aggressive campaign has been initiated over the past two years. Many new technologies/processes that have been developed in the recent past have been identified for patenting. Also, awareness on patents is being created among all R&D engineers through lectures by reputed Patent Advisors. An in-house R&D Award for Patents was introduced. With the above thrust and initiatives on patenting, BEL has filed 12 Patent applications during 2011-12 and filed 7 applications till Aug 2012 during current year.

3.8 When asked how the R&D initiatives are managed by the Company and whether BEL has any collaboration with Universities/Institutions, research bodies etc. in its R&D activities, BEL in a written reply stated that the Director (R&D) of BEL oversees all the R&D activities of BEL. The R&D groups in BEL are arranged in a three tiered structure for developing new technologies and equipment:-

- Each Strategic Business Unit (SBU) has Development & Engineering (D&E) group, which focuses on the Equipment / System level developments in the core technology area assigned to them.
- Central D&E, located at Bengaluru develops the core Technology Modules and facilitates the product development by the SBUs.
- Central Research Laboratories (CRL), located at Bengaluru and Ghaziabad are engaged in applied research and bring out futuristic technologies in the areas of interest to the Company.

R&D initiatives in BEL are well managed by a structured mechanism which involves:-

- Release of 3 year R&D Plan for all individual SBUs / Units and monthly monitoring of on-going projects.

- Implementation of Knowledge Management Portal in SAP.
- Monitoring of new R&D projects, which are to be initiated, as per R&D Plan.
- Monitoring of R&D Expenditure in each SBU / Unit.
- Review of critical projects, along with customers
- Encouraging R&D Engineers to present papers in International / National Seminars / Conferences.
- Identifying and imparting specialized technical training for R&D Engineers
- Recognizing the R&D efforts through in-house R&D Awards scheme and also applying for suitable external Awards.

More than 50% of the products of the Company's turnover is in-house developed. For the balance of around 30%, DRDO forms a major development partner.

3.9 The Committee observed from the Minutes of BEL Board Meetings of 27.12.2011 that one of the Directors of the Company had felt that the customer interface as well as marketing and R&D interface is weak the BEL and there is need to modify the Company strategy to neglect customer focus. When asked what specific action was taken by the Company to improve its R&D interface, BEL in a post evidence reply submitted that there are number of initiatives taken up to improve customer focus both by marketing and R&D. In R&D, to improve customer focus in core business segments, BEL has introduced core R&D committees in area of Radar, Communication & Electro Optics and other areas are in progress. Technology owners for each of the core business segments have been identified to support the developmental activities. These committees will meet regularly to discuss the User requirements in their respective area, eg., Radars, and come out with specific actions like type of projects to be under taken & which R&D group is to initiate this development and role of technology owners in this developmental effort.

3.10 BEL added that R&D & technology planning representatives participate in the marketing conference held periodically to understand the User requirements. Likewise, marketing & strategic planning representatives participate in the R&D conference to have better cross-function interactions in order to improve customer focus.

3.11 It was further stated by BEL that R&D representatives participate in user specific institutional review meetings to have closer interactions with users for better understanding of their needs. R&D representatives have participated and presented papers in seminars conducted by BEL for users in core technology areas like Radars, C4I, Electronic Warfare, Electro Optics and also in User Meet programs in case of large programs like Akash Missile System.

3.12 The Committee observed from the Minutes of the BEL Board Meeting held on 27.12.2012 that the turnout time for R&D projects was 1-3 years depending upon the size and complexity. To a query whether any efficiency audit of R&D projects has been carried out and if so, the outcome thereof, BEL stated in a written reply as follows:

“Methodology of measuring in-house R&D value addition in R&D projects across SBUs / Units of BEL has been introduced in the company during August 2012. The outcome of this measurement was carried out for last five years and has shown significant in-house R&D value addition of around 56% (average) across BEL. There is a steady increase in products in our sales turnover arising out of in-house & joint development with DRDO and other design agencies. Turnover from Indigenous technology has increased from 75% in 2008-09 to 81% in 2011-12.”

3.13 When asked how BEL ensured that there is no duplication of R&D efforts by BEL and other organizations in our country, BEL replied as follows:

“Technology Roadmap is prepared centrally by Technology Planning Division at Corporate Office, which reflects the critical technologies that are required to be developed in each of the core business segments and also the methodology of development. The development methodology can be in-house R&D, or jointly with DRDO, or other Government R&D Institutions, or ToT from foreign OEMs, or jointly with any Indian Industry. This assessment is based on the technology gap study and the status of maturity of requisite technology available, both in-house and with external agencies mentioned above, for bringing out new products to meet user requirements.

The technology roadmap is used as one of the critical inputs in bringing out a three-year roll-on R&D Plan every year, centrally by Technology Planning Division at Corporate Office, which gives the details on all R&D programs, both currently under progress and the future plans, across BEL in all its R&D centres. Since this activity is coordinated centrally it ensures that BEL does not duplicate R&D efforts taking place elsewhere in the country and also in-house R&D centres.”

3.14 Regarding the future plan of action of R&D activities, BEL informed that a three year R&D Plan has been made for each R & D division of BEL based on customers' perspectives and technology road map. Infrastructure, Capital items and requisite manpower as required for the R & D divisions have been identified and being allocated on priority. In - house development efforts will be given the top most priority. Co - operation with DRDO, other National Labs, design agencies and academic institutions will be strengthened for other indigenous developments. Interactions with foreign companies for taking up of joint development projects will be encouraged where necessary.

(b) Indigenisation

3.15 In a written note furnished to the Committee, BEL informed that the objective of indigenisation is to:

- Minimize dependence on foreign partners
- Acquire knowledge in different technology areas
- Cost effectiveness through import substitution
- Increase in value addition within the country
- Protecting nation's security
- Self-reliance

Indigenous technology at BEL is developed in following ways:

- In house R&D efforts.
- Joint development with National Labs (like DRDO, ISRO, CSIR, C-DOT, Academic Institutions etc.).
- Convergence of indigenous technologies of interest of BEL developed by various indigenous design houses in India.
- System & turnkey projects designed by BEL and realized through integration of bought out subsystems for faster availability of desired systems to customer.
- Absorption of ToT in phased manner and bringing out new products as variants.

BEL has set up in-house R&D facilities to facilitate development of technology in all the nine manufacturing units of the Company spread over the country. In addition a Central Development and Engineering Division inside its Bengaluru Unit caters to the needs of designing and supplying of common core technology modules required to develop various electronic equipment and systems. Company has also set up two Central Research Laboratories at Bengaluru and Ghaziabad to carry out research and development in the critical and enabling technologies required for the current and 'futuristic products'. Company spends around 7-8% of its turnover on R&D activities.

3.16 It is observed that the Defence sector is increasingly being opened for private sector participation and changes are being brought into the defence purchase procedure. When asked whether any roadmap was drawn by the Company to remain a leader in the market in view of the increasing private sector participation in the defence sector, BEL in its written reply stated that with an aim to enhance the indigenous content, the Indian Defence sector has been opened up for participation by private companies. Entry of private sector in defence has resulted in increased competition, reduced margins, etc. This has posed a challenge to the Company in maintaining a sustained growth and retaining the Defence market share in the prevailing competitive environment. BEL is fully geared up to handle competitive environment. In this regard, BEL is taking pro-

active steps to protect and consolidate its leadership position in the Indian Defence market while at the same time accelerate the efforts to get into new business areas. Some of the initiatives taken up by BEL to enhance its competitiveness are:-

(a) Venturing into new technology Areas & indigenisation

Company has been working on new areas like Battlefield Management System, Future Infantry Soldier as A System (FINSAS), Ground Support Radar (GSR), Tactical Communication System (TCS), Software Defined Radio (SDR), Homeland Security System (HLS) etc. This will yield sales in the coming years.

Self-reliance is one of the objectives of the Company to meet the strategic needs of the nation. In view of the increasing competition in the open market era, indigenisation has become one of the thrust areas of BEL. Indigenous technology at BEL is developed in following ways:

- In house R&D efforts
- Joint development with national labs (like DRDO, ISRO, CSIR, C-DOT, Academic institutions, etc)
- Convergence of indigenous technologies of interest to BEL developed by various indigenous design houses in India
- System & turnkey projects designed by BEL and realized through integration of bought out subsystems for faster availability of desired systems to customer. Indigenisation of subsystems for future needs.

(b) Cost reduction

Cost Reduction for Survival has been the motto of the Company. Specific thrust has been given to cost reduction in all areas of activity. Task Forces have been formed in all the Units to address areas like indigenisation, design change, alternate sourcing, alternate components, Process / yield improvement, negotiations, energy savings etc. This has resulted in a significant cost reduction in all the Units of BEL. Because of BEL's continuous cost reduction efforts, it could contain the cost escalations and could absorb the usual escalations due to inflation, etc., and offer the products without escalating its prices over the last supply prices or with minor increase in prices.

(c) Enhanced product support

Product support activity has been one of the focus areas of BEL. There has been constant effort in this direction to bring in quantum improvement from its existing levels to provide effective product support. The various initiatives taken by BEL in this aspect are:

- Commonly used spares made available to customers at short notice
- Strengthening water front support teams at Mumbai, Vizag, Kolkata
- In addition to the above, BEL has set up a product support Center at Kalamsassary in Kochi. The support center has enabled BEL to provide product support to Indian Navy for the platforms coming under the Southern Naval Command
- Dedicated segment wise project groups for better focus
- Special Test facilities established for comprehensive evaluation in the Factory / Commands
- Implementation of Company wide Enterprise Resource Planning (ERP) to reduce MTTR (Mean Time To Repair)
- For effective complaint management, a Customer Co-ordination cell has been set up at Bengaluru Complex to serve as a single window for complaint registration & status monitoring on a wide range of BEL products.
- Product support seminars are conducted periodically. The seminar mainly aims at new initiatives to enhance product support, sharing of best practices across the Company on product support process, etc.

(d) Diversification, New business initiatives & Thrust on Exports

BEL is stressing on major areas of diversification, formation of joint ventures and is also laying thrust on exports for which it is identifying some African and South East Asian countries.

(e) Infrastructure upgradation

BEL has been continuously modernizing its infrastructure to be in tune with the changing needs of the technology /products. Specific groups in all the units scan the technology changes that are taking place and identify new test equipment / machinery in the world market for acquisition. This enables the Company to maintain its infrastructure at par with international standards. The Company has been spending around Rs 250 - 300 Crs on capital investments every year from internal accruals.

(f) Public- Private Partnership

The combined presence will lead to collaborations with significant value additions, innovations, faster technology development and also giant strides

towards self-reliance. In order to reap the maximum benefits, both DPSU & Private sector should evolve as partners and complement each other in bringing the State-of-the-art technologies for production of defence systems. This will ensure in creating strong defence industrial base. The benefits derived out of Public Private Partnership are:

- Enhanced Self- reliance
- National resources not replicated
- Access to high end technology
- Access to world class capabilities
- Increased customer satisfaction

Some of the projects executed by BEL on Public Private Partnership include Akash weapon system, Samyukta, etc..

(g) Future outlook

The business (both defence & civilian) has been examined and planned in its entirety. All the essential elements of business are addressed adequately and in right proportion. The study has covered in detail various business aspects like Marketing, Technology, Product development, Infrastructure, manufacturing processes, Human resources, etc.

3.17 Asked about suggestions of DRDO to make BEL operations fully in synergy with the Defence requirements, a representative of DRDO stated during the oral evidence on 12 February 2013 as follows:-

“The situation is becoming more and more competitive. Now, everybody wants the private sector also to play. Number one is quality and timely delivery. With regard to timely delivery and quality, as of now the BEL is doing well. Then comes support. The way the Defence PSUs are able to support the Services, the private sector will not be able to support. So, this complaint regarding private sector will come in later. But as of now this competition exists.

Now, what is happening is, on security areas like where there is secrecy requirement in communication, these models have to be incorporated. Only BEL does it, we do not go to private sector. Now, if we are buying electronic warfare equipment from abroad or if we are buying an aircraft from abroad and in that the electronic warfare has to be fitted in there, the foreigners will never allow us to switch on our equipment there. They say if you switch on, you will come to know the emissions that are there in their country and we will get that recorded. So, they never allow it. So, there are a lot of security restrictions.

Now, with NSA in chair, some directives are given to us; how to work out the security under control for all the systems that are given to the Services and also allow certain amount of work to the private sector also. Now, the future is

consortium. If you see the other countries like Europe or even in America, consortiums work like EADS. Now-a-days user requires a huge system. Huge system will have electro-optics; will have radar, control systems and communication together. One small Company cannot have it. So, BEL should become an overall integrated consortium head and it should take forward with MOUs the private sector companies and small companies where technology growth takes place. That way not only the BEL will benefit but the country will also benefit.”

CHAPTER IV

DIVERSIFICATION / EXPANSION PLANS

(a) Diversification / Expansion Plans

4.1 Pointing out that BEL has not undertaken any major project in the recent past. When the Committee enquired whether the Ministry of Defence reviewed the performance of BEL from this angle, the Ministry merely stated that the Ministry has been reviewing the major R&D projects of BEL support from the Company's infrastructure requirements, modernisation plans, etc.

4.2 Pointing out that BEL has tremendous R&D potential and this could become biggest profit area if R&D could design products for use by the civilian community, the Committee enquired whether BEL could license out the designs, the CMD, BEL responded by saying that although they were aware of the growth prospects in civilian markets they were not putting focused attention. Also, on the issue of licencing of civilian products, the CMD, BEL admitted that they have not explored that particular area. CMD, BEL during the course of oral evidence further submitted as under:

“We were not putting focussed attention. I agree with your statement in fact.....only last year we developed Digital Compass for the Army. Based on that particular technology, we developed the tablet PC; we have supplied six lakh tablet PCs. It was the outcome of that particular technology which we could reap. But definitely we have to do more in this area. We will address this particular point.Sir, we never explored that particular area.”

4.3 New projects are necessary for growth and expansion of any organization. BEL informed in a note submitted to the Committee that no major project has been undertaken other than Product Support Centre at Kochi during the last three years. Currently, BEL is implementing two minor projects viz. Wind Energy Power Plant (Rs. 65-70 crore) and expansion of RF/MW Super Components Facility (Rs. 30 crore). When asked why BEL has not undertaken any major projects which is a pre-requisite for growth and expansion of any origin; BEL in a written reply stated that BEL has nine manufacturing Units with 20 Strategic Business Units (SBUs) spread across the country. Each SBU has specific product focus. There is no proposal at present to set up any more Units. However, the Company strongly believes that, thrust on R&D in developing new products/systems aligned with customer's needs, setting up state-of-the-art infrastructure, continual improvements in processes, augmenting manpower, diversification strategies, formation of Joint Ventures, strengthening of marketing in the backdrop of increased competition etc., are the catalysts for future growth of the Company. To increase its performance, BEL has taken up many R&D programmes, infrastructure projects and also initiated many marketing strategies.

The diversification will help BEL to increase its range of products, increase market penetration and growth in business without diluting its core business as these are allied to

its main function of being a premier Company in the field of strategic electronics. Also, with the opening up of the Defence sector to private industry it is necessary for BEL to diversify as a risk mitigation strategy. However, the primary business segments of BEL will continue to be Radars, Communication and Electronic Warfare systems and defence business will continue to be its mainstay. For the last 8-10 years, around 80% of BEL's turnover accounts for defence products and the balance 20% is from civilian and other products.

4.4 When asked to indicate the areas where BEL has diversified and the value of production and profit earned from the new business, BEL in a post evidence reply stated that some of the major areas of diversification include Railways, Nuclear Instrumentation, Homeland Security, e-governance, smart cards, solar, etc. These diversification efforts have yielded results in the areas of Smart cards and Homeland Security. In these areas, business is realized for some of the projects like National Population Registry, Tablet PC's (BEL designed) used for conducting Socio Economic Caste Census to identify "Below Poverty Line" families (BPL) etc., during 2010-11 & 2011-12. The revenue earned and profit from these new businesses is given below:-

(Value in Rs. Crore)

Year	Total Revenue	Net Profit(PAT)	Revenue earned by Diversified products	Profit earned by Diversified products
2010-11	5530	861	81	2
2011-12	5704	830	931	37

4.5 When asked about the steps taken by BEL to augment non-defence business and the results, thereof, during the last five years, BEL in its post evidence reply stated that with the increased competition in defence business and to sustain in the competitive environment, venturing into civilian /non defence business is a prime requirement. In this regard BEL has exclusive Strategic Business Units (SBU) for the manufacture of non-defence products/systems. Some of the significant products developed in non-defence area are Electronic Voting Machines (EVMs), Tablet PCs (BEL designed), night vision devices, radars for civilian use, Doppler weather Radar (DWR), Wide Area Networking projects, solar products, etc. Apart from these, BEL also has presence in the areas of Access Control Systems, Homeland Security systems, etc. BEL is continuously upgrading its technologies and introducing new products, every year, in its efforts to be the leader in professional electronics.

- BEL has also developed some products like X-Ray Baggage Inspection System, Under Carriage Vehicle Inspection System, etc., which are required for the Homeland Security applications. BEL is already executing a CCTV surveillance project for Indian Air Force and shown interest to participate in many HLS projects for Government / Defence establishments. Process of establishing an IP based Video surveillance system for showcasing BELs capabilities in this area is under progress.

- Apart from the above setup, BEL has also taken some initiatives to acquire orders:

- Marketing of BEL's capabilities to prospective bidders
- Standardization of various manufacturing processes as per customer requirements
- Strengthening the Marketing wing with additional work force
- Training at reputed institutions like IIM for Marketing Executives to sharpen their Marketing skills
- Annual Marketing conferences

- The turnover from non defence areas for last 5 years is tabulated below, which shows Company's efforts in increasing non-defence business:-

(Rs. in Crores)

Year	Total Sales	Non Defence Sales	% age
2007-08	4103	671	16
2008-09	4624	658	14
2009-10	5220	866	17
2010-11	5530	1132	20
2011-12	5704	1554	27

4.6 On the issue of venturing into civilian products, the Secretary, Defence Production however had a diversified view. During the course of evidence, he submitted as follows:

“I would like to admit before the Committee that there are more such orders where they are running into certain difficulties in the civilian sector. That is again impacting both their turn over and private market, unfortunately.”

4.7 A special board meeting was stated to be held by BEL on 27.1.2011 where Secretary, Defence Production was also present to deliberate upon the Company's future business plans and strategy for growth. When asked whether it was not desirable for the Company to diversify and enter into manufacturing of computer hardware, mobile phones and other electronic items, the Department of Defence Production in a post evidence reply clarified that the market for computer hardware, mobile phones and other electronic items is currently being dominated by global players and operates on a different business model. Moreover, the product life cycle (PLC) of such products is shorter and requires rolling out of large variants frequently. Venturing into such products / markets does not appear to be a viable proposition. However, the Ministry is also hand holding BEL to be on the lookout to increase its business in the civilian segment as well as to explore the possibilities of diversification into potential and profitable business areas. In view of this, BEL is giving additional thrust on development of products / systems aligned with the Company's core strengths. Some of the products identified in civilian segment include Homeland Security, e-Governance projects (like SECC, NPR), Telecom, Jammers, Nuclear instrumentation, etc.

(b) Formation of Joint Venture Company (JVC)

4.8 BEL initially set up a joint venture Company (JVC) BE-Delft Electronics Limited with Delft Electronische Products (DEP), Holland - a part of Delft Instruments International (DII) group in 1990. M/s.DII decided to exit from related business subsequent to imposition of sanctions by US Government. This resulted in setting up of subsidiary Company called BEL-Optronicon Devices Ltd (BELOP) w.e.f July 2002. BELOP recorded a turnover of Rs. 6273.92 lakh during the year 2011-12 with a PAT of Rs.815.69 lakh. BELOP manufactures mainly Image Intensifier Tubes (I.I.Tubes) used in the Night Vision Devices manufactured by BEL. This subsidiary is in the process of upgrading the technology for manufacturing of Super Gen II Tubes through ToT.

The joint venture Company with General Electric, USA, viz., GE BE Pvt. Ltd., (Estd:1997) manufacturing CT Max and other latest version X-Ray Tubes continues to perform well. BEL supplies some parts required for the products manufactured by this JVC. GE BE Pvt. Ltd achieved a turnover of Rs.42,931 lakh during 2011-12 with a PAT of Rs.5034 lakh.

Other JVC, viz., BEL Multitone Pvt. Ltd., (Estd:1997) jointly promoted by BEL and Multitone Plc., UK was set up to supply, install and service Private Paging Systems and Pagers. The JVC is presently in shell stage and it had no business transaction during the year. It has been decided to close down this Company as there are no business prospects for paging systems in the country.

4.9 It is stated in the preliminary material that the formation of a Joint Venture Company with M/s. Thales, France was considered by BEL on 27.12.2011. When asked if any decision was taken by BEL regarding the formation of the Joint Venture, BEL in a written reply informed that the Joint Venture with M/s Thales is basically for civilian radar and select Defence Radars. At the Board meeting held on 27 December 2011, the Board after detailed deliberation agreed with the commercial viability and business potential of the proposal. However, since some board members felt that there was scope for improving the flow of technology to the JVC, Board constituted a sub-committee consisting of Government Directors and Director (Research & Development), BEL to look into these aspects and report to the Board within 1-2 months. Accordingly, the sub- committee held a meeting with M/s. Thales on 24 February 2012 and persuaded M/s Thales to include flow of additional technologies to JVC.

MoD's guidelines on the formation of Joint Ventures by DPSU's were issued on 17 February 2012. M/s. Thales and BEL teams had discussions on 21 and 22 March 2012 and mutually agreed to carry out the necessary changes to the Joint Venture Agreement, to comply with MoD guidelines on JVs and also included the additional technologies as discussed during the sub-committee meeting.

The Joint Venture proposal and the compliance statement with regard to the Joint Venture Guidelines issued by MoD were discussed during the Board Meeting

held on 25 April 2012. The BoD desired some additional information on the compliances which was prepared and put up to the Board on 5 July 2012.

Board, after deliberation, approved the formation of a Joint Venture Company with M/s. Thales Air Systems S.A.S, France and M/s. Thales India Private Ltd. with an investment by BEL in the form of equity contribution of Euro 6.66 Million (Rs.42.62 crore. @ 1 Euro = Rs.64) for design, development, marketing, supply and support of Civilian and select Defence Radars for Indian and Global markets, subject to obtaining necessary approval from the Government and statutory authorities. Board directed that the proposal be forwarded to administrative Ministry seeking Government approval, simultaneously seeking the FIPB approval.

Subsequent to the approval by BEL Board, the proposal was forwarded to Department of Defence Production on 24 August 2012 for approval. Parallely, an application was also submitted to FIPB for approval of the FDI on 14 September 2012. Presently, both the approvals are under progress.

4.10 When asked if the Ministry of Defence had any objection to the proposal for formation of aforesaid joint venture which was forwarded to the Department of Defence Production on 24.8.2012 and is pending approval for over five months, the Department of Defence Production in a written reply stated that the Ministry has recommended the proposal to FIPB.

4.11 Regarding signing of joint venture with M/s Photonis, CMD, BEL during the course of oral evidence clarified:-

“It is not a Joint Venture. It is a ToT project which we are doing with M/s Photonis. We are paying money for that. It is a licence fee that we pay every year. We have to produce 8000 numbers every year. The ToT agreement is now in place. In the year 2006 we submitted to 41 companies to give the ToT and M/s Photonis came forward. They participated in the tender. This same technology we were earlier producing with M/s Delft of Holland. This plant will be on production in Pune by March and you all are welcome to visit that plant.”

4.12 When asked whether it was mandatory to have the approval of the Administrative Ministry for formation of JVs by PSUs and whether there was any monitoring mechanism in the Ministry to supervise the formation of JVs by various PSUs under it, the Department of Defence Production in their post evidence reply stated that the Department of Public Enterprise (DPE) have delegated the authority for formation of joint ventures(JVs) to the boards of Central Public Sector Enterprises(CPSEs) up to certain financial limits in case of Navratna and Miniratna CPSEs. As such, approval of the administrative ministry is not mandatory for all cases of JV formation by CPSEs under DPE guidelines. These DPE guidelines have been supplemented by the joint venture guidelines issued by the Ministry of Defence (MoD) in February 2012 for formation of JVs by DPSUs. In line with the letter and spirit of the Board-level authority delegated by DPE, the MoD guidelines also do not impose any additional requirements for the Ministry-level approvals, except where a

specific approval of the Government may be necessary under relevant GoI guidelines, such as FIPB approvals, or where a specific Ministry intervention may be required, such as cases outside the delegated financial authority available to DPSU Boards under DPE guidelines.

In view of the delegated authority available to Navratna and Miniratna (CPSEs) under DPE guidelines, establishing a separate /dedicated monitoring mechanism has not been considered necessary in the Ministry at this stage.

4.13 When asked if there are instances/complaints in the knowledge of the Department where the JV companies have procured components/equipments from other private companies and simply sourced it to BEL, the Department of Defence Production in their post evidence reply stated that no such complaints have been brought to their knowledge.

4.14 Asked further if it was true that one of the easy routes for foreign companies to enter India's Defence and domestic security market is under the cover of 'transfer of technology' deals, the Department of Defence Production in their post evidence reply stated that the Defence Procurement Procedure provides for two types of Transfer of Technology (ToT) acquisitions. In the Buy & Make acquisition (i.e., Purchase from a foreign OEM followed by licensed production / indigenous manufacture in the country), our past experience has shown that the technology transfer has been limited to transfer of engineering skills for production in many cases. The critical items are invariably supplied as proprietary item kits. This method of acquisition has also not encouraged formation of Joint Ventures (JVs) or alliances for co-production with Indian companies.

To overcome the above situation, a new category of acquisition has been introduced i.e., 'Buy and Make (Indian)', wherein Indian firms, both public and private, will play a lead role in negotiating and obtaining technology and co-production arrangements with the foreign OEMs. In this category of acquisition, the RFP will be issued to the Indian firms and not to the foreign OEMs.

Indian firms identified to have requisite technical and financial capabilities would be required to submit project proposals indicating detailed roadmap for development and production of the items over its life cycle. They will also be required to spell out the proposed production arrangement with the foreign OEM along with the content of the ToT. The product so manufactured and supplied by the Indian Company must have 50% indigenous content. However, the efficacy of the 'Buy and Make (Indian)' category acquisition is yet to be established.

4.15 When asked as to what was the take of the Department on the proposals of formation of Joint Ventures by BEL and was there some sort of resistance to such proposals, a representative of DRDO during the course of oral evidence on 12 February 2013 submitted:-

"No, there is no objection. Generally, what we do is that we do not work in isolation. The Defence PSUs, not only BEL but others also, work in close

coordination; we consult because within the country there are people who are educated and the knowledge is available. We try to pool up the knowledge. We put a committee, bring in everybody from academia, from production agency, from R&D and we put them together and say that this is the kind of decision and that BEL wants to go in for JV. If it is worthwhile going, we recommend it with our recommendation having some safeguards.”

CHAPTER V
OTHER MATTERS

(a) E - Procurement

5.1 It is observed from the information furnished by BEL that Supplier Relationship Management (SRM) is being implemented across the Company to ensure transparency and probity in procurement. When asked about the salient features of SRM and whether there were any provisions for imposition of penalty in the event of deviations in supplies / procurement entailed in it, BEL in a written reply informed that e - procurement at BEL has been implemented on SAP SRM 7.0 platform having Public Sector procurement features. It has been implemented at all 9 Units of BEL for both Purchase and Sub - contract. The system is integrated with ERP system with the latest security such as Web Access Firewall, Reverse proxy and encryption of data from the client side upto the server in place. Second level authentication through Digital Signature for both publishing the bid and submission of response from the Vendor has been enabled. Six types of procurement have been configured in the system. As per CVC circular No. 010 / VGL / 035 dated 12.01.2012, action has been taken for certification of e - procurement system.

- The following types of procurement has been configured in the system:
 - Open tender
 - Limited / Restricted tender
 - Single tender
 - Two part bid
- Feature for on-line registration for the vendors is available
- Through Supplier self service functionality, the vendor will be able to see the Purchase order placed, submit order acknowledgement and enter Advanced Shipping Notification on-line
- The supplier will be able to track the status of supplies and Invoice
- System has a feature for on-line payment information

The time for and the date of delivery of the stores stipulated in the Purchase Order shall be deemed to be the essence of the contract, and delivery must be completed not later than the dates specified therein. Should the supplier fail to deliver the stores or any consignment, thereof, within the period prescribed for such delivery, BEL shall be entitled at its option:

- To recover from the supplier agreed liquidated damages, and not by way of penalty of sum of 0.5 % (2.5% in case of purchase orders placed on time preference basis) of the value of any stores not supplied in time for each week of delay or part of a week with a ceiling of 10 % (25% in case of purchase orders placed on time preference basis), or

- To purchase elsewhere, at the risk and cost of the supplier, the stores not delivered, or
- To cancel the Purchase Order.
- In the event of action being taken, the supplier shall be liable for any loss which BEL may sustain but the supplier shall not be entitled to any gain on repurchase made against default.
- For supplies from foreign vendors, LD Clause is applicable when mutually agreed and a clause is incorporated in the PO to that effect.

Integrity Pact

5.2 The Committee have been informed that one of the latest initiatives of the Central Vigilance Commission to eradicate corruption in procurement activity is introduction of the Integrity Pact in large value contracts in all Government Organisations. In line with the directives from Ministry of Defence and the Central Vigilance Commission, BEL has adopted Integrity Pact with all vendors / suppliers / contractors / service providers for all Orders / Contracts of value Rs. 2,000 lakhs and above. The pact essentially envisages an agreement between the prospective vendors / bidders and the Principal (BEL), committing the Persons / officials of both sides, not to resort to any corrupt practices in any aspect / stage of the contract. Only those vendors / bidders, who commit themselves to such a Pact with the Principal, would be considered competent to participate in the bidding process. In other words, entering into this Pact is a preliminary qualification. Integrity Pact, in respect of a particular contract, would be operative from the stage of invitation of bids till the final completion of the contract. Any violation of the same would entail disqualification of the bidders and exclusion from future business dealings.

As per recommendation by the Central Vigilance Commissioner, BEL has appointed Shri N K Sinha, former Secretary, Planning Commission and former Chairman, PESB as the Independent External Monitor (IEM) for monitoring implementation of Integrity Pact in BEL. The IEM would review independently and objectively, whether and to what extent parties have complied with their obligations under the Pact. IEM will take stock of the ongoing tendering processes on quarterly basis. The IEM conducts this review once in every quarter. In case of a complaint arising out of tendering process, the matter shall be examined by the IEM, who would look into the records, conduct an investigation, and submit recommendations to the management. During his visits to the Corporate Office every quarter, the IEM holds structured meetings with the Chairman & Managing Director. So far, 52 Orders / Contracts are covered under Integrity Pact.

5.3 When asked about the details of procurement through single vendor by BEL during the last 5 years and efforts made to reduce single vendor based procurement, BEL in its post evidence reply stated that a majority of the Single Vendor procurements falls under following categories:-

- Design Agency Approved.
- TOT/OEM's Approved by TOT Provider
- Customer Suggested.

5.4 In case of in-house development, initially multiple vendors are evaluated and zeroed down to Single Vendor based on the project requirement. Some initiatives taken by the Company for reduction of Single Vendor Procurement are :-

- Periodical institutional meetings with DRDO & Other National Labs for involving BEL in vendor selection process to explore alternate vendor.
- Implementation of e-Procurement.
- In-house development programs for subsystems/assemblies to enable BEL as alternate vendor.

5.5 In addition to the above efforts, suitable instructions to Units/SBUs have been issued for fixing up annual targets for procurement through multi vendor route.

5.6 A statement indicating the value and categorization of purchases made by BEL through various process is given at *Annexure*.

5.7 When asked if the procurement through single vendor is in line with the Global Best Practices, the Department of Defence Production in their post evidence reply stated that BEL's key processes including procurement through Single Vendor is extensively reviewed by external auditors during ISO9000 Surveillance Audits on yearly basis. The discussions with external auditors has revealed that the procurement process followed by BEL match with other organizations dealing with similar products.

5.8 Procurement from single vendors in BEL has drastically gone down from **13%** in 2008-09 to only 3.88% during 2011-12 except for a slight increase in 2009-10(16.19%). In value terms also single vendor procurements have come down from Rs.457.47 Crore (2008-09) to Rs.193.03 Crore (2011-12). Remaining procurements have been made through Open tendering, Limited tendering, Customer/OEM nominated sources, Licensor/Licence Agreement, Joint Venture and Proprietary. BEL resorts to single tender procurement only under compelling circumstances when it is not feasible to do so by other modes.

5.9 When asked whether single vendor procurements were in conformity with the CVC guidelines, the Department of Defence Production in their post evidence reply stated that CVC has provided guidelines indicating that the proportion of Limited / Single Tenders should be gradually reduced through Vendor Development. The same is being monitored through reviews, quarterly progress reports, etc. Besides, the Company has issued directions across all Units regarding broadening of vendor base and procurement through multi vendors. Due to alternate sourcing, introduction of e-procurement etc., the single vendor procurement has come down from 16.19 % in 2009-10 to 3.88% in 2011-12.

5.10 The Department in a written reply further clarified that BEL resorts to single tender procurement only under compelling circumstances when it is not feasible to do so by other modes.

5.11 When asked about the efforts made by BEL to overcome delays in placement of purchase orders and return of rejected items, BEL in its written reply stated that the time for conversion of purchase requisition to issue of purchase orders is reduced to 21 days as against 30 days in the earlier Purchase Procedure. This period of 21 days covers all the activities including calling of quotations, finalizing the purchase proposal, obtaining financial concurrence and approval of the Competent Authority, etc. The whole process of procurement is reviewed and monitored at various levels in the Units / SBUs. However, there are some practical difficulties like, low quantity PR kept on hold for clubbing in next MRP, pending clarifications from indentors/ D&E/Production control regarding drawing, technical specifications etc, change in requirements intimated by indentors, negotiation and confirmation of terms of price and delivery schedule from suppliers, pending sample approval before bulk procurement, re-tendering due to poor response, etc., due to which delay in some cases is unavoidable. Various parameters w.r.t. inspection of material / dealing with rejected items have been established and are regularly reviewed by the Units / SBUs for corrective action. It is not practical to fix a time limit for the tests or inspections because the input materials vary depending on the product mix . Quite often the materials will have to be tested in the process to observe for process rejections due to defects in the materials and the process time would get added to the inspection time there by increasing the testing or inspection time.

5.12 However, a system of reviewing the delay in placement of Purchase Orders and inspection of materials etc. by SBU/Unit Heads on periodical basis is already in place.

(b) Manpower

5.13 The Committee have been informed that the sanctioned strength of manpower in BEL varies from year to year depending upon the expected volume of business and requirement of additional manpower vis-à-vis the existing manpower. Accordingly, the actual staff strength of BEL as on 31 March, 2011 was as follows:

Executives –	5503
Non-Executives -	5677

The staff strength at the end of the next fiscal i.e. 31 March, 2012 was as follows:-

Executives –	5157
Non-Executives -	5634

5.14 Of the total manpower in 2011-12, 3,696 were engineers / scientists. Women employees were 2,254 as on 31 March 2012. A total of 322 executives consisting of engineers, scientists and other professionals were inducted during the year. During the year 2011-12, 5.57% of the candidates recruited belonged to the minority community. The contract labour during 2009-10 was 3204 persons which has gone up to 4460 persons in 2011-12. BEL has been implementing the Government Directives on Reservation. The

particulars of SC / ST and other categories of employees as on 31 March 2012 are as under:-

Category of employees	Executives		Non-Executives	
	Group 'A'	Group 'B'	Group 'C'	Group 'D'
Scheduled Caste	820	56	1048	92
Scheduled Tribe	250	5	141	25
OBC	854	73	944	54
Ex-Servicemen	103	77	328	80
Physically Handicapped	79	11	146	17

5.15 Regarding the ratio of number of officers with that of the workers, CMD, BEL during the course of oral evidence explained that:

“...as I said, we were making small components, which was labour intensive. In fact, at one time, we were having a large number of employees. Now, when the Government has opened the component manufacturing facility for the outside world, we reduced the same; in fact, we stopped the component manufacturing in the company, and we shifted the business from component to equipment and from equipment to the systems now. That is why, in the system integration, the number of workers required is less and the number of officers required is more. That is the main reason why we shifted from the labour intensive to the system integration. That is the way basically all the companies work.”

5.16 The Committee observed from the Annual Report of BEL that the total number of employees has come down gradually over the years from 13750 in 2002-03 to 10791 in 2011-12. The reduction in number of employees is nearly 3000. When asked for the reasons for gradual reduction in manpower, BEL in their post evidence reply that previously, the Company was mainly in components business which was labour intensive. Now, with the Government policy for opening up of components business to private sector / outside world, BEL reduced component manufacturing and shifted the business from component manufacturing to equipment and from equipment to system integration. This change in technology trend from stand alone equipment to turnkey /platform based solutions require manpower generally in the areas of testing, Installation & Commissioning, etc. BEL further stated that the Company recognized outsourcing as one of the strategic tools to achieve cost benefits and complement the strengths of private sector to build a strong industrial base. Hence the Company outsourced low end jobs and focused on core areas. Upgradation of infrastructure and introduction of modern facilities, Process automation, Business Process Reengineering (BPR), etc. However, Company has been recruiting in the required skill sets depending on the business need.

5.17 Queried further as to whether most of the work of BEL was being outsourced due to reduction in the number of permanent employees, he further clarified:-

“We do not do outsourcing of the core business, for example, electronic assemblies, the microwave, joining of the components and all, we do in-house. We are not sub-contracting these areas. We want to keep the core business within the

Company. Last year, we recruited some non-executives. This year also we have cleared that. Definitely, the number of 10,000 workers will not come down. In fact, in the coming years, as the new technology is emerges, we have to go on adding so that we can have a good market share here. This is a very highly sophisticated technology. I would like to invite you to come to Bengaluru and see for yourself how much work we do in-house and how much work gets done from outside. Only in those areas where it is not very accurate and the areas in which other private companies are active, we go outside. All the core technology which is required for our survival, we do in-house. We put lot of money in the infrastructure by training the people and by recruiting the people. This is going to continue.”

5.18 The contract labour engaged by the Company during the 2010-11 and 2011-12 Fiscals was 4097 and 4460 respectively.

5.19 BEL have stated that contract labour has gone up from 3204 persons during 2009 to 4460 persons during 2011-12. Queried about the sharp rise in the engagement of contract labour, CMD, BEL during the course of oral evidence clarified:-

“In the non-core area, we are giving a contract basically for our production since the load is not continuous and at the end of the financial year, that is generally from December onwards to March, we do employ the contract labour of about 2000 to 2500 depending upon the load because for the balance of the year, there will not be any work. So, we get it done. It is not on a continuous basis.”

5.20 When asked about any Recruitment Policy being followed in BEL, the Company in their post evidence reply stated that the Company has formulated a framework of policies, which will enable the organization to attract the right talent for the right job at the right time and in the right number with the ultimate objective of ensuring optimum and effective utilization of human resources in acclimate of satisfaction, development and growth. In pursuance of the objective, the BEL Recruitment Rules and Procedures has been formulated to govern, regulate and facilitate recruitment of personnel in the Units and Offices of the Company. The recruitment is carried out for executives through Campus Recruitment, All India Recruitment, Need Based Recruitments for Lateral Entries based on the manpower planning. For non-executives, the recruitment is done through local employment exchanges and advertisements. The process of manpower planning commences at the beginning of the financial year when business and production targets are fixed in all Units/SBUs. The existing manpower in the Unit is analyzed vis-à-vis the projected volume of business for the next five to ten years and the number of personnel to be recruited for the current year is arrived at.

In addition, the attrition of manpower both due to superannuation and resignations is also studied. Besides technology trends in various product domains are also analyzed to ascertain gaps in skill sets if any. These gaps can be made good either by training existing manpower or by external recruitment. At the end of the financial year the entire recruitment process is again examined with a view to fine-tune the same for the next year's recruitment.

5.21 As mentioned briefly in this Report previously, the Committee note BEL operates in a highly competitive business environment and it is essential to enhance its capability to achieve significant growth. Only highly trained and motivated employees can prepare the Company to be a world - class organisation. New idea generation, flexibility and innovation through human capital is essential and hence sustained development of employees both at the individual and at the team level has been the philosophy of all BEL's human resource development initiatives.

Various training programs are designed to enhance competencies in areas like Technical, Functional and Managerial / Leadership. Structured Executive Development Programs are conducted regularly with premier institutes to meet the evolving training needs of executives as they progress through various grades. Apart from this, 360 - degree feedback and leadership development programs were conducted to equip senior managers with leadership competencies. 99 senior executives underwent the program last year. Post training effectiveness initiatives are also in place to assess the impact of the training.

In order to address the learning and organisation development needs, various management development programmes as well as technology programmes were organised during 2011-12 through premier training institutions for all grades of executives. The Company - wide per capita training man - days for the year 2011-12 was 3.52 as against 3.37 in 2010 - 11. The MoU score for HRD for the year was "Excellent" at 1.28. The composite score is arrived at based on per capita training mandays, percentage of people trained and feed back index. The e - PMS module in SAP has been implemented from the year 2011 - 12 onwards. The PMS process will be done online in respect of executives upto the grade of E - VIA.

Driving significant change is one of the most challenging tasks that any large organisation faces. It requires that new paradigms replace the established ways of doing business. Our "Leading the Change" program for senior executives aims at aligning the thinking and attitudes of senior executives to that required for a global organisation. 111 senior executives have undergone the program last year.

The advantages of teamwork are reinforced in an Outbound Learning Program. This training takes the participant away from comfort zone, in an informal risk - free environment, thereby enabling the participant to experiment and explore the hidden potential. 5 cross - functional teams (117 participants) attended the program during the year 2011 - 12.

Emotional Intelligence is a key requirement for a leader to be effective, facilitate employees to achieve superior business performance, develop the ability to manage self to adapt to change and to enhance positive attitude for building a culture of trust, support, openness and collaboration. A total of 419 executives attended the program in 2011 - 12. The program also had one - on - one counseling sessions.

Competency Awareness Workshops have been conducted to familiarise the executives on the BEL Behavioural Competency Model and its implications for business. About 68 executives attended the program in 2011 - 12.

Advanced Management Program is being organised for General Managers with an international component for enhancing their awareness on global management practices. 2 General Managers attended this program. In order to strengthen the marketing cadre, a dedicated 3 - months Marketing program is being conducted through a premier institute with a one month on - the - job project, post the program. 21 executives participated in the program.

Strategizing is an important component of the normal work of a senior executive. Strategy Building and Competitive Intelligence program was organised through the faculty of a premier institute and 57 senior executives attended the program.

In order to enhance the Quality awareness and impart key Quality concepts, structured Quality Programs have been introduced from 2011 - 12 and a total of 51 junior executives attended the program. The course is being conducted through the faculty of BEL Quality Institute.

Performance Review Discussions are an important aspect of PMS. Last year, three one - day Development Oriented Performance Review and Feedback workshops were conducted and 57 senior executives attended the workshops.

Technology programs to enhance knowledge of engineers in various technology areas were conducted. Some of the programs were Mechanical Vibrations, Advanced DSP Design Techniques, Embedded Systems, Essentials of FPGA design, Advanced FPGA implementation, Designing with VHDL, Advances in VLSI Signal Processing, Cognitive Radio - the next frontier in wireless communication, Basic Altera FPGA Course, Vx Works training, etc.

Various training programs were organized for non-executives on quality, safety, technical and other related subjects in BEL Units.

BEL has been conferred with "Organisation with Innovative Practices, 2012" Award by Institute of Public Enterprises, Hyderabad. The IPE HR Leadership Awards are given to companies which have an outstanding performance record and foster innovation in HR Practices with exemplary learning and development initiatives in place.

5.22 The Committee have been informed that there are various Fora of Workers' Participation in Management in Bharat Electronics Limited. They comprise of Fora which are statutory, based on Government directives and Company's Voluntary Schemes. The following Fora are functioning in Bharat Electronics Limited:-

1. Statutory Fora:

- a) Works Committee - As prescribed under the Industrial Disputes Act, 1947

- b) Canteen Committee - As prescribed under the Factories Act, 1948
- c) Safety Committee - As prescribed under the Factories Act, 1948

2. Fora constituted as per Government Directives:

- a) Plant Level Council
- b) Shop Level Council

3. Voluntary Fora:

- a) Quality Control Circles
- b) Suggestion Award Scheme
- c) Sub-contract Committee
- d) Joint Standing Committee (Company as a whole)
- e) Joint Wage Negotiating Committee (Company as a whole)
- f) Apex Joint Council (Company as a whole)

5.23 The Committee have been informed that the Employee relations in all Units continued to be smooth and harmonious throughout the year. Regular interactions took place among the management, executives and the workmen through the apex forums, viz., the Joint Standing Committee consisting of Negotiating Trade Unions and Apex Joint Council consisting of Officers Associations and TC Cadre Associations and also separately with respective Trade Unions and Officers Associations.

Various welfare programmes were organised for the benefit of employees and their families, which included programmes addressing specific needs of sections of employees, such as, SC / ST employees, differently abled employees and women employees. Differently abled employees are provided free transport facility for commuting to the factory and back to residence, provided grace time for registering attendance, ramps at ATM counter etc. BEL Bengaluru complex received the National Award for "Empowerment of Persons with Disabilities" under the "Best Employer" category. Programmes conducted in the Units included health and safety awareness / improvement, vigilance awareness, etc. Various cultural programmes were organized by the Fine Arts Clubs in the Units for recreation of employees and their families. Various summer camps / sports programmes were organized for the employees' children.

BEL's comprehensive medical scheme covers all employees, their spouses, dependent family members as well as retired employees and their spouses. BEL Hospital at Bengaluru extends outpatient medical treatment to the residents of neighbouring villages and employees of BEL associate institutions / societies in addition to its own employees, their dependents and retired employees / their spouses. Educational institutions run by the Company for education of children of employees and also of neighboring villages, performed well during the year.

5.24 When asked whether any study has been conducted to assess the manpower requirements of BEL and steps, if any, taken for optimum utilization of manpower; the

Department in the preliminary material stated that the manpower requirement in BEL is periodically reviewed (annual). The existing manpower is assessed viz-a-viz the projected volume of business, attrition, the skill sets and expertise required for future projects. There are no areas in BEL which are over-staffed. The Company has been recruiting engineers, executives in other functional areas and non-executives selectively based on requirement. Ensuring the optimum deployment of manpower in BEL is an on-going process both at the Unit as well as the Corporate Level. Optimum deployment of personnel is ensured through periodic transfers, job rotation and training. In the case of newly recruited engineers, their aptitude to work in different functional areas is assessed using standard psychometric tools during the induction training based on which their postings are decided.

5.25 BEL has further stated that the present global competitive scenario has imposed many challenges on the business processes of BEL. Accordingly, all the HR processes are continually revised and updated to effectively address these challenges. The Company has been striving to align the various HR processes with short term and long term business strategies and objectives. Some of the initiatives taken by the Company are:-

- HR to evolve as a business partner
- Streamlining Talent Management policies to attract and retain best talent
- Enhanced Leadership Development program for having a community of leaders at various levels
- Empowering executives to become change agents
- Robust and transparent Performance Management System (PMS)
- Competence Building initiatives – perfect alignment with HR systems – recruitment, training and development
- Instituting a culture of innovation, entrepreneurship
- Enhancing employee engagement
- Progressive learning and development interventions for growth
- Maintaining harmonious employee relations for higher productivity
- Implementing competency based succession planning and individual development
- Systematic Job enrichment and job rotation
- Effective implementation of Mentoring Scheme for young executives
- Planning to Develop a virtual university for BEL
- To Implement an online development centre for E2 - E5 grade for competency enhancement
- Competency based 360 degree feedback and leadership development workshop
- Initiate executive coaching for Sr. Executives.”

(c) Board of Directors

5.26 The Committee have been informed that There are 9 non-official (independent) Directors and 2 Government Directors on the Board of the Company. Seven Board meetings each were held during 2009-10 and 2010-11. 6 Board meetings were held during 2008-09. During these years the attendance of Government Directors in these meetings ranged from 1 to 5 only.

When asked whether the Department was aware that the Government Directors in BEL Board rarely attend the Board meetings which defeats the very purpose of their membership in the Board, the Department of Defence Production in their written reply submitted that the Companies Act, 1956 (the Act) and the Articles of Association of the Company (the Articles) have provisions for quorum for Board Meetings. Section 287 of the Act and the Article 78 prescribe that the quorum for a meeting of the Board of Directors shall be one third of its total strength (any fraction contained in that one-third being rounded off as one) or two Directors, whichever is higher. Total strength at any time means the total number of Directors after deducting the number of vacancies at that time.

It was further submitted that Government/DPE have not laid down any guidelines regarding attendance of Government Directors at the Board Meetings.

To a specific query about one Official (Government) Director attending just one Board meeting out of seven held during 2009-10, the Secretary, Department of Defence Production during the course of oral evidence clarified:-

“.....about the Directors and their attendance, I am not trying to defend, but I will simply mention that this Director who did not attend happens to be the Signal Officer In-Charge. He is an Army Officer. He is the prime person with whom BEL has to do business. I cannot remove him from the Board. In fact, BEL cannot do anything without his presence. So, while he meets once in the Board, I can assure you that Chairman, BEL meets him ten times between the Board meetings. So, it is not as if I do not have the benefit of his advice. It is very much available. But, we admit that he has failed to attend the Board meetings and I cannot remove him also. That is my difficulty because Signal Officer In-Charge is the single most important person for him. BEL cannot work without him.”

PART - II

OBSERVATIONS / RECOMMENDATIONS OF THE COMMITTEE

1. The Committee are not impressed by BEL's performance. BEL has been making profits but its profits have declined during the last two years and its value of production has stagnated of late. BEL's value of production which stood at Rs. 5273 crore in 2008-09 rose marginally during the three year period to reach Rs. 5794 crore in 2011-12. Its profits declined considerably from Rs. 1161 crore in 2010-11 to Rs. 1075 crore in 2011-12. According to BEL's CMD, the poor performance is mainly caused due to BEL's migration from equipment manufacturing to system integration and opening of defence market to private sector. The Committee are not convinced of these reasons. The Company still gets 70% of its orders on single vendor nomination and BEL's migration from equipment manufacturing is not an unplanned step. It has been stated that the performance will improve in two to three years with about Rs. 25,000 crore orders in hand and by effecting cost reduction measures. It is a matter of satisfaction to note that the profit of BEL increased to Rs. 1125 crore and the value of production registered a quantum jump to touch Rs. 6290 crore during 2012-13, after the Committee went into the functioning of BEL. The Committee feel that in order to further improve its performance, there is need for diversification, cost cutting measures and re-focusing R&D, as brought out in some of the subsequent paragraphs.

2. As is obvious from the information furnished to the Committee that there will be increasing participation of private sector in defence, facilitated mostly by back to back collaboration with foreign partners. In order to be competitive, DRDO has suggested that BEL should become an overall integrated consortium head involving private players with proven strength in identified areas and workout MoUs with them on a work sharing basis. The

Committee would like the Government to examine the suggestion from all angles and the Committee be apprised of the outcome.

3. The Committee would also suggest that the measures recommended by them for optimising the performance of the Company need to be implemented expeditiously, particularly in the wake of the present global downturn in the economy, slow down in domestic market, the depreciation of rupee, the increasing competition, etc.

4. The Committee note that during 2010-11 and 2011-12, the MoU rating of the Company was downgraded to 'very good' category. The slide in performance is reportedly due to erosion in profit before tax caused by payment of wage arrears of employees in 2010-11. This also had a cascading effect on the Company's balance-sheet in 2011-12 as well. The Committee are of the opinion that the revision of wages in a listed Company ought not be such a time consuming exercise as to affect its fortunes in a negative manner. Had the process been completed expeditiously, the cumulative effect of the revision of wages could have been avoided. The Committee, therefore, recommend that since another wage revision will, in normal course, be due after three years or so, the Company should work out a mechanism, albeit of interim nature, including presumptive allocations, whereby, the arrears of wages are not carried forward for years together, but liquidated in substantial measure during the very year they become due.

5. New projects are necessary for growth and expansion of any organization. However, no major project has been undertaken by BEL in the recent past, other than the Product Support Centre at Kochi. Even the Ministry of Defence does not appear to have given any direction to BEL in this regard except monitoring the progress of BEL's R&D project, reviewing its infrastructure requirements and modernization plans. With the opening of

the defence sector to private industry, the Committee feel that there is an urgent need for BEL to explore new areas of growth and would like BEL and the Ministry of Defence to work out a suitable plan and identify major projects for implementation in a time bound manner.

6. Thin order book of some of the BEL's units operating in Radio Business is stated to be a major concern, notwithstanding the fact that BEL is currently having an order book of about Rs. 25000 crore and is expecting orders of Rs. 27000 crore in another three years. Reasons for BEL's radio business not getting sufficient orders and steps to remedy the situation should be studied and the Committee be apprised of the outcome. The Committee feel that BEL has not done much to tap the vast export potential for variety of its products. Whatever little exports made by BEL - US \$ 38.45 million in 2011-12—are mainly on account of offset sales. The Committee hardly need to stress that BEL should draw up an export strategy to boost exports exclusive of offset sales, with specific targets and show results in a time bound manner.

7. The Committee have been informed that evaluation / final clearance of newly developed equipment / products by armed forces / Ministry of Defence takes unduly long time with resultant delay in placement of orders causing huge investment being locked up and manpower remaining idle. Another fall out of this delay is the new technology becoming obsolete in the rapidly changing technological environment. The Committee feel that the problems faced by BEL in this regard can be obviated if the Ministry of Defence in consultation with the evaluation agencies / armed forces and taking into account all relevant factors lays down a time frame for evaluation and clearances of equipments / products and ensures its adherence. The

Committee hope that necessary action will be taken in this regard under intimation to the Committee.

8. BEL is facing international competition in “Buy Global” category of Defence purchases and reportedly lost major market opportunities in the segment of Radar, C41, communication, etc. and facing competition from indigenous private sector companies in all its major business segments. The Company has lost around 28 contracts amounting to Rs. 1624 crore during the last five years in multi-vendor environment. One of the main reasons attributed for the loss of contracts was that in the case of Global Tender, the pricing by an overseas vendor when compared to that of BEL is more competitive due to the fact that the overseas vendor incurs ‘nil’ customs duty, excise duty and sales tax. To aggravate the matter further, in case of services, the ‘Reverse Charge’ mechanism in India further puts the burden of service tax on import of services on the Company and not on the overseas vendor. The Committee are concerned about the loss of such large contracts to foreign suppliers having an edge on account of exemption of Customs, Central Excise Duty and Sales Tax being afforded to global bidders at the cost of BEL. What is most surprising that the Department of Defence Production has done precious little to ensure a level playing field for BEL and other Defence PSUs. In fact, the Department was not even aware of this very unfair situation until the matter was brought to their notice by the Committee. This speaks volumes about the quality of performance review meetings held by the Department. The Committee feel that the issue is serious and needs to be attended to without any further loss of time. The Committee, therefore, desire that the Department of Defence Production take up the matter at the highest level in the Finance Ministry to get the issue resolved and ensure that the Indian Companies do not lose precious contracts in global biddings due to the grossly unfair preferential treatment being afforded to foreign companies at the cost of the domestic industry.

9. The Committee find that though Research & Development activity of BEL started five decades ago and R&D expenditure as a percentage of turnover has been healthily improving from 3.55% in 2006-07 to 8.21% in 2011-12, no efficiency audit of R&D projects was carried out till recently. It is only in August 2012 that a methodology of measuring in-house R&D value addition has been introduced. The measurement carried out for the last five years has reportedly shown in-house R&D value addition of around 56% (average) across BEL. The Committee would like to know, how this percentage compares internationally and whether the methodology of measurement is globally recognised. Incidentally, the Committee note the observation of one of the Directors of the Company that the R&D interface and customer interface is weak in BEL and that there is need to modify the Company's strategy to reflect customer focus. Notwithstanding some steps taken to address these issues, the Committee feel that BEL should not be found wanting in this respect in future.

10. The Committee are surprised to know that a company having long record of successful R&D activity and having 54% of its turnover from in-house developed products had not patented the technologies developed in-house for defence equipment. The Committee would like to have an assessment of the loss, if any, incurred on account of this lapse over the years. It has been stated that an aggressive campaign has been initiated over the past two years to protect the intellectual property rights for the new technologies / process developed and 12 patent application filed during 2011-12 and 7 applications till August 2012. The Committee urge that patenting activity should be one of the elements to be managed by the structural mechanism which has been put in place by BEL for R&D initiative.

11. On a suggestion made by the Committee that BEL license out its designs which could become a major profit area, the CMD, BEL was candid in his admission that BEL never explored that particular area. The Committee wish that necessary action is taken in this regard at the earliest under intimation to the Committee.

12. The Committee note that BEL has taken up a number of marketing initiatives to counter competition being faced from private players which include recruitment of ex-service personnel, conducting marketing conferences, imparting short term and long term professional training in marketing to executives by top business schools like India Institute of Management, etc. BEL has also taken initiatives for cost reduction and has successfully achieved savings of Rs. 2.3 Crores during 2011-12 by coordinating in-house efforts of 57 Task Forces. The Committee have also been informed that BEL is in the process of creating a Central Marketing Research Group for securing marketing intelligence to address marketing challenges. The Committee believe that generating customer trust with highest standards of quality coupled with effective marketing are key to ensuring customer satisfaction. Increasing revenues and enhanced profits automatically flow, thereafter. The Committee, therefore, recommend renewed focus by the Company on a state-of-the-art, robust R&D mechanism with best available and complementing human resource on rolls, a highly professional market intelligence network, a reliable feedback and vigorous follow-up interface with the customers, a bouquet of products with a reasonable price band. The Committee would like to be apprised of a definite road-map encompassing all these facets at the earliest.

13. The Committee feel that ensuring the quality of products is vital to improve the market presence, reliability and trustworthiness of the products

supplied by BEL. The Committee, therefore, recommend that BEL should ensure a stringent quality control regimen for each and every product being rolled out from its plants so that the quality of products is thoroughly checked before supply, especially the defence products which may otherwise directly risk the safety and security of the Country. Furthermore, as stated previously in this Report, marketing strategies and customer interface should be improved to infuse reliability and for enhancing the customer satisfaction level. It would also be worthwhile if apart from the stipulated pre-delivery tests post delivery tests are also conducted to ensure that the quality of products supplied is maintained at highest levels and the customers have no reasons to complain.

14. The Committee observe that out of 83 products delivered to the armed forces during the last five years, there was delay in delivery of 27 products (33% of products) ranging from one month to more than two years. The major delay was in delivery of products such as TRANSPORTABLE SATCOM TERMINAL, PCS LYNX U1 P16 AND CMS (SNF), where the delay period was of more than two years. According to BEL, there are certain delays mainly in system integration, change in configuration by customer, site readiness, etc. The Committee would like to be assured that delay in none of the products is attributable to BEL. The Committee desire that in case, delay is due to lapse on the part of BEL, its product planning should be designed in such a way as to ensure timely delivery of products in future. This is all the more necessary in a competitive situation increasingly faced by BEL.

15. The Committee note that e-Procurement has been implemented by the Company in all its nine units for both purchase and sub-contract. Further, BEL has also adopted Integrity Pact with all vendors/suppliers/contracts/service providers for all orders/ contracts of value of over Rs.200 crores as

per the initiative of CVC to eradicate corruption in procurement activities. So far 52 orders/contracts are covered under Integrity Pact. The Committee, however, are concerned to find that a large quantum of procurement in BEL is still being done through single vendor though the number of single vendor procurements has come down from 13 per cent in 2008-09 to 3.88 per cent in 2011-12. The Committee also note that about 27.34 per cent of the purchases have been made through Limited Tendering process during 2011-12 and about 12.31 per cent of the purchases through nominated tendering and 23.52 per cent through License Agreement. This is in sharp contrast to the principles enunciated by the Company as only 32.95 per cent of the purchases have been made through Open Tendering process. From the information furnished to the Committee, the Committee do not find any plausible explanation for BEL resorting to single vendor/ limited tendering process. The Committee feel that it is a serious matter as it is not in conformity with the CVC guidelines which emphasise that single vendor procurement should be gradually reduced through vendor development. The Committee, therefore, recommend that intensive efforts should be made by the Company to increase the vendor base in constant consultation with DRDO. Furthermore, single vendor tendering/procurement should be reduced to barest minimum and resorted to only in rarest case. With a view to ensure strict adherence to the principle, the procurement system should be continuously monitored and reviewed through frequent meetings and progress reports.

16. The Committee also note that the value of most of the purchases made by open tendering or through nominated sources is below Rs.200 crores and therefore does not attract provisions of the Integrity Pact. The Committee, therefore, feel that the matter for reducing the value of the Integrity Pact from Rs. 200 crores should be taken up with the concerned

Department with a view to cover more and more orders/ contracts under it. This would not only ensure transparency in open tendering but would also go a long way in ushering fairness in procurement and minimizing scope for corruption to a large extent.

17. The Committee note that there are nine non-official Directors and 2 Government Directors on the Board of the Company. There were six Board meetings during 2008-09 and seven each in 2009-10 and 2010-11. The Committee note that one Government Director attended just one out of six Board meetings during 2009-10. The Committee have been informed that although the Director was absent from the Board meeting, he had been by virtue of his positioning interacting quite often with the Company management even other wise and also on crucial matters. The Committee are of the view that attendance of all Directors in the Board meetings is vital for the Company to benefit from their vast experience and expertise. Frequent absence of Directors from Board meetings will defeat the very purpose of existence of the Board. The Committee, therefore, recommend that regular attendance of other members of the Board should be invariably insisted upon and ensured. The Department of Defence Production should also ensure the presence of their officers in the Board meetings so that the purpose of their inclusion in the Board is served and the Company benefits from their vast experience and expertise.

18. The Committee note a number of measures being taken by BEL to strengthen its manpower which includes periodical review of manpower requirements, regulating various forms of recruitment, provision of training, effective deployment of manpower, taking suitable welfare measures for staff, etc. The Committee however note that the number of regular employees of the Company has gone down from 13750 persons in 2002-03 to 11180

persons in March 2012. This, in spite of the explanation of the Company about it professing a need based HR policy appears too drastic a cut. On the other hand, the number of contract labourers has increased from 3204 persons in 2009-10 to 4460 persons in 2011-12 giving an impression that the Company is encouraging provisional employment which may be prone to exploitation. It also implies a lacuna in manpower planning and projection as over one-third of BEL's work force is temporary staff. The Committee find such a trend disturbing and feel that in the long run it may prove counter-productive and impede the consistency and stability of the organisation. The Committee believe that fresh talent combined with experience would, like in any other commercial organization, strengthen BEL's human resource and with infusion of new technology in the coming years, the in-house activities will grow to accommodate more and more permanent staff. The Committee recommend the Company should make a realistic assessment of its manpower requirement and its in-house work without undermining the importance of permanent staff to ensure that core areas of production and marketing do not suffer.

19. It is the responsibility of the Department of Defence Production to identify the problems faced by BEL which are beyond its control and render all possible help to resolve them. During the course of examination of the Company, it transpired that intervention of the Department of Defence Production could have helped BEL to tide over some problems in matters such as (a) Funding of Strategically Critical Technology Projects e.g. IR Detector (Cooled & Un-cooled), II Tubes, IF & RF Seekers, High Power Laser etc., (b) Placement of order of Security Sensitive Projects on DPSUs only – EW Systems., (c) Disposal of obsolete inventory to generate revenue-Amendment required in Custom Duty rules., (d) Exemption of Octroi (approx 3.5%) for BEL and BEL Optronics Devices Limited in Pune (Maharashtra)., (e)

Shorter evaluation cycle time for indigenized products., and (f) Early placement of order for which trials have been completed successfully. It is only after the matter was taken up by the Committee, BEL has reportedly been asked by the Department of Defence Production to submit proposals for being taken up with the concerned Ministries. The Committee urge the Ministry of Defence to examine the issues in right perspective and get them resolved expeditiously by taking them up at the highest level with all concerned ministries/departments / agencies.

**New Delhi
6 September, 2013
15 Bhadrapada, 1935 (Saka)**

**SHRI JAGDAMBIKA PAL
Chairman,
Committee on Public Undertakings**

**MINUTES OF THE FIFTEENTH SITTING OF THE COMMITTEE ON
PUBLIC UNDERTAKINGS (2012-13)**

The Committee sat on Thursday, the 27th December, 2012 from 1500 hrs to 1645 hrs in Committee Room '62', Parliament House, New Delhi.

PRESENT

Shri Jagdambika Pal - Chairman

Members

Lok Sabha

- 2 Shri Hansraj Gangaram Ahir
- 3 Shri Ambica Banerjee
- 4 Shri Vilas Muttemwar
- 5 Shri Adhalrao Shivaji Patil
- 6 Shri Ponnamb Prabhakar
- 7 Shri Uday Singh

Rajya Sabha

- 8 Shri Anil Desai
- 9 Shri Janardan Dwivedi
- 10 Shri Naresh Gujral
- 11 Dr. V. Maitreya
- 12 Shri T.M. Selvaganapathi

Secretariat

1. Shri A. Louis Martin Joint Secretary
2. Rajeev Sharma Director
3. Shri Ajay Kumar Garg Additional Director

Representatives of Bharat Electronics Limited (BEL)

- 1 Shri Anil Kumar CMD, BEL
- 2 Shri Ramakrishna H.N. Director (Marketing)
- 3 Smt. Elaine Mathias Executive Director (Finance)

2. The Committee held discussion with the representatives of the Bharat Electronics Limited (BEL) in connection with examination of BEL.

3. At the outset, the Chairman welcomed the representatives of the BEL and drew their attention to Direction 58 of the Directions by the Speaker regarding evidence before the Parliamentary Committees.

4. The representatives of BEL then made a brief power point presentation on the subject before the Committee. Thereafter, the Chairman and Members raised queries on various aspects pertaining to the functioning of BEL like their physical and financial performance, MoU rating, formation of joint venture, R&D activities, order book position, vacancies on the Board of Directors, manpower planning, etc. Explanation / clarification on the same were given by the representatives of BEL. In respect of points for which information was not readily available with the representatives of BEL, they were asked to furnish the same to the Committee Secretariat at the earliest.

A copy of the verbatim proceedings has been kept on record separately.

The Committee then adjourned.

**MINUTES OF THE TWENTIETH SITTING OF THE COMMITTEE ON
PUBLIC UNDERTAKINGS (2012-13)**

The Committee sat on Tuesday, the 12th February, 2013 from 1400 hrs to 1520 hrs in Committee Room 'D', Parliament House Annexe, New Delhi.

PRESENT

Shri Jagdambika Pal - Chairman

MEMBERS

Lok Sabha

- 2 Shri Hansraj Gangaram Ahir
- 3 Shri Ambica Banerjee
- 4 Dr. Mahesh Joshi
- 5 Shri Ponnamp Prabhakar

Rajya Sabha

- 6 Shri Anil Desai
- 7 Shri Janardan Dwivedi
- 8 Dr. V. Maitreyan
- 9 Shri Mukhtar Abbas Naqvi

SECRETARIAT

1. Shri A. Louis Martin Joint Secretary
2. Shri. P.C. Koul Director
3. Shri M.K.Madhusudhan Additional Director

WITNESS

Ministry of Defence (Department of Defence Production)

1. Shri R.K. Mathur Secretary (DP)
2. Shri A.K. Gupta AS (DP)
3. Shri P.K. Mishra JS (ES)
4. Dr. S.S. Sundram Chief Controller (R&D)
5. Shri Anil Kumar CMD (BEL)

2. At the outset, the Chairman welcomed the representatives of the Ministry of Defence (Department of Defence Production) and drew their attention to Direction 58 of the Directions by the Speaker, Lok Sabha regarding evidence before the Parliamentary Committees.

3. The representatives of the Ministry began their deposition by making a brief statement on the working of BEL and the role of the Ministry in the same. Thereafter, the Chairman and Members raised queries on various aspects pertaining to the functioning of BEL like competition faced by BEL due to entry of private players, attendance of Directors in the Board meetings, quality of products, manpower, R&D activities, reported supply of faulty night vision devices to Para military forces, manufacture of civilian use products, etc. In respect of points for which information was not readily available with the representatives of the Ministry of Defence (Department of Defence Production), they were asked to furnish the same to the Committee Secretariat at the earliest.

A verbatim record of the proceedings has been kept separately.

The Committee then adjourned.

**EXTRACTS OF THE MINUTES OF THE EIGHTH SITTING OF THE
COMMITTEE ON PUBLIC UNDERTAKINGS (2013-14)**

The Committee sat on Friday, the 6th September, 2013 from 1030 hrs to 1100 hrs in Chairman's Chamber, Room No. 147, Third Floor, Parliament House, New Delhi.

PRESENT

Shri Jagdambika Pal - Chairman

MEMBERS

Lok Sabha

2. Shri Hansraj Gangaram Ahir
3. Shri Sanjay Bhoi
4. Smt. Shruti Chowdhary
5. Shri Rajendrasinh Rana
6. Shri Nama Nageswara Rao
7. Shri Uday Singh

Rajya Sabha

8. Shri Anil Desai
9. Shri Tapan Kumar Sen
10. Dr. Janardhan Waghmare

SECRETARIAT

1. Shri A. Louis Martin Joint Secretary
2. Shri P.C. Koul Director
3. Shri M.K. Madhusudhan Additional Director

2. At the outset, the Chairman welcomed the Members to the Sitting of the Committee.

3. The Committee then took up for consideration the draft Report on Bharat Electronics Limited and after some deliberations adopted the same without any changes.

4. The Committee then authorized the Chairman to finalize the Report on the basis of factual verification and present the same to Parliament.

5. XXXX XXXX XXXX XXXX.

The Committee then adjourned.

XXXX matter not related to this Report

Annexure
(Vide Para 5.6)

Value & Categorization of Purchase for the last four years-BEL

Value in Rs Crores

Year	Total Purchase	Open Tendering		Limited Tendering		Customer/ OEM nominated sources		Licensor/ Licence Agreement		Joint Venture		Property		Single Tender	
		Value	%age	Value	%age	Value	%age	Value	%age	Value	%age	Value	%age	Value	%age
2008-09	3520.00	34.76	0.99	959.02	27.24	143.81	4.09	1540.23	43.76	0.00	0.00	372.49	10.58	457.47	13.00
2009-10	2687.00	17.80	0.66	830.08	30.89	201.85	7.51	793.20	29.52	0.00	0.00	376.89	14.03	435.06	16.19
2010-11	6042.00	25.97	0.43	909.05	15.05	472.35	7.82	3384.05	56.01	0.00	0.00	523.00	8.66	518.85	8.59
2011-12	4971.00	198.42	3.99	1359.31	27.34	611.80	12.31	1169.41	23.52	0.00	0.00	1229.26	24.73	193.03	3.88
Total	17220.00	276.95	1.61	4057.46	23.56	1429.81	8.30	6886.89	39.99	0.00	0.00	2501.64	14.53	1604.41	9.32

Procurement to tune of Rs. 463 Crs during the last four years has been done through other modes of procurement.