

Executive Summary

INTRODUCTION

Established in 1964, Bharat Heavy Electricals Limited (BHEL) is India's largest engineering and manufacturing company engaged in design, engineering, manufacture, construction, testing, commissioning and servicing of a wide range of products and services for the core sectors of the economy. Orders secured by all three business sectors (power, industry and international operations) are executed through a network of 17 manufacturing units, four regional offices, eight service centres and 15 business offices.

The decade ending 2010 had posed challenges to BHEL in the form of climate change, increased competition and squeezed delivery schedules with emergence of new competitors. In the face of these challenges, BHEL's turnover declined sharply post 2012-13 and the Company reported a loss in 2015-16. In this context, a performance audit on 'Competitiveness of BHEL in Emerging Markets' was carried out.

MAJOR AUDIT FINDINGS

Power sector continued to account for the bulk (76.46 *per cent* to 80.53 *per cent*) of BHEL's turnover during the period under review (2011-12 to 2015-16). As the Company had not effectively diversified into new/less operated business areas, both its turnover and profitability declined sharply with slowdown in power sector. BHEL's turnover which was ₹49510 crore in 2011-12 declined to ₹26587 crore in 2015-16; while profits of ₹7040 crore in 2011-12 turned into a loss of ₹913 crore in 2015-16.

(Para 3.3.1)

BHEL had fixed Strategic Plan targets for the period 2012-17 with focus on diversification and innovation. However, BHEL did not set year wise milestones for implementation of the envisaged strategies. BHEL could not achieve any of the strategic plan targets till 2015-16; shortfall ranging between 23.33 and 113.91 *percent* against specific goals.

(Para 1.3)

BHEL could not bridge the technology gap in the core power sector; in particular, Circulating Fluidized Bed Combustion, Gas Turbines, Dry Type Transformers and 500 MVA Inter Connecting Transformers. BHEL could not avail of the opportunities in the 765 KV segment of Gas Insulated Substations which is being increasingly adopted to reduce Right of Way requirement for transmission lines and overcome constraints in availability of land for substations. As R&D projects related to 400/ 420 kV technology were delayed, R&D for 765 kV technology

could not be taken up. Out of 25 tenders for 765 kV GIS issued during 2012-13 to 2015-16, BHEL could participate only in seven tenders with equipment sourced from other OEMs.

(Para 4.2.1)

Though BHEL had quoted below production cost in 13 cases, 11 of them were being executed with profit margins. In case of other nine orders, the ordered prices were above production cost by 0.57 to 18.59 *per cent*, yet the projects were implemented with higher profit margins. This indicates that costing data used by the manufacturing units/ regional offices of BHEL for bidding was not reflective of the actual position and that the prices quoted by BHEL in case of lost tenders could have been further rationalised which in turn would have enhanced the competitiveness of BHEL.

(Para 5.2.1)

Analysis of BHEL's success rate in securing turbine generator (TG) orders against competition revealed that BHEL's success rate declined from 80.44 *per cent* in 2013-14 to 43.95 *per cent* in 2014-15 and to zero *per cent* in 2015-16. BHEL could not secure any of the four tenders (involving TG component) finalised against competition during 2015-16. It was noticed that BHEL had quoted 4.36 *per cent* to 73.85 *per cent* higher than the L1 prices.

(Para 5.5.1)

To maintain growth in a changing business environment, BHEL needed to enhance its competitiveness through cost reduction. Rationalisation of manpower according to level of operation was essential to maintain margin, competitiveness and business growth as manpower cost constituted significant component of the Company's expenses. Despite slowdown in power sector since 2010-11 and dampening investment sentiments, BHEL inducted 9346 employees in the calendar year 2011 and 2012 as against retirement of 5844 employees during this period. As a result the percentage of employee cost to turnover increased consistently from 11.04 *per cent* in 2011-12 to 20.84 *per cent* in 2015-16.

(Para 5.5.3)

There was no improvement in the performance of BHEL in project erection as per customer surveys carried out over the period 2012 to 2014. In respect of 24 out of 25 sub-activities of 'Project installation and management function', BHEL's scores were less than those of its competitors. Only in respect of 'technical capability of site engineers' BHEL scored marginally above its competitors in the 2014 survey. BHEL did not carry out customer surveys after 2014.

(Para 5.7.2)

BHEL could not complete any of the projects selected for performance audit within scheduled completion time. All 53 selected projects were commissioned with delays of three to 84 months. As a result, customers withheld ₹1966.07 crore towards liquidated damages (LD) against 37 of these projects.

(Para 6.1.2)

Production units of BHEL are required to supply material/equipment compliant with quality standards to ensure intended performance level and the Company does not face delays in erection and commissioning due to repairs/ re-work. However, quality/ workmanship issues were noticed at all stages of project execution, which led to Trichy and Haridwar units incurring ₹138.44 crore towards cost of re-work in the sample projects selected for review by Audit.

(Para 6.5)

Contracts entered into by BHEL with eight private project developers provided that payments shall be released to BHEL through Letter of Credit (LC). It was, however, observed that BHEL did not ensure compliance of this contract provision and not only initiated supplies without establishment of LC but also continued supplying material even after recurrent failures of private developers. All eight projects were subsequently declared 'on-hold' and outstanding dues under these projects accumulated to ₹2660.77 crore. Besides, inventory relating to these projects worth ₹458.51 crore is lying at different BHEL units.

(Para 7.4.1)

Orders secured by BHEL for execution of power projects provide for release of the final 5 to 10 *per cent* of contract amount upon successful completion of Performance Guarantee (PG) tests and completion of pending works/ punch points. It was, therefore, imperative that BHEL conduct PG tests immediately after commissioning and clear the punch points at the earliest. Out of 52 units of 29 thermal power projects commissioned during 2011-16, PG tests of only 18 units were completed (July 2016) after considerable delays of seven to 50 months post commissioning. PG tests in respect of the remaining 34 units were yet to be completed though two to 70 months had elapsed (up to July 2016) since their commissioning. Loss of interest on the outstanding dues which could not be realized on this account as on 31 March 2016 worked out to ₹1457.11 crore.

(Para 7.4.5)

RECOMMENDATIONS

The following recommendations are made for enhancing competitiveness of BHEL in emerging markets

- BHEL needs to develop its own products that excel over competitors through R&D initiatives. Expeditious efforts should be made to forge technological tie ups in new business areas.
- 'One BHEL' ERP system should be implemented expeditiously for processes and systems improvement and better coordination between units of BHEL.
- More orders need to be finalised by BHEL through open tender system. Purchase Indent to Purchase Order cycle time should be reduced to ensure competitive and timely procurement of inputs.

- Action plans need to be developed and implemented by BHEL within stipulated timeframe to address its weak areas vis-à-vis competitors as identified during customer surveys and as per reports of task forces constituted in this regard.
- Quality controls at both BHEL manufacturing units and vendors' works may be made more effective to avoid failure of equipment during commissioning and warranty period.
- To safeguard BHEL's financial interest, dispatches, particularly to private parties, should be made against establishment of Letter of Credit. Completion of Performance Guarantee tests immediately after commissioning and completion of balance punch points in a time bound manner in close coordination with customers needs to be ensured.
- Revenue billing and debtor management systems need to be strengthened and made more effective to ensure timely billing and collection of revenue.