

## ***BHEL HARIDWAR: THE MAKING OF A WORLD-CLASS INDIAN PUBLIC ENTERPRISE***

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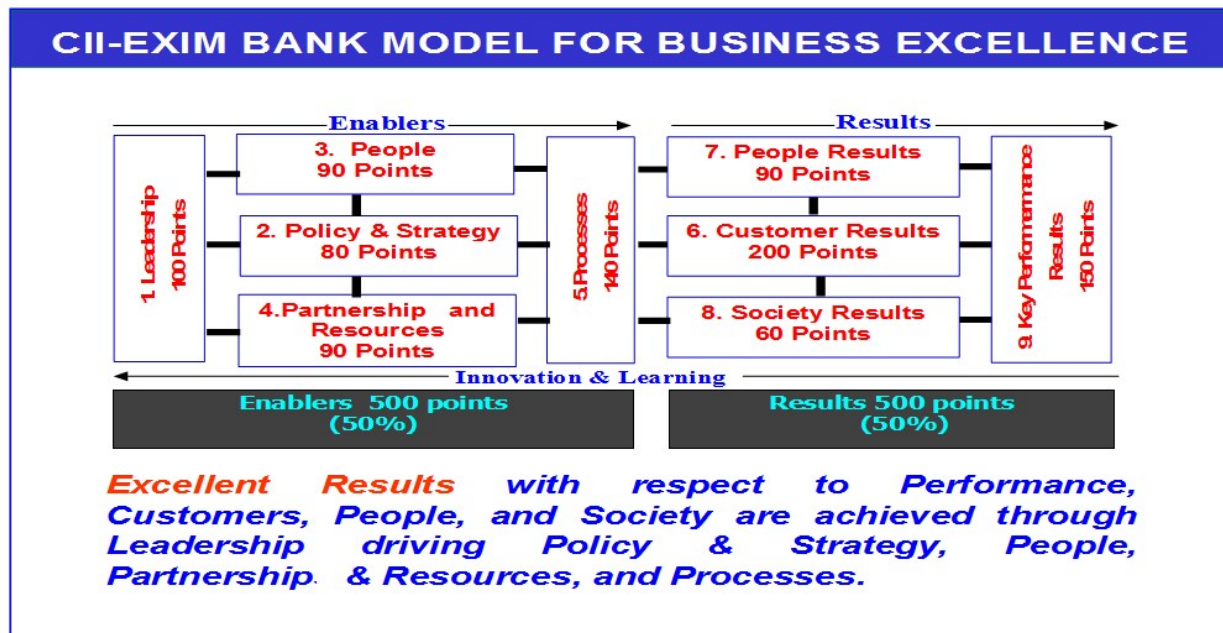
The Confederation of Indian industry and Export-Import Bank of India's (CII-EXIM Bank) Model of Excellence, based on the European Foundation for Quality Management's (EFQM) model, was launched in India in 1994. The CII-EXIM Bank Model comprised multiple criteria and sub-criteria in nine areas: Leadership, Policy & Strategy, People, Partnership & Resources, Processes, Customer Results, People Results, Society Results, and Key Performance Results for a potential total of 1,000 points. Exhibit 1 shows the CII- EXIM Bank Model for Business Excellence.

An organization needed to demonstrate best-in-the-world practices for all criteria and sub-criteria over the years to secure 1,000 points – truly difficult to achieve. The CII-EXIM Bank Prize was given when an organization secured 600 points or more, indicating world-class excellence in some areas. India had 298 Central Public Sector Enterprises. BHEL Haridwar was the first Indian Central Public Sector Enterprise to have broken the ceiling. BHEL Haridwar went from 350 points to over 600 points. What lessons could be learned from the BHEL Haridwar's experience that could be applied to other Public Sector Enterprises?

### Bharat Heavy Electricals Ltd.

Established in 1964, Bharat Heavy Electricals Limited (BHEL), an Indian Public Sector Undertaking<sup>1</sup> was India's largest engineering and manufacturing company. It was engaged in the design, manufacture, supply, construction, and commissioning of power equipment. It provided a wide range of products and services for companies in the Power, Transmission, Transportation, Energy, and Defence industries. BHEL's operations were organized around three business sectors: Power, Industry, and International Operations. All BHEL units acted in an integrated manner to deliver the products and services needed for the timely commissioning of a power plant. Orders in all three business sectors were executed across India and abroad through a network of 17 manufacturing units, 4 regional offices, 8 service centers and 15 business offices.

Exhibit 1. CII- EXIM Bank Model of Business Excellence



Appendix A provides the organization chart of BHEL during the period of the events in this case study. The Jhansi unit, Bhopal unit and the Haridwar unit can be found in the organization chart under Operating Units.

The Balance Sheet and Profit and Loss Statement of BHEL for the year 2006-07, the year BHEL won the CII-EXIM Bank Prize, can be found in Appendices B and C. BHEL's gross revenue had increased from INR 145.3 Billion to INR 187.4 Billion and its operating profit had jumped from INR 25.6 Billion to INR 37.4 Billion. BHEL had become a consistently profit-making enterprise.<sup>2</sup>

### ***S.K. Jain Joins the Haridwar Unit***

Mr. S.K. Jain joined BHEL Haridwar as Executive Director in 2000. Mr. Jain was a veteran of BHEL and had spent most of his time in BHEL's Bhopal unit. The Inter-Unit Total Quality (TQ) Assessment and Confederation of Indian Industry Feedback Report of year 2000 had put the Haridwar unit in the TQ score band of 350 – 400 points. Mr. Jain called a meeting of all department coordinators on March 30, 2001. The timing of the meeting surprised everyone, as typically all efforts in the last weeks of the Indian financial year (April- March) were spent on completing annual targets. Soon after the meeting, the TQM group was reorganized and merged with the Quality function.

The TQ action plan, prepared with involvement of all departments, was unveiled by Mr. Jain during a TQ Council meeting in July 2001. (The TQ Council was BHEL Haridwar's top decision making body for quality.) During the meeting, Mr. Jain asked, *"What TQ score shall we achieve, if our action plans get completed on schedule?"* One member of the Council replied: *"Maybe around 450 points."* Immediately, Mr Jain asked, *"With this rate of improvement, when will we become world-class? What is the roadmap for a TQ Score of 650 plus?"*

It was a shock for many. Moving BHEL Haridwar from the 350- 400 band to 650+ didn't appear doable. No Indian Public Sector Enterprise had done it. But Mr. Jain insisted on a roadmap for TQ Score of 650 plus. Interestingly, this insistence changed the unit's approach towards business excellence. It fired up everybody and created a focus on becoming world-class.

### ***Roadmap for the TQ Score 650+ Challenge***

The roadmap for TQ Score 650+ was challenging. Starting from the basics, the criteria and sub-criteria linkages of the CII-EXIM model were plotted on a sheet of paper and Opportunities for Improvements for each sub-criterion were written in the designated area. Some of the concerns that emerged were:

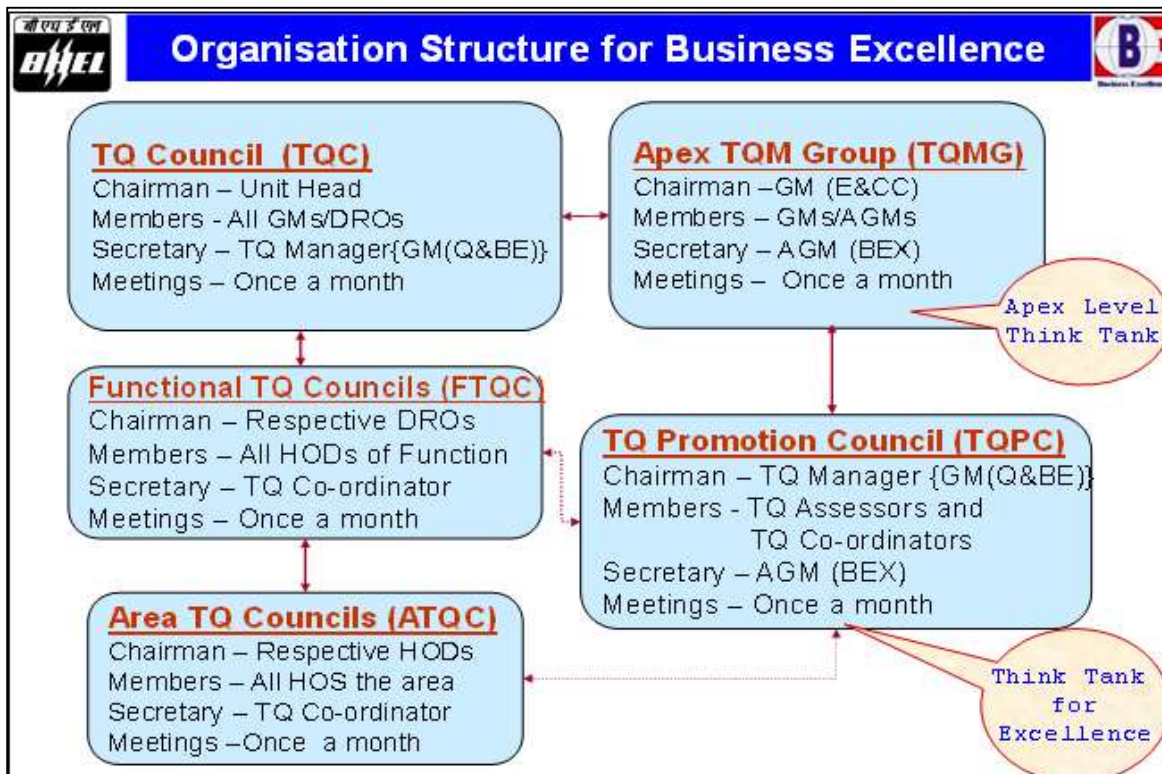
- (1) Lack of understanding of the CII-EXIM model among employees.
- (2) Lack of personal and visible involvement of top management.
- (3) Absence of targets for most parameters.
- (4) Large scope to develop non-financial indicators.
- (5) Transition needed from production to market orientation.
- (6) Lack of systematic approach for measurement, learning and improvement.

The synthesis of the above concerns led to the following action points:

- (1) Familiarize top management with the TQ Model.
- (2) Develop an organizational structure that enabled business excellence.
- (3) Complete a few cycles of P-D-C-A (Plan-Do-Check-Act).

To familiarize top management with the TQ Model and its scoring mechanism, three workshops steered by Mr. Jain were organized during October-November 2001 at a nearby tourist destination, Rishikesh. This was the first time that a retreat had been held away from the unit. An organizational structure was designed. The structure consisted of two think tanks (Apex TQM Group and TQ Promotion Council) and a three-level hierarchy (TQ Council, Functional TQ Councils and Area TQ Councils). See Exhibit 2. At the retreat, it was also decided to identify young, energetic executives to be TQ Coordinators and members of TQ Promotion Council. These people would also be trained as TQ Assessors.

Exhibit 2. BHEL Haridwar's Organization for Business Excellence



Mr. Jain usually discussed a new idea with the core team, and then brainstormed in an open session of about 70 to 80 executives (comprising of top management and TQ Coordinators) to develop the implementation strategy. Though Mr. Jain was considered aggressive by employees, in these sessions he was very receptive to new ideas. The sessions normally started after lunch and ended late in the evening. Everyone enjoyed the discussions. Several new initiatives evolved as a result. *"Grahak Safal = Hum Safal"* (Customer Success = Our Success) was one such key initiative.

The two main initiatives emerged from these sessions were the Quality through Measurement (QTM) program and the Annual Top Management Summit. These two initiatives became the life-line of the TQ movement.

### ***The Annual Top Management Summit***

The Annual Top Management Summit steered by Mr Jain began in June, 2002 at Tehri (about 150 kilometers from Haridwar, in the Himalayas). In the summit, BHEL's mission was translated into the unit's Business Policy. The discussions focused on strategies for long term existence of the unit which resulted in the following policy:

*"In-line with the Company Vision, Mission and Values, we dedicate ourselves to sustained growth with increasing Positive Economic Value Addition and Customer Focussed Business Leadership."*

CSFs to get positive economic value and a customer focus were identified, with different managers directly reporting to Mr. Jain as CSF Champions. Action points for each CSF were also identified. Then the CSF Champions formed cross-functional teams to assist in finalizing the action plans for each CSF.

In subsequent Annual Top Management Summits, the achievements of the CSFs in the previous year were reviewed and new CSFs (with their respective CSF champions) were identified. Some CSFs continued over several years, are shown in Exhibit 3.

The typical agenda of the summit included the review of the business scenario, CSFs achievements, Balanced Scorecards, and results of the Stakeholders' Survey (Customers, Employees, Vendors, Internal Customers, Internal Suppliers). This was followed by identification of new CSFs and their champions, and formulation of new Balanced Score Card measures. In May 2004, the Business Policy was revised to include "Welfare of Society."

The results of the prestigious Haridwar Excellence Award Rolling Trophy (HEART) for the best performing department were also declared at the summit. The Business Excellence Group organized the event and kept a track of progress made at various levels throughout the year.

Exhibit 3. Critical Success Factors (CSF)

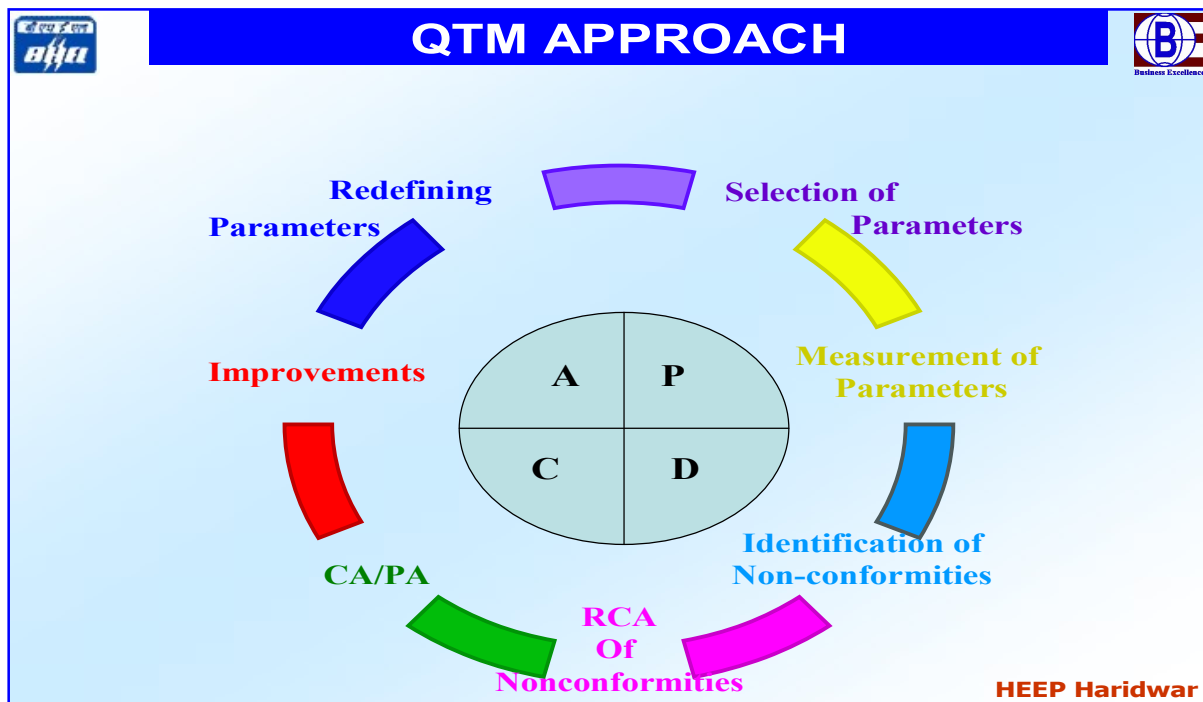
Focus Areas	CSF 2004-05	CSF 2005-06	CSF 2006-07
<b>Improvement in Customer Response, Quality, Delivery and Work Culture</b>	<ul style="list-style-type: none"> <li>• Effective implementation of BOSS and integration with Project Management</li> <li>• Making QTM, Root Cause Analysis (RCA), Critical to Quality (CTQ) a way of Life</li> <li>• Strengthening of Internal Customer concept</li> </ul>	<ul style="list-style-type: none"> <li>• Focus on customer commitment through implementation of BOSS</li> <li>• Making QTM, Visual Mgmt and 5-S a way of life</li> <li>• Improvement in Internal Customer-Internal Supplier Satisfaction Index by 20%</li> </ul>	<ul style="list-style-type: none"> <li>• To make QTM, Visual Management, 5S, BOSS &amp; IC-IS a way of life</li> <li>• Completion of supplies for Commissioning Projects for 2006-07 (End year of X Five-year Plan)</li> </ul>
<b>Technology &amp; Capability Building</b>	<ul style="list-style-type: none"> <li>• Technology up-gradation</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction of 300 MW sets and preparedness for 800 MW sets</li> <li>• Capacity building for 5250 MW manufacturing through implementation of modernization plan</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction of 300 MW sets and preparedness for 800 MW sets</li> <li>• Capacity building for 5250 MW manufacturing through implementation of modernization plan</li> </ul>
<b>Knowledge Management</b>	<ul style="list-style-type: none"> <li>• Knowledge and Intellectual Property Management</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge and Intellectual Property Management</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge and Intellectual Property Management</li> </ul>
<b>Benchmarking</b>	<ul style="list-style-type: none"> <li>• Benchmarking</li> </ul>	<ul style="list-style-type: none"> <li>• Benchmarking</li> </ul>	<ul style="list-style-type: none"> <li>• Process Mapping and Benchmarking</li> </ul>
<b>Overall Equipment Effectiveness (OEE)</b>	<ul style="list-style-type: none"> <li>• Deployment of OEE concept on identified 110 m/c tools</li> <li>• Selective Tie-up for Maintenance &amp; Services</li> </ul>	<ul style="list-style-type: none"> <li>• Stabilization of OEE on the ongoing 110 machine tools and deployment on 30 new machine tools</li> </ul>	<ul style="list-style-type: none"> <li>• Improvement in Overall Effectiveness of Equipment on the 141 machine tools from 52% to 60%</li> </ul>
<b>Employees Engagement</b>	<ul style="list-style-type: none"> <li>• Implementation of new incentive scheme</li> </ul>	<ul style="list-style-type: none"> <li>• Focused drive for all round productivity improvement through employee involvement</li> </ul>	<ul style="list-style-type: none"> <li>• Focused drive for all round productivity improvement through employee involvement</li> </ul>
<b>CSR</b>	<ul style="list-style-type: none"> <li>• Contribution to welfare of society</li> </ul>	<ul style="list-style-type: none"> <li>• Contribution to welfare of society</li> </ul>	<ul style="list-style-type: none"> <li>• Contribution to welfare of society</li> </ul>
<b>Strategic Sourcing and Material Cost Reduction</b>	<ul style="list-style-type: none"> <li>• Improvement in Procurement process with focus on establishment of Product material Directory (PMD) and MOU with Vendors</li> <li>• Strategic Outsourcing of Processes, components &amp; assemblies</li> <li>• Saving in direct material cost by 5%</li> </ul>	<ul style="list-style-type: none"> <li>• Strategic Outsourcing of Processes, Components &amp; Assemblies</li> <li>• Net saving in direct material and Brought Out Items (BOI) by Rs.15 Crore</li> </ul>	<ul style="list-style-type: none"> <li>• Strategic Outsourcing of Processes, Components &amp; Assemblies</li> <li>• Reduction in Non Conformance reports (NCRs) in processing of Vendor / Contractors Bills to less than 10%</li> <li>• Net saving in direct material and BOI by Rs.30 Crore through Reverse Auction and developing new vendors</li> </ul>

### ***The Quality through Measurement (QTM) Initiative***

Quality through Measurement was the other major initiative taken at BHEL Haridwar for which copyright was also obtained. QTM© was based on the philosophy: *What gets measured gets done. If the wrong things are measured, the wrong things get done.*

The selection of the right parameters for measurement was critical. In QTM, characteristics for measurement were identified based on impact on the customer. Results were defined as fractions. The Quality Index was the ratio of the number of non-conformances observed to the total number of opportunities available. The Quality Index value varied from zero to one (zero being 100% conformance). Data were reported through an on-line system which calculated the Quality Index in real time. Poor QIs were analysed for their root causes. Exhibit 4 provides a schematic presentation of QTM Approach that was adopted at the unit.

Exhibit 4. BHEL Haridwar's QTM Approach



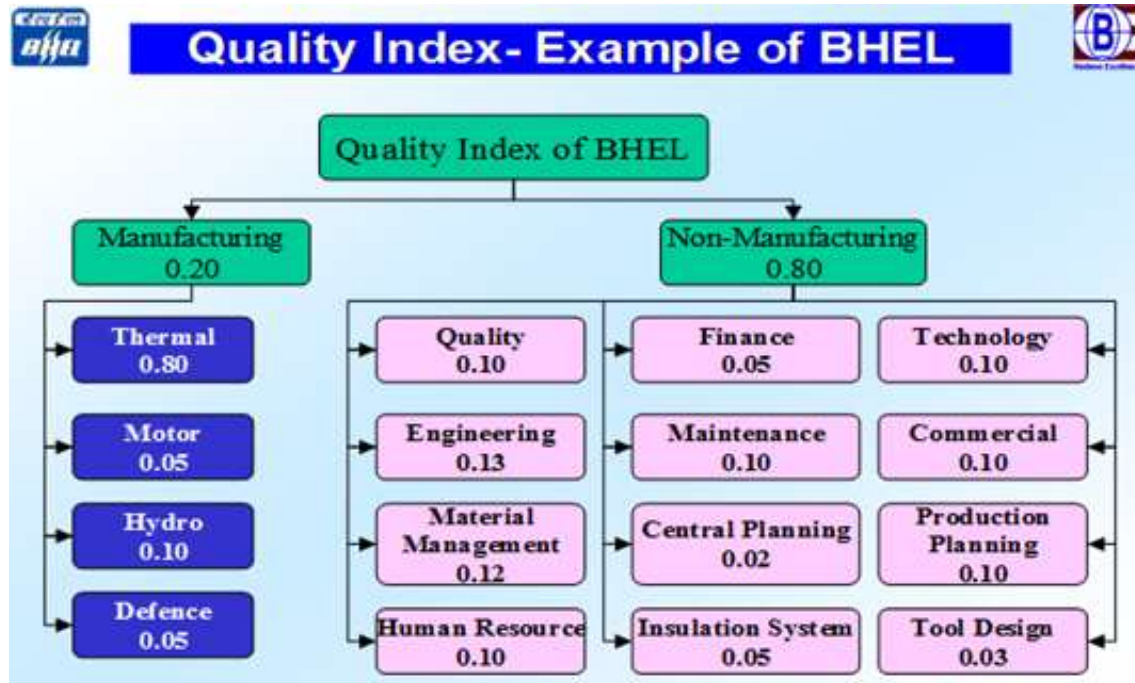


Some of the unique features of the BHEL Haridwar's QTM were:

- **Dynamic System:** QTM was an online dynamic system with the sole objective of providing triggers for improvement. The matrix for each product / process was reviewed every year and the characteristics that had stabilized - and thus had little scope for improvement - were deleted and a new set of characteristics were included.
- **Weights:** not all processes and characteristics had equal criticality from the customer and product performance point of view. Thus, different weights, varying from zero to one, were assigned to each product/ assembly/ component/ process/ characteristic in the manufacturing area and to each function/ section/ area/ process/ characteristic in the non-manufacturing areas. The aspects/ characteristics having a higher effect on product performance or customers were assigned higher weights.
- **Methodology for Measurement:** A five-column QTM matrix was developed for each product/ function. Measurements were done at the elemental level of characteristics and a Quality Index was generated. Quality indices for process/ component/ assembly/ product or process/ area/ section/ function were calculated with the help of a mathematical equation developed for each sub-assembly, assembly, product, shop and at unit level, using respective weights assigned at each stage. An online system was put in place across the unit to capture and process the data.
- **Reporting and Root Cause Analysis (RCA):** Once the measurement of a characteristic was entered, the web-based reporting system calculated the quality index and updated the indices of all related higher level of aspects like process/ component/ assembly/ product or process/ area/ section/ function in the QTM matrix on a real time basis. The QTM reporting systems provided triggers for improvement to 29 RCA committees constituted across the unit to identify root causes using why-why analysis. These committees generated corrective

(or preventive) measures, which eventually led to improvement in quality. Exhibit 5 provides an example of BHEL's Quality Index.

Exhibit 5. BHEL's Quality Index

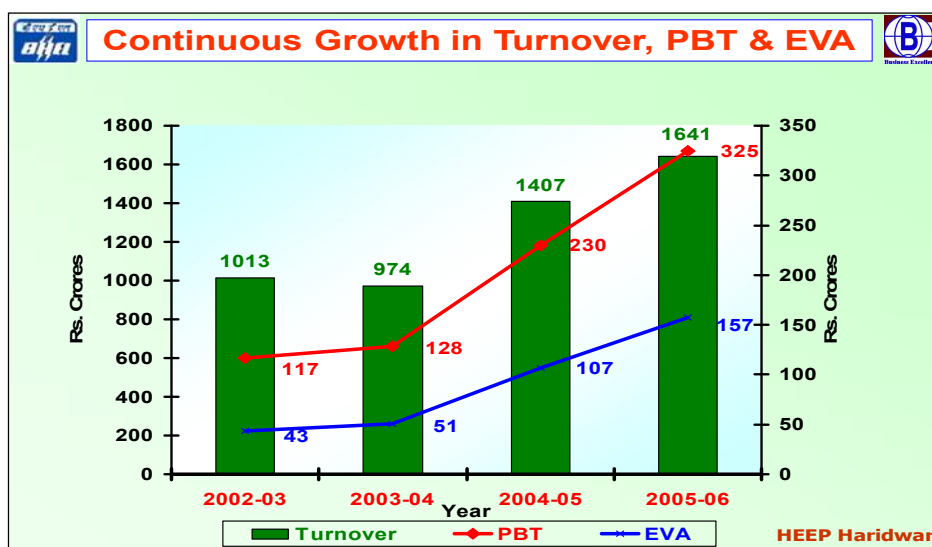


### BHEL Haridwar

BHEL Haridwar was one of the major manufacturing units of BHEL. The Head of the Haridwar unit reported directly to the company Managing Director and was a member of Management Committee. BHEL Haridwar followed corporate policies on Human Resource Management, Finance, etc. The main product was high-rated thermal sets (210MW and above). The 210, 250 and 500 MW thermal sets constituted about 65% of total thermal coal based power plants and 71% of total generation by coal based thermal sets in the country. BHEL Haridwar's share in the total installed capacity of the nation had continuously grown over the years. To enable achievement of the government of India's Five Year Plan targets on power capacity addition, BHEL Haridwar concentrated on manufacturing steam turbines and turbo generators. In 2005-

06, the unit achieved an all-time high turnover of 16.41 Billion INR and set an ambitious target to cross 20.00 Billion INR in 2006-07. This spectacular growth was achieved despite stiff international competition from major players like Siemens, GE, Alstom, SEPCO (China), LMZ (Russia) and Dongfang (China). Exhibit 6 shows the financial performance of BHEL Haridwar, during 2002-06, while BHEL Haridwar was working towards a high quality score, its financial performance also significantly improved.

**Exhibit 6. Select Financials of BHEL Haridwar**  
(100 Crore = 1 Billion)



### The Quest for Excellence at BHEL

The quest for excellence had been a focus of BHEL since its inception. Most of the manufacturing units and other entities had been accredited to Quality Management Systems (ISO 9001 in 2008), Environmental Management Systems (ISO 14001 in 2004) and Occupational Health & Safety Management Systems (OHSAS 18001 in 2007). Participative management had been practiced through a Joint Committee comprising Functional Directors, Heads of Units and National leaders of employee unions, chaired by the Chairman and Managing Director. Its replica at the unit level was the Plant Council and at Shop level was Shop Council. In each of

these committees at shop, unit and company level the number of members from worker unions and management side were equal. These committees had been working cordially since their inception in 1975, with no industrial relations problems.

During the 1970's, BHEL became the first Public Sector Enterprise in India to draw up corporate plans under the leadership of Mr. V. Krishnamurthy. The Suggestion Scheme was launched in 1976. Many years before the launch of ISO 9000 systems, a quality manual was launched in 1978. In 1982, BHEL became the pioneer in launching Quality Circles in India, initially at BHEL Hyderabad followed by Haridwar and other units. The founding secretary and president of Quality Circle Foundation of India also worked for BHEL. In 1994, when the Confederation of Indian Industry (CII) launched the CII-EXIM Bank Award for Business Excellence based on EFQM Model of Europe, BHEL was among the first to accept the challenge. Mid and senior level executives from quality and other functions from five major units (Haridwar, Bhopal, Hyderabad, Trichy, EDN Bangalore), Power Sector Regions and Corporate were trained by EFQM and CII experts as TQ assessors. BHEL started Inter- unit TQ Assessment with the help of these trained assessors under the guidance of CII experts initially at 5 major units, followed steadily by other manufacturing units.

During the period of this case study (2000 to 2006) BHEL was a "Navaratna"<sup>3</sup> (PSU with certain degree of autonomy). The government of India later conferred 'Maharatna'<sup>4</sup> status on BHEL in February 2013, thus giving even greater administrative and financial autonomy.

### **The Continued Quest for Business Excellence at BHEL Haridwar**

The excellence initiatives at BHEL Haridwar were implemented leveraging the participative style of management and a supportive work culture with active involvement of workers, supervisors and management. To give a boost to innovative thinking among employees, the suggestion scheme was revised in 1986. A pre-evaluation award for a suggestion was introduced, which greatly increased the number of suggestions from workers. To further motivate employees,

beginning in 1987, competitions for creativity enhancement (Suggestions, Productivity projects, Quality circle, Safety) were organized and awards given at the Republic Day<sup>5</sup> and Independence Day<sup>6</sup> celebrations every year. Workers were encouraged to participate in National competitions. As a result, employees won national recognition, including the prestigious government awards, the “Prime Minister’s Shram Award” and the “Rashtriya Vishwakarma Puraskar” award. A large number of workers participated in Quality Circle case study presentations at unit, inter-unit, regional, national and International levels. The improvement and participative culture helped the unit achieve ISO 9001 certification in 1993, followed by a TQ pilot movement in 1995 that was extended to the whole plant in 1997.

In 1997, the first CII-EXIM score was very low. This was due to a failure to capture non-financial data on employee and customer satisfaction, etc. BHEL Haridwar experienced a cultural change in the year 1998. The then Unit Head, Mr H.W. Bhatnagar (later Chairman of the BHEL Board), noticed that about 80% of employees were not wearing uniforms. Instead of issuing a memo, he started wearing the uniform every day himself. After about a month, he asked his direct reports to wear the uniform. This had a remarkable effect: about 70% of employees were wearing the uniform within 2 months, and almost everyone was wearing it within 4 months.

A big boost to excellence came in 1999, when Mr. Bhatnagar invited a CII Senior Counsellor, Ms. Sarita Nagpal, to guide BHEL on its path toward excellence. After a plant visit, it was concluded to implement 5-S. The 5-S consisted of five Japanese words: *seiri (sorting)*, *seiton (systematic arrangement)*, *seiso (spic and span)*, *seiketsu (standardization)*, and *shitsuke (self-discipline)*. Ms Nagpal deputized Mr. Snehil Kumar, another CII Counsellor, to provide hands-on support. Mr. Snehil visited Haridwar 14 times during the first year to facilitate 5-S implementation. Each visit typically consisted of visits to the shop-floor and offices to get a feel of 5-S implementation, on-the-spot guidance, 5-S training, and feedback to management in a meeting chaired by Mr. Bhatnagar. During the period, in-house faculty members were developed and the entire workforce was given 5-S awareness training.

Initially, some of the departments - especially people in the Administrative Buildings - were not cooperating in 5-S implementation. They thought that it was for production shops and did not apply to them. A breakthrough was achieved when Mr. Bhatnagar visited one of the Sales department offices. The employees gathered anxiously to see what would happen. The Sales department demanded additional filing cabinets to store documents. Mr. Bhatnagar readily agreed to provide the filing cabinets after the implementation of 5-S. There were piles of files on almost each table. Mr. Snehil took a file and asked about each sheet: was it necessary or not? Everyone present watched curiously. Almost 40% of the papers in the file were not necessary. Then Mr. Bhatnagar asked everyone present to complete the sorting in the next two days. Eventually, it was found that there were 4 surplus filing cabinets. Word of the incident spread across the unit like wild fire. Truckloads of unnecessary papers were discarded. Regular 5-S audits were conducted by internal departmental teams almost daily in different areas for about a year. On several occasions, Mr. Bhatnagar himself conducted the 5-S audits and once focused on the cleanliness of toilets. The 5-S concept didn't remain limited to the plant and offices; it was implemented in unit's schools and hospital too. A case study of 5-S implementation in the BHEL Hospital was presented at a training program of senior government officials as well. In 2000, Mr. Bhatnagar got promoted to the BHEL Board and moved to Delhi. His replacement was Mr. S.K. Jain.

The practice of inter-unit learning also helped BHEL Haridwar. Inter-unit learning led to sharing of best practices among units and generated healthy competition among them. Initially the Bhopal unit was considered the best. Then, the Trichy unit took several initiatives and enhanced its TQ score. The BHEL Haridwar team visited Trichy for a week to learn its best practices.

As part of the focus to achieve a TQ score of 600+, besides the two main initiatives launched in 2001, other initiatives were also begun under Mr. Jain, including:

- **Annual Unit Balanced Score Cards** (A & B) focused on financial, stakeholders, internal processes and strategic capability. While the unit Balanced Score Card (A) cascaded from

the Corporate Balanced Score Card; the unit Balanced Score Card (B) was derived from improvement initiatives and CSFs at the Annual Top Management Summit.

- **Functional Pole Star Statements** defined functional visions and long term objectives. An X-matrix was used to in-build the Functional Pole Star and cascade the unit Balanced Score Card (A&B) in the functional / departmental / sectional score cards and ultimately in the e-Map of all executives.
- **Three Inter- unit TQM Workshops** were organized to share best practices among BHEL sister units and identify challenges for the Corporation as a whole.
- Initiatives to motivate employees included the **Improvement Projects Reward Scheme (IMPRESS®)**, in which the award amount for each project was increased to five time of highest award in the suggestion scheme. The IMPRESS scheme eventually got implemented across the company.
- Vendor partnership building initiatives like long-term Memoranda of Understandings (MOUs), Business to Business (B2B) portal, Product Material Directories (PMD) for various products were undertaken.
- Process improvement was achieved through benchmarking and process mapping, a plant-level performance index, QTM, HEART, stakeholder surveys, etc.

After his promotion, Mr. Jain continued to visit BHEL Haridwar to facilitate the excellence journey. His visits brought a fresh dose of enthusiasm among team members. In 2005, when the unit had already achieved a TQ Score of 550+, the onward journey became very tough and a feeling started growing that achieving a TQ Score 600+ was not feasible. At this stage, Mr. Jain personally mentored members of the core team to work toward difficult milestone with enthusiasm. BHEL Haridwar finally received the coveted prize in 2006. Exhibit 7 captures that moment for which S. K. Jain and his team worked relentlessly for 6 years.

**Exhibit 7. Mr. S. K. Jain and BHEL Haridwar Team Receiving the CII- EXIM Bank Prize**

Note: Mr. S.K. Jain (5th from left) and the BHEL Haridwar Team receiving the CII-EXIM Bank Prize on Nov. 16, 2006 at Bangalore, India.

### Conclusion

BHEL had a continuing culture of business excellence, but it needed Mr. S.K. Jain to push it forward BHEL Haridwar demonstrated that it was indeed possible to become a world-class enterprise even in the public sector in an emerging market.





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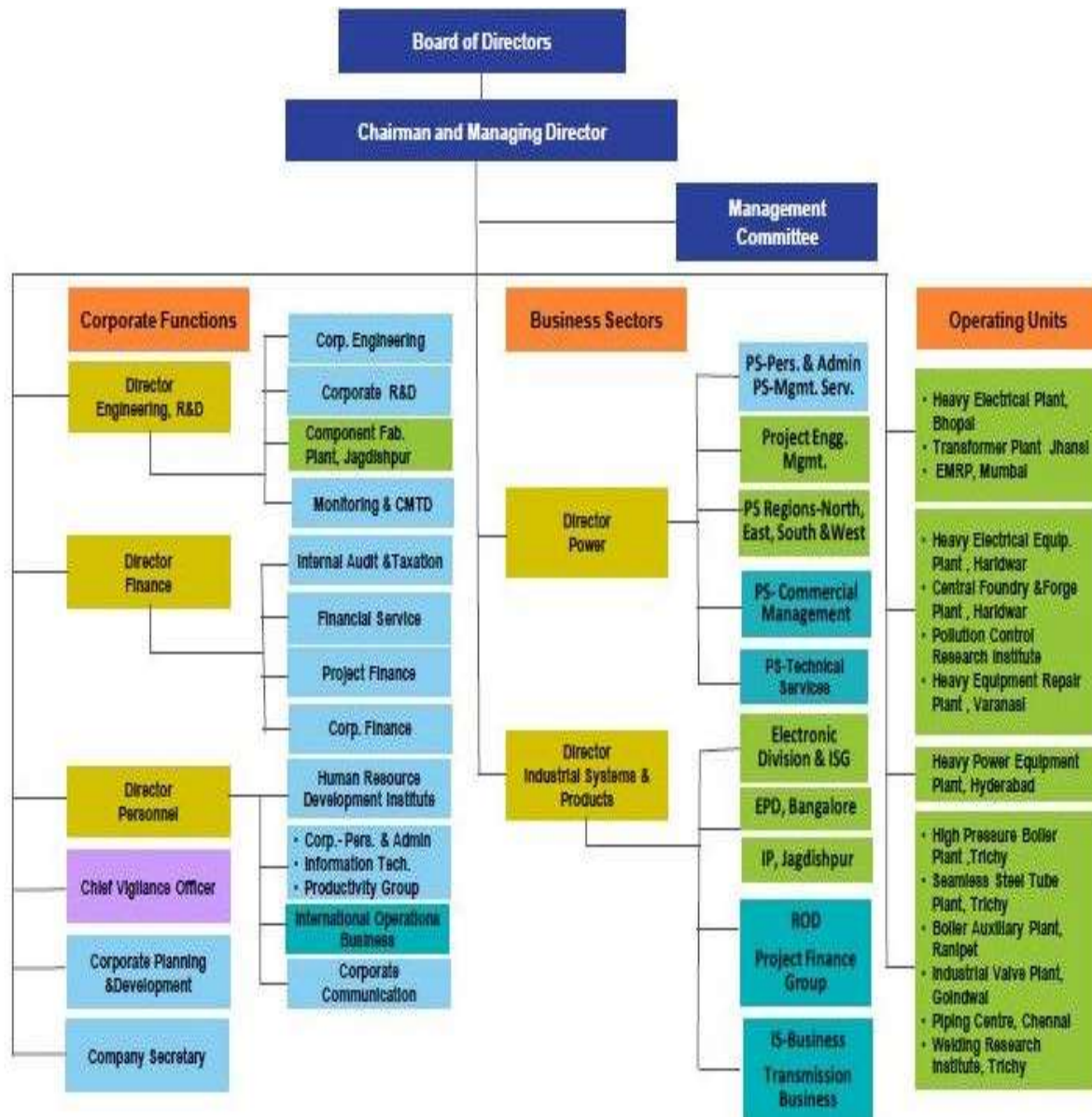
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#### Acknowledgements

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**Appendix A**  
**BHEL Organization Chart, Year 1999-2000**

Source: BHEL Documents



**Appendix B**  
**Balance Sheet of BHEL (2006-2007)**

Source: BHEL Annual Report, 2006-07. 100 Crore = 1 Billion

		(Rs. in Crores)			
		Schedule	AS AT 31.3.2007		AS AT 31.3.2006
<b>SOURCES OF FUNDS</b>					
<b>Shareholders' Funds</b>					
Share Capital	1	244.76		244.76	
Reserves & Surplus	2	8543.50	8788.26	7056.62	7301.38
<b>Loans Funds</b>					
Secured Loans	3	0.00		500.00	
Unsecured Loans	4	89.33	89.33	58.24	558.24
<b>Total</b>			<b>8877.59</b>	<b>7850.82</b>	
<b>APPLICATION OF FUNDS</b>					
<b>Fixed Assets</b>					
Gross Block		4135.05		3822.08	
Less: Depreciation/Amortisation to-date		3117.05		2852.78	
		1018.00		969.30	
Add : Lease Adjustment Account		-29.26		12.98	
Net Block	5	988.74		982.28	
Capital Work-in-Progress	6	302.54	1291.28	184.57	1168.85
Investments	7		8.29		8.29
Deferred Tax Assets (Refer note no. 22 of Schedule 19)			935.16		673.72
<b>Current Assets, Loans and Advances</b>					
<b>Current Assets</b>					
Inventories	8	4217.67		3744.37	
Sundry Debtors		9695.82		7168.07	
Cash & Bank Balances		5808.91		4133.97	
Other current assets		199.70		84.50	
Loans and advances	9	1140.87		1199.87	
		21062.97		18330.78	
<b>Less:</b>					
<b>Current Liabilities &amp; Provisions</b>					
Current Liabilities	10	11897.87		8807.74	
Provisions	11	2522.24		1512.28	
		14420.11		10320.02	
Net current assets			6642.86		6010.78
<b>Total</b>			<b>8877.59</b>	<b>7850.82</b>	

## Appendix C

## Profit and Loss Statement of BHEL (2006-2007)

Source: BHEL Annual Report, 2006-2007. 100 Crore = 1 Billion

**Profit & Loss Account**  
for the year ended March 31, 2007

(Rs. in Crores)

	Schedule	For the year ended 31.03.2007	For the year ended 31.03.2006
<b>EARNINGS</b>			
Turnover (Gross)	12	18738.95	14525.40
Less Excise Duty & Service Tax		1501.42	1151.46
Turnover (Net)		17237.53	13374.03
Other income	12A	823.56	546.92
Accretion (Depletion) to Work-in-progress & Finished Goods	13	181.19	388.01
		18242.28	14308.96
<b>OUTGOINGS</b>			
Consumption of Material, Erection and Engineering Expenses	14	10181.86	8148.52
Employees' remuneration & benefits	15	2368.95	1878.51
Other expenses of manufacture, Administration, selling and distribution	16	1496.11	1170.05
Provisions	17	171.86	282.75
Interest & other borrowing costs	18	43.33	58.75
Depreciation and amortisation	5	272.97	245.93
Less: Cost of jobs done for internal use		28.36	38.38
		14506.72	11748.13
Profit before prior period items		3735.56	2560.83
Add: Prior period items (Net)	18A	0.51	3.52
Profit before tax		3736.07	2564.35
Less: Provision for taxation	18B	1321.37	885.19
Profit after tax		2414.70	1679.16
Add: Balance of profit brought forward from last year		219.06	237.64
Foreign project reserve written back		1.45	8.93
Profit available for appropriation		2635.21	1923.73
Less: Appropriation-			
-Bonds Redemption Reserve		0.00	100.00
-General Reserve		1500.00	1200.00
-Dividend (Incl. Interim Dividend Rs.305.95 Crores, Prev. year Rs.305.95 Crores)		599.66	354.90
-Corporate Dividend tax (incl. Rs.42.91Crores on interim dividend, Prev. year Rs. 42.91 Crores)		92.83	49.77
		2192.49	1704.67
Balance carried to Balance Sheet		442.72	219.06
Basic and Diluted Earning per share (in Rs.)		98.66	68.60

## Endnotes

1. In India, Public Sector Enterprises (PSE) are also known as Public Sector Undertakings (PSU).
2. For financial information on BHEL, see [http://www.bhel.com/financial information/](http://www.bhel.com/financial_information/)
3. The Navratna class of Indian Public Sector Enterprises signifies a certain degree of financial and administrative autonomy given to the enterprise.
4. The Maharatna class of Indian Public Sector Enterprises signify degree of financial and administrative autonomy given to an enterprise that is greater than given to a Navratna.
5. Republic Day (of India) is January 26.
6. Independence Day (of India) is August 15.

## References

BHEL, [www.bhel.com](http://www.bhel.com) and <https://www.bhelhwr.co.in/bhelweb/Home.jsp>

BHEL Annual Reports, 1999-2000, 2006-07.