CHAPTER VII: MINISTRY OF DEFENCE

Bharat Electronics Limited

7.1 Loss in manufacture and supply of satellite radio receivers

Contract manufacturing of Satellite Radios and supply without agreement with the collaborator resulted in a loss of ₹ 16.39 crore.

Based on an indication by M/s. Eton Corporation, USA (ETON) of long term requirement of E1-XM Satellite Radio Receivers (radios) with a business potential of US$ 108 million spread over five years and ETON's desire to shift its manufacturing activity from China to India, Bharat Electronics Limited (Company) took up (May 2005) contract manufacturing of the radios at its 'mass manufacturing facility at Bangalore Complex' (SBU) to supply the same to ETON for marketing in USA and Europe. The unit price of radio agreed to was US$ 173.67. ETON placed an order with the Company for manufacture and supply of 19,110 radios. However, the Company did not enter into any contract/agreement with ETON with specific terms and conditions detailing, inter-alia, obligations and responsibilities of the buyer.

The radios were to be manufactured based on the design owned by ETON and its design agency. During execution, ETON's design agency modified the design of the radios. Out of 17,748 radios launched for manufacture, the Company manufactured and dispatched 11,748 radios to ETON during June 2005 to June 2006 as per modified design after complying with all test procedures, quality checks and clearance by agency designated by ETON. However, the radios failed in the field due to battery leakage, display failure, *etc.* ETON recalled the radios and returned 3,718 radios to the Company during June 2006 to September 2008 for rectification. ETON did not make full payment even for the 8,030 radios retained. Even after rectification by the Company, ETON did not lift the radios on the ground of slump in the market and introduction of 'Regulations on Hazardous Substances' (ROHS) in July 2006 in USA and Europe which made the sale of radios impossible in USA and Europe as they were not compliant with ROHS. Thus, besides raw material, the Company ended with an inventory of 3,774 finished radios, 5,944 semi-finished radios. The radios could not be put to alternate use as the Company did not have license and necessary back up required for effective usage in India.

In the absence of an agreement with ETON, the Company could not force the former to compensate it for the radios manufactured and not lifted and loss incurred by the Company due to defects in the design prescribed. As a result, the Company had to incur avoidable loss of ₹ 16.39 crore as indicated below:

- The price quoted by the Company was based on projections for long term requirement of radios by ETON and the benefits envisaged due to large scale production. However, the same could not be achieved.
- The Company had to absorb ₹ 6.17 crore being the difference between cost of production (₹ 12.29 crore) and the agreed sale value (₹ 6.12 crore) in respect of

8,030 radios accepted by ETON. Reasons for wide variation between the cost and the selling price were not on record.

- The Company ended up with unusable inventory and made a provision of ₹ 7.09 crore in its accounts for 2008-09 towards non-realisable value of the finished radios (₹ 2.87 crore), semi-finished radios (₹ 1.42 crore) and raw materials (₹ 2.80 crore).
- The Company was also of the view that an amount of due ₹ 0.70 crore (net) due in this deal from ETON was doubtful of recovery.
- In the absence of any agreement with ETON, customs duty and interest thereon (₹ 2.43 crore) had to be paid by the Company in July 2008 and March 2009 due to failure in fulfilling export obligation.

The Management stated (October 2010) that:

- The Company ventured into the project due to business potential of US$ 108 million with an expected contribution of around ₹ 56 crore over a period of five years, especially in the light of the fact that the SBU had not earned any profit in several projects taken up by it;
- Entering into a long term agreement would not have made any major impact as both the parties were clear about their responsibilities and risks involved;
- The actual cash loss was only ₹ 9.66 crore without considering the cost of labour and overheads.

Reply of the Management was not acceptable as in the absence of a formal agreement, the Company could not protect its financial interests and incurred a loss of ₹ 16.39 crore. Further, the contention that the overheads and labour were excluded from loss as they would be absorbed in overall profitability of the SBU was not correct as it diluted the accountability of the Project Management. Labour and overheads were consumed in the project and were considered for the valuation of inventory in the respective years as confirmed by Management (October 2010).

The matter was reported to Ministry in November 2010; reply was awaited (February 2011.)

BEML Limited

7.2 Sale of Dealer Model Equipment

Introduction

BEML Limited, Bangalore (Company) was incorporated in May 1964 as a fully owned Government undertaking under the Ministry of Defence for manufacturing earth moving equipment, defence aggregates, trucks, engines and rail coaches. Marketing activities of the Company for equipment (except rail coaches) and spares are managed by Marketing Division, headed by Executive Director (Marketing) and supported by Chief General Manager (Marketing). The Company had also established 10 Regional Offices and 17 District Offices throughout the country for marketing its products.

The Company had identified small end construction equipment mainly used in infra structure development activities like road building, irrigation projects and other construction activities, which are generally purchased by small/individual contractors as Dealer Model Equipment (DME). The product range of the Company in this segment consists of Hydraulic Excavators, Bulldozers, Backhoe Loaders, Wheel Loaders and Graders.

DME were marketed both directly by the Company and also through appointed dealers. Separate section headed by Assistant General Manager in the marketing division of the Company was responsible for marketing activities relating to DME.

Scope of Audit

This thematic review broadly covers the marketing and sales activities relating to DME of the Company for the period 2006-07 to 2009-10 focusing mainly on marketing strategy, sales performance, pricing, appointment and performance of dealers.

Audit Objectives

Audit was carried out to assess:

- Whether target fixed for sales of DME was based on requirement and realistic
- Whether marketing activities in respect of DME were effective
- Whether dealer Management techniques and dealer appraisal system were in existence in the Company and were efficient
- Whether the Company had a system for collection and analyzing customer and dealer level information for promotional and operational decision
- Whether the pricing of DME were as per the policy
- Whether the Company ensured efficiency in quality of products and after-sales services

Audit Criteria

The following criteria were adopted for judging performance:

- Policies and guidelines issued by the Board of Directors (BOD) and the Management of the Company regarding sales of DME.
- Policy/procedure relating to appointing, appraisal of the performance of the dealers and policies relating to pricing, sales commission and service charges.
- Targets and achievements of sales of DME.

Audit Methodology

Audit methodology involved review of documents relating to DME, analysis of statistical information and discussion with the Management, data relating to DME sales, inventory and debtors for the period 2006-07 to 2009-10, review of sale order files and other general files relating to the equipment.

Audit observations

7.2.1 Market share of dealer model equipment

Though the Company had been in the business of mining and construction equipment since 1964 and enjoyed 12 *per cent* market share in respect of construction equipment, the Company's market share in respect of DME (small end construction equipment) was around one *per cent* only till 2009-10 and was facing severe competition from both domestic and international suppliers in this segment. Significant among the competitors are JCB (India), Telcon, L&T Komatasu, Caterpillar, and Volvo, who had established their presence and brand image significantly. JCB (India) was holding a market share of around 70 *per cent* in Backhoe loaders. Telcon and L&T Komatsu between themselves shared the lead in respect of Excavators. The Company and Caterpillar (India) Private Limited shared the market in respect of Dozers.

The Management stated (October 2010) that, it was concentrating on high end products catering to institutional buyers like mining companies *etc.* and considering potential for growth in construction/infrastructure activities, the Company entered this segment in the last 3 to 4 years.

The reply was not acceptable as the Company could not improve market share during the last 3 to 4 years as discussed in paragraph 7. The competitors of the Company used this opportunity to establish their brand image and consolidated their market share.

The problems encountered by the Company in this segment are discussed in the subsequent paragraphs.

7.2.2 Strategy of the Company to improve market share

To establish brand image and get reasonable market share, the Company decided (July 2006) to establish wider dealership network throughout the country to have maximum access to the customers located in interior areas.

A review of dealership network of the Company in Audit revealed the following:

7.2.2.1 Market assessment

The Company did not conduct any market survey before it took the major step to establish dealership network throughout the country.

The Management stated (October 2010) that the Company conducted market assessment through Regions/District Offices and through published research reports. However, the documents in support of Management's reply were not on record.

7.2.2.2 Appointment of dealers

The dealers were initially appointed by inviting open tenders for a period of three years. During the period from 2006-07 to 2009-10, of the 30 dealers appointed by the Company, 16 dealers were either terminated/under termination due to non-performance, or had resigned before the term of agreement due to non-viability as indicated below:

Year	At the beginning of the year	Appointed during the year	Terminated/ resigned during the year	At the end of the year
2006-07	-	15	-	15
2007-08	15	9	3	21

2008-09	21	-	2	19
2009-10	19	6	4	21
2010-11 (up to September 2010)	21	-	7	14

The Management stated (October 2010) that the infrastructure available with the dealers, their capabilities to generate business and expertise in the area were generally considered before selection.

The reply of the Management was not acceptable in view of the fact that the dealers performed poorly and amounts due from dealers were outstanding for a long period.

In September 2010, the Company was having only 14 dealers and some of the bigger States like Tamilnadu Uttar Pradesh, Bihar, Chattisgarh, and Orissa were not covered under dealership arrangement. Some of the bigger states like Andhra Pradesh, Gujarat and Rajasthan were having one dealer each for the entire State.

The Management stated (October 2010) that efforts were on to establish dealers in prospective areas not covered presently.

Recommendation

Selection process of dealers needs to be strengthened and viability of dealers ensured.

7.2.2.3 Dealer appraisal

The system to appraise the performance of dealers was not in place.

The Management stated (October 2010) that the performance of DME was being monitored by Regional/District Offices and by Corporate office by conducting various meetings of dealers at regional level and on annual basis centrally.

The reply of the Management was not acceptable as records to evidence the existence of a dealer appraisal system in the Company was not produced to audit, in the absence of which the method of evaluation of performance of the dealers, reasons for non performance, quality of service rendered by dealers, constraints, feedback of regional offices/dealers and action taken by the Management to improve performance could not be ascertained in Audit.

Recommendation

Dealer appraisal system to assess performance, effectiveness and quality of service is essential to evaluate performance of dealer and improve sales.

7.2.2.4 Assessment of financial viability of maintaining dealers:

The Company admitted (September 2010) that the expenses incurred towards establishing dealer net work like tendering, appointment of dealers, termination of dealers and other administrative expenses like travelling, *etc.* were not accounted for separately and expenses relating to DME sales transaction could not be tracked. In the absence of this, whether the investment on establishing dealers delivered results and increased the revenue could not be ascertained in Audit.

7.2.3 Sales Performance

7.2.3.1 Targets and achievements

Targets fixed for the Company as a whole for sale of DME and targets for sales through dealers vis-a-vis actuals during the years 2006-07 to 2009-10 were as under:

(Value ₹ in crore)

Year	Sales of DME for the Company as a whole				Sales by dealers			
	Target		Actual		Target		Actual	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
2006-07	1,054	289.96	318	128.69	298	102.12	129	46.45
2007-08	1,037	303.51	542	210.80	1,332	422.85	336	119.96
2008-09	2,057	606.25	210	82.06	1,857	537.27	127	40.49
2009-10	752	247.83	299	137.22	775	282.61	128	43.27
Total	4,900	1,447.55	1,369	558.77	4,262	1,344.85	720	250.17

The Company had not fixed targets for direct sales separately. The difference between Company's targets and targets for dealers was considered as target for direct sales by the Company.

It would be seen from the above table that:

- At the time of BOD approval (July 2006) for wider dealer network, sale of 945 equipment was planned for the year 2006-07, but the target fixed was for only 298 equipment and the achievement was much less at 129 equipment.
- Targets fixed for sales through dealers in the years 2007-08 and 2009-10 were more than targets fixed for the Company as a whole.
- The Company was not able to achieve the targets in any of the years under review. Targets set for years 2007-08, 2008-09 and 2009-10 were ambitious without regard to actual achievement in previous years.
- There was decline in sales by dealers over the period except in the year 2007-08 when the achievement was ₹ 119.96 crore.

The Management stated (October 2010) that higher targets were fixed to motivate the marketing team to achieve higher turnover. Though promotional activities like customer meet/ advertisement *etc.* were conducted the targets could not be achieved due to recessionary trends prevailing in the country coupled with competition from established players in the market.

The reply of the Management was not acceptable as:

- Fixing of targets arbitrarily for the dealers without any realistic chance of achievement cannot be expected to motivate them; and
- Recessionary trend was only during 2008-09 and not relevant for the entire period covered by audit.

7.2.3.2 Inefficient Sales Management

Further, the actual sales indicated above have to be viewed in the light of the following:

(i) The Company resorted to marketing of DME through advance supply of equipment to dealers without considering the operational and financial risk.

During the years 2008-09 and 2009-10, advancing of 76 equipment valuing ₹ 32.06 crore was noticed.

The Management stated (October 2010) that payment had been realised in most of the cases.

The reply of the Management was not acceptable as it was noticed that sales in respect of 10 equipments valuing ₹ 3.94 crore accounted for in 2007-08 were reversed in 2009-10 indicating advance recognition of sales to achieve targets.

(ii) Cases of delay in dispatch of equipment for which dealers sales were recognized earlier were also observed. During 2008-09, 102 such cases valuing ₹ 34.31 crore which accounted for 38 *per cent* of the dealer sales of 2008-09 were noticed. The delay in dispatch of equipment ranged from 8 to 228 days.

The Management attributed (October 2010) delay to non availability of transport and snag rectification but did not justify the reply with documents.

(iii) The dealer sales portion constituted only 3.40 *per cent* of the total sales made at the Regions.

The Management stated (October 2010) that, total turnover of the region included high value equipment, and hence, dealer sales looked meagre.

7.2.3.3 Poor customer financing options

Following factors contributed to the poor sales performance of DME:

(i) Financing the purchase

Over 85 *per cent* of the domestic purchase of the DME by the customers was by obtaining finance through banks/financiers. Competitors of the Company were able to secure finance relatively easily to the prospective customers.

The Management stated (October 2010) that established brand like JCB was able to secure finance. Considering the options available, the aesthetic looks *etc.* and feed back from the customers based on performance the Company's equipment were rated as category 'C' by the financiers. For category 'C' equipment, a customers would get loan up to 70-75 *per cent* of the value of the equipment, which was not attractive.

The reply of the Management was not acceptable as, though Company had arrangements with some of the banks and financiers, there was no visible improvement in business mainly due to the above reason. To attract customers, the Company needed upgradation of its equipment to category 'A' by technical up-gradation, improving the aesthetic look of the equipment *etc.* to enable customers to obtain loan of around 85-90 *per cent* value of the equipment.

Recommendation

The Company should make efforts in the direction of facilitating finance for the customer like its competitors to enhance sale of its products.

(ii) The resale value

Resale value of Company's equipment was low when compared to that of competitors due to low brand value. Due to this, financial institutions were reluctant to finance

Company's equipment. To improve the resale value, the brand image of Company's equipment needed improvement.

It was also observed that around 65 *per cent* of the customers were plant hirers in respect of backhoe loaders. Though the Company offered this equipment at a price lower than that offered by the market leader JCB, the Company's share in this segment was insignificant mainly due to lack of brand image.

The Management stated (October 2010) that JCB's main product was backhoe loader and their distribution network for the product was much wider compared to the Company.

The reply of the Management was not acceptable as one of the dealers in Chennai region indicated that customers were reluctant to invest in the equipment of the Company as more sophisticated and technically superior equipment were available in the market.

Thus, the poor achievement in dealer sales indicated lack of promotional support, information feedback, control by Corporate/Regional Offices and lack of initiative by dealers. Regional offices were concentrating mainly on the institutional customers. Sales manpower at regional offices needed to be strengthened to market small end construction equipment.

7.2.4 Credit Policy

Agreements with the dealers were silent about the credit allowed to the dealers. In many cases payments were outstanding for longer period. There were no reasons on record for not including a clause in the dealership agreement specifying the credit period.

An examination of outstanding debtors as at March 2010 revealed that out of the total debtors of ₹ 30.23 crore, (i) ₹ 9.28 crore was pending collection from dealers for more than two years, (ii) ₹ 7.30 crore related to dealers whose dealership were either terminated or under termination. Analysis indicating reason for these debts pending for long period and action taken to realize the payment were not available with the Company.

The Management stated (October 2010) that (i) credit policy was not mandatory to be covered in the agreement and (ii) efforts are continuously made to liquidate the outstanding amount.

7.2.5 Pricing of DME

In respect of DME, Management fixed minimum sale prices. It was observed that in respect of Backhoe Loaders and Excavators, the minimum price fixed itself was less than the cost of sales.

The Management stated (October 2010) the prices were approved based on the competition and the market condition.

On a review of sale order files, the following was observed:

- The equipment sold by dealers were at much lower prices than the minimum price fixed by the Management. A review of 30 sale order files for the period from 2007-08 to 2009-10 relating to equipment sold by dealers revealed that the Company incurred a loss of ₹ 3.02 crore on account of difference between minimum selling price fixed by the Company and actual price at which the equipment, were sold.

- During the year 2009-10, in respect of sale of DME, the Company incurred a loss of ₹ 38.03 crore due to sale of equipment at a price less than the cost. In fact, in respect of 83 equipment, the Company could not recover even the cost towards material and labour amounting to ₹ 3.25 crore.

The Management stated (October 2010) that (i) though cost could not be recovered fully, over a period of time they would be able to cover this gap through spares and services; (ii) it had an element of high labour cost and the factor was linked to volumes; (iii) the Company was trying to achieve the volume and profit in this segment in course of time.

Recommendation

The Company should try and reduce the cost of production to remain competitive in the market and increase viability of DME.

7.2.6 Quality and customer support

It was observed from correspondence between dealers and Regional office that:

- Quality of the DME supplied by the Company was poor and failed frequently during operations. Customers also complained about the poor painting /finishing/ aesthetic look.
- One dealer at Chennai region indicated that orders worth ₹ 4 crore were lost due to quality problems like breaking of fan belts, leaking from swivel joints, increased heat of engine, and cracks in rubber surface etc. in the earlier supplies. At Chennai region, five equipments valued ₹ 2.04 crore were returned by the customers due to poor quality and these equipments were lying with the Company.
- Further, 3 loaders valued ₹ 49.20 lakh supplied from Sambalpur region during January 2007 failed and were returned in June 2009 due to multiple failures and were lying with the Company. Similarly, two wheel loaders valued ₹ 35.70 lakh sold in Mumbai region were not lifted by the customer due to quality issues faced by the customer in the previous supplies.
- The Company (Chennai Regional office) did not provide efficient after sales services, delayed attending to the customer during warranty period, responded poorly in meeting the requirements of the customers and delayed supplying spare parts.

The above clearly indicated that the Company had not been paying due attention to supporting and attending to the requirements and complaints of the customers. The poor quality of the equipment and poor customer service earned negative image for Company's equipment. The review of correspondence also indicated that there were very few depots storing spare parts resulting in delay in supply of spares to the customer.

Recommendation

Considering the high market potential, Company should make all out efforts to enhance the quality of its products, after sales service, availability of spares and strengthen dealership network thereby improve its brand image.

7.2.7 Inventory of DME

It was observed in Audit that as of March 2010, 266 DME valuing ₹ 70.81 crore were lying unsold as indicated below:

Sl. No.	Model	Quantity	Value (₹ in crore)
1	BD50 - Dozer	5	1.23
2	BD65 - Dozer	17	6.17
3	BD80 - Dozer	6	2.86
4	BE200 - Excavator	16	7.21
5	BE220 - Excavator	42	18.53
6	BE300 - Excavator	9	5.50
7	BL9H – Backhoe Loader	61	8.45
8	BE71 - Excavator	28	5.74
9	BEML 636 – Wheel Loader	82	15.12
Total		**266**	**70.81**

Above inventory included 22 equipment valuing ₹ 5.86 crore lying in stock for more than 2 years.

During visit to Regional Offices, it was noticed that 78 equipment valuing ₹ 25.89 crore pertaining to period earlier to 2009-10 were lying with Regional Offices/dealers. Further, out of 44 DME valuing ₹ 11 crore dispatched to Regional Offices during the year 2009-10, eight equipment valuing ₹ 2.04 crore were lying in stock at Regional offices.

The Management stated (October 2010) that sales performance was badly affected due to recession and that it was hopeful of disposal of inventory in the near future.

This clearly indicated that the Company had been producing DME and setting targets for sale of DME without valid orders and without considering the market realities. Piling up of huge inventories resulted in blocking up of funds.

Conclusion

- Despite growth in construction/ infrastructure activities in the recent years, the Company failed to capitalize on the potential for small end equipment.
- Quality of DME supplied by the Company and after-sales service was poor resulting in return of equipment by the customers. This created negative image for the Company's products.
- The Company had dispatched equipment to dealers without valid orders and also not considered the market realities resulting in piling up of inventories and consequent locking up of funds.

The matter was reported to Ministry in October 2010; reply was awaited (February 2011).

7.3 Failure to safeguard interest of the Company in selection of a Joint Venture partner

Failure to ensure business and financial credentials of the JV partner resulted in unfruitful investment of ₹ 6.94 crore besides impending threat of invoking Corporate Guarantee of ₹ 19.15 crore

As part of diversification activity, BEML Limited (Company) decided (January 2005) to form a Joint Venture Company (JVC) for entering into the contract mining business. Out of the seven firms which responded to the Expression of Interest (EOI) called for (January 2005) by the Company, four firms, including M/s Midwest Granite Private Limited, Hyderabad (MGPL), were found to be meeting the requirement of EOI. A Sub-committee of the Board of the Company formed (March 2005) to evaluate the capabilities of the short listed firms rejected the proposals of three firms other than MGPL on the grounds that, *inter alia,* they did not possess mine mapping capabilities. The Sub-committee also observed that MGPL did not have experience in large scale 'coal mining and overburden removal' but recommended (April 2005) that it could be the JV partner, provided its EOI submitted as consortium partner of the Company for Mahanadi Coalfield project mining gets through. BEML-MGPL Consortium could not secure the contract, but the Board approved (July 2005) MGPL as the JV partner with 55 *per cent* equity holding and balance 45 *per cent* by the Company subject to approval by the Government of India (GOI). Before seeking approval from GOI, a shareholders agreement was entered into (September 2005) with MGPL stipulating formation of JVC by September 2006. In response to approval sought for (February 2006) by the Company, the Ministry of Defence (MOD) replied (October 2006) that being a Category I Mini Ratna Company, BEML was competent to decide on the matter, but cited certain unresolved issues such as ability of MGPL to sustain high investment considering its low turnover, profitability, net worth and credit rating for taking necessary action by the Company. Formation of the JVC with MGPL and Sumer Mitra Jaya Limited (SMJ)[♣] as JV partners was approved (January 2007) by the Board and a JVC named as BEML-Midwest was incorporated (April 2007) with its head office at Hyderabad.

Review of records relating to formation of the JVC and the Company's exposure in its functioning revealed the following:

7.3.1 Selection of the JV partner

a) Absence of wide publicity

The press notification calling for EOI from prospective partners did not disclose the name of the Company as a JV partner and was limited to Southern India editions of newspapers only. As major mining activities are spread throughout the country, restricting the notification to southern editions and that too without disclosing the name of the Company as a JV partner denied the Company benefit of responses from compatible and experienced firms in the field of coal mining for forming a JVC.

[♣] ***An Indonesian company.***

b) Adoption of incorrect data for evaluation of JV partner

Eligibility parameters prescribed in the EOI included, inter alia, (i) annual turnover of around ₹ 150 crore, (ii) staff strength of 1,000 personnel and (iii) experience in the field of 'overburden removal/coal and spread operation' in not less than 2 to 3 states. Against this, MGPL had (i) turnover of ₹ 36.30 crore, (ii) staff strength of 24 persons (14 mining engineers/foremen and 10 engineers without certificates) and (iii) no experience in coal mining/overburden removal *etc.*

The Company justified (June 2010) MGPL's selection stating that turnover of MGPL's group companies was taken into account in the evaluation process and the Committee's recommendation did not preclude it from formation of a JVC.

The contention of the Company is not acceptable as (i) the Company intended to form JVC with MGPL and not with MGPL group of companies. In the absence of such benefit given to other bidders, it amounted to conferring undue favour on MGPL and (ii) the recommendation of the Committee, though not precluded MGPL had considered the inexperience of MGPL in mining**.**

c) Ignoring the suggestion of the Ministry

MOD, in response to Company's proposal had communicated the need for proper credit rating to ensure financial soundness of the proposed JV partner. MGPL's ICRA credit rating was "IrBB+" which indicated inadequate credit-quality and high risk. Board was informed (January 2007) that to overcome the financial weakness indicated by the low credit rating, MGPL would set apart an amount of ₹ 16.5 crore in a Fixed Deposit (FD) to show its financial ability to fund capital and would also give an undertaking endorsed by the bank that 'without the consent of the Company the said FD cannot be encashed.' However, no such FD/undertaking was obtained by the Company.

Reply (June 2010) of the Management that ICRA rating does not relate to the capability of MGPL to invest in JVC is unacceptable due to the fact that operational efficiency, competence and effectiveness of Management, hedging of risks, cash flow, liquidity and financial flexibility form the standard parameters for ICRA credit rating for which a high risk "IrBB+" was awarded to the proposed JV partner. Further, the DPE guidelines (October 1997) on 'Financial and operational autonomy for profit making Mini-Ratna Category I companies' prescribed that all proposals whether they pertain to capital expenditure, investment or other matters involving substantial financial or managerial commitments should be prepared with the assistance of professionals and experts. It was, however, observed that the proposal was approved by the Sub-committee of Directors of the Company and no evidence was produced to Audit to substantiate that the assistance of professional(s) was sought/obtained.

d) Lack of experience of JV partner in mining

Board initially approved (July 2005) formation of JVC with MGPL as the JV partner with 55 *per cent* equity holding and balance 45 *per cent* by the Company. As MGPL did not have prescribed experience in 'overburden removal and mining of coal', the Company decided to include (September 2006) SMJ, as a second partner in the JVC with a revised shareholding pattern of 45 *per cent* by BEML, 26 *per cent* by SMJ and 29 *per cent* by MGPL. SMJ was selected by a team consisting of Chief General Manager (Marketing) BEML, Director (Technical) Coal India Limited and Chairman MGPL,

deputed by the Company to Indonesia for the purpose without going through any selection process. However, the JVC was finally incorporated (April 2007) with BEML and MGPL as promoters holding shares of 45 *per cent* and 55 *per cent* respectively leaving the discretion to MGPL to allot 26 *per cent* shareholding to SMJ. Composition of the Board of Directors of the JVC was thereby restricted to four from MGPL and three from the Company, with Chairman of the Company as its Chairman and no representation from SMJ who held 0.01 *per cent* shares allotted to it by MGPL.

7.3.2 Company's exposure in JVC activities

a) Loss in contract mining

Even before the incorporation of the JVC, the Company, in order to help MGPL gain contract mining experience, obtained (November 2006) work relating to contract mining from MOIL Limited[♥] on nomination basis and subcontracted to MGPL. However, out of the work of eight lakh BCM (Bank Cubic Metre) sub-contracted, MGPL could complete only 1.11 lakh BCM. Further, to facilitate mining experience for the JVC after its incorporation, balance mining work on the contract was allotted to the JVC, but it could execute only 2.14 lakh BCM and the remaining work (out of the balance 6.89 lakh BCM) could be executed in extended time forcing the JVC to outsource the work to a Nagpur based private company at an extra cost of ₹ 1.41 crore. Thus, the solitary mining contract executed by the JVC resulted in a loss.

The reply (June 2010) of the Management that it will try to bring new partners with global standing and with sufficient contract mining exposure is a tacit admission of the fact that the present JVC partner lacked contract mining exposure and global standing.

b) Trading activity by JVC

With no further orders on contract mining, the Company persuaded (January 2008) the JVC into trading of iron ore which was neither one of the objectives of its formation, nor an activity for which it had any previous experience. As per the agreement entered into (January 2008) with the JVC for this purpose the Company was entitled to 3 *per cent* of net profit on the sale of iron ore. Funding for the activity was done by the Company by providing an advance of ₹ 112.61 crore which was repaid with interest during 2008-09. Further, the Company also provided a Corporate Guarantee of ₹ 19.15 crore to the JVC against credit facilities including packing credit and bills discounting which lacked justification considering the fact that the trading activity was funded by the Company and no other major contract was being executed by the JVC. Subsequently, the JVC availed of packing credit of ₹ 13.41 crore of which ₹ 11 crore was misappropriated by a nominee Director of MGPL and incurred forward cover loss of ₹ 18.66 crore. The Company filed (September 2008) a petition in the Company Law Board (CLB) seeking relief from the unauthorized and illegal activities of the nominee Director of the JVC. Thereafter the activities of the JVC came to a standstill (September 2008). After almost ten months, the Company filed (June 2009) a criminal complaint against three Directors (from MGPL) on the Board of JVC alleging manipulation of records. Hearing in the case at CLB was under progress (December 2010). Though the Company recovered the advance of

---

[♥] ***A Central Government Company in the field of mining business.***

₹ 112.61 crore paid to the JVC, with interest, the former spent ₹ 1.52 crore (2007-08 to 2009-10) to meet day-to-day expenses of the JVC not in operation. Justification for such funding of the day-to-day expenses and approvals were not on records produced to Audit.

The Management stated (June 2010) that they were confident that the decision of the CLB would be in their favour and the liability towards packing credit would fall neither on the Company nor the JVC. The Management added that the interests of Company are fully safeguarded as the petition had been filed before CLB, police complaints had been lodged before the Central Crime Station, Hyderabad and private complaints had been filed before the Chief Metropolitan Magistrate, Hyderabad.

However, the fact remained that despite Chairman of the Company being the Chairman of the JVC and three Directors of the Company were on the Board of JVC, they could not ensure (i) establishing of proper internal control procedures to prevent the misappropriation, (ii) immediate lodging of criminal complaint against the delinquent officials and (iii) financial accountability of the JVC for not preparing accounts even for a single year till December 2010.

Thus, failure of the Company to ensure business and financial credentials of the JV partner resulted in unfruitful investment of ₹ 6.94 crore (₹ 5.42 crore equity plus ₹ 1.52 crore maintenance expenses) in the JV Company besides impending threat of invocation of Corporate Guarantee of ₹ 19.15 crore given by the Company to the JVC's banker who has declared the debts as a non-performing asset.

The matter was reported to Ministry (September 2010); reply was awaited (February 2011).

Hindustan Aeronautics Limited

7.4 IT Audit on Implementation of Industrial Finance System with specific thrust on Material Management module

Hindustan Aeronautics Limited implemented Industrial Finance System (IFS) an ERP-package with the objective of implementing uniform procedure and practices, on-line information for decision making, integration and inter-operable systems amongst divisions eliminating isolated islands of automation. A review of IFS implementation with specific thrust on Material Management Module in Engine division, Bangalore and Nashik division was taken up. Delays in implementation were noticed due to absence of Business Process Re-engineering combined with inexperience of the implementer. Flaws in system design, non-mapping of various business processes, non-cleansing of data before migration, absence of validation checks combined with manual interventions resulted in incomplete and unreliable data and further led to non-achievement of the intended benefits as per Project Quality Document.

Introduction

Hindustan Aeronautics Limited, Bangalore (Company) decided (April 2003) to implement Industrial Finance System (IFS), an Enterprise Resource Planning (ERP) package and awarded (June 2004) the contract to Company's joint venture Company viz.

British Aerospace and Hindustan Aeronautics Limited (BAeHAL), with the objectives of facilitating:

- Implementation of uniform procedure and practices,
- On-line information for decision making at the division, complex and corporate level, and
- Integrated and inter-operable system amongst divisions eliminating isolated islands of automation.

The Company planned (June 2004) to implement IFS in all the divisions in phases in 25 months i.e. by July 2006 at a total cost of ₹ 42.30 crore. It was also decided (July 2004) to implement the system initially at three pilot sites[1] by June 2005 and the implementation at other divisions being contingent on the success at these sites.

Organization

The Information Systems (IS) department was headed by Additional General Manager in Nashik Division and Chief Manager in Engine Division, Bangalore, assisted by executives in charge of various modules and system/user Management.

Work order for IFS was issued by Engine Division, in March 2006, where the system run on HP integrity RX 6600 server with Oracle version 10g and the 'go live' was signed in December 2006. In Nashik division, where the system run on IBM p560Q series Server with Oracle 10, the work order was issued in March 2006 and the 'go live' was signed in June 2007.

Scope of Audit

The scope of audit was to review in general the implementation of various modules[2] of IFS with specific thrust on the material management module at Engine Division, Bangalore and Nashik division.

Audit objectives

The objective was to review the performance of IFS in Engine and Nashik divisions with a specific thrust on material management module and to assess the:

- Effectiveness of planning and implementation;
- Effectiveness of general application controls in the system/modules;
- Correct mapping of the business rules of the Company; and
- Integrity, completeness and reliability of data.

Audit criteria

The IS audit was conducted based on the corporate rules, regulations, Government guidelines and the best practices in IT System for control and security.

---

[1] ***Corporate Office, Aircraft and Helicopter division***

[2] ***Financials, customer services and marketing, manufacturing, maintenance and repair/overhaul, payroll, human resources, material management***

Audit methodology

IS Audit methodology included:

- Entry conference detailing the scope and expected responses from the Management
- Information collected through questionnaire issued to Management, audit enquiries and requisitions
- Data extraction and analysis from the reports, query and data entry screen using Computer Assisted Audit Techniques
- Exit conference discussing the findings of the IS Audit

During the discussion in the exit conference, the Company emphasized on the challenges involved in IFS implementation owing to the complex nature of its business. The Company however, assured to look into approvals and authorization procedures and take appropriate action on the discrepancies pointed out by Audit.

The implementation at pilot sites was reviewed in 2007 and the discrepancies pointed out were reported in C&AG's Audit Report (Commercial) No.10 of 2008. The action taken by the Ministry/Management on the report is yet to be received from the Ministry.

Audit findings

7.4.1 Implementation issues

7.4.1.1 Poor planning of implementation phases

The Company failed to analyse the feasibility of the project before taking up the implementation and did not carry out any business process re-engineering, thus, depriving the benefits of improving the business processes. Contrary to its decision of implementing in phases based on the success in pilot sites, it was observed that:

- Though implementation at pilot sites was completed with a delay of two years in May 2007, roll out of Phase I and II were ordered in March 2006 and March 2007 respectively and
- Even before completion of work at roll out sites, implementation in 10 other divisions was awarded.

7.4.1.2 Delay in implementation

There was an overall delay exceeding five years in completion of the project and integration at Corporate office was yet to be achieved. The delay was attributed by the implementer to:

- problems in data preparation
- cleansing and migration
- new customization and no re-usability of reports created in earlier implemented sites

The inexperience of the implementer also contributed to the delay as indicated below:

- lack of proper scientific assessment of hardware and software requirements which led to mid-course correction at an additional cost of ₹ 31.01 crore;

- overlooking the future expansions and huge infrastructure requirement;
- poor response of system during peak hours and
- limited traceability, congestion and low reliability of hardware due to very slow back up process.

7.4.1.3 Conflict of interest

It was also noticed that the Company compromised on independence in assessment and selection of ERP package since the implementer was initially appointed as IT consultant and as member of the core group for selection of ERP package. Thus, the implementer's business interest prevailed in the entire process against the good practice of Corporate Governance.

7.4.1.4 Data Transformation Services

Project Quality Document (PQD) provided for a Management Information System (MIS) by utilizing the concept of Information Access Layer[1] using the IFS Data Transformation Services (DTS) tool. The Company could not generate the required reports through the system necessitating hiring the support services of the implementer. This indicated flaws in system design and non-mapping of various business processes. Later, due to problems in report designing through IFS, the MIS for top Management was provided using Oracle business information software (BIS), an external software, incurring additional expenditure of ₹ 0.11 crore. Thus, the information is still transferred outside IFS and consolidated involving manual intervention with risk of inaccuracy of information, time lag and also consuming considerable man hours. Further, the project management, a tool for the Management to watch the progress, delays and reasons attributable to such delays, was yet to be implemented.

7.4.1.5 Benefits as envisaged in Project Quality Document

Though the user requirements were reviewed and included in the PQD, the Company failed to insist on the implementer to create the agreed outputs before signing the go live[2]/handholding[3] certificates. These lapses resulted in the non-achievement of the following illustrated benefits as envisaged in the PQD:

- On line information for purchase processes, costing, material accounting, price lists, advance tracking, job progress and notification of changes in production plan;
- Alerts for delay in delivery, work order completion etc.;
- Alerts on stock outs, non moving items, life expiry items;
- On line generation of Trial Balance, Profit & Loss Account and Balance Sheet;

---

[1] ***A storehouse for the processed transaction data of each division***

[2] ***Go-live was defined as the date when HAL users begin to use IFS System with live data.***

[3] ***Successful handover would take place after completing handholding period from date of IFS Go Live. During the handholding phase, BAeHAL was responsible for ensuring printing reports run smoothly and no transactions were held up in IFS due to the system itself before a successful hand over takes place.***

- Budget monitoring and performances; and
- Automatic adjustment of allowances, TDS deduction and accounting, depreciation calculation with updation of fixed assets ledger.

The Management replied (October 2010) that in the absence of experienced implementer in the country and the Company being the only Aerospace Industry in the country, the Joint Venture was resorted to where British Aerospace (BAe) who had domain knowledge was one of the JV partner.

The reply was not convincing as even after a lapse of five years and with investment of ₹ 73 crore on ERP implementation, the envisaged objectives of integration and self reliance were yet to be achieved.

Recommendation

Ensure complete implementation in all respects as per PQD and periodically review the time frame of action for implementation of IFS

7.4.2 Non utilisation/implementation of modules

It was observed that the implementation was partial and several features available in the system were neither enabled nor utilized due to non mapping of the general business practices into the system as envisaged in the PQD as detailed below:

- Implementation of Financials and Human Resources (HR) modules was partial and certain sub modules such as attendance, overtime and incentive were not implemented.
- In the absence of automatic flow of information from payroll and attendance on labour bookings, the system could not generate cost ledger automatically.
- Due to non-linking of Bill of Material (BOM) with the material drawn from Indian Air Force (IAF) the related Sales invoices could not be raised directly.
- Service tax was not mapped in the system.
- Non automation of procedures in respect of transfer of inspected materials into inventory, Liquidated Damages (LD) calculation, adjustments of advances/liabilities, etc., necessitated manual interventions.
- A referential price list using historical data was not maintained in the system to help users while preparing quotations for purchases.
- Non issue of Material gate pass (MGP) through the system necessitated manual intervention and resulted in non updation of the movement status as under transit even after delivery.
- Data analysis showed that 14287 materials continued to be shown as 'under despatch' for a period ranging from 9 days to 763 days as on 20 May 2010.
- It was also noticed during certification audit that two major items valued ₹ 1.60 crore, moved out of the Engine division were incorrectly included as closing stock in the financial accounts for the period 2009-10.

The Company (October 2010) accepted the facts and stated that periodic review of the system would be undertaken. It further stated that sales invoicing and transfer of inspected inventory were now being automated.

However it was observed that the action taken was incomplete and manual intervention still existed in transfer of material after inspection. It is suggested that automatic recording of the movement of materials through the system may be enabled to ensure non-occurrence of such incidents affecting financial accounts.

Recommendation
Ensure complete implementation and proper utilization of automated features

7.4.3 General controls

Following deficiencies in general controls were noticed:

7.4.3.1 IT Policy and Security Policy

Though the Company adheres to the IT plan approved by the Board in 2001 for IT implementation strategies, the Company had not formulated and documented IT Policy including IT Security Policy, which were very critical.

The Management stated (October 2010) that the draft IT Security Policy was under finalisation.

7.4.3.2 Business Continuity Plan and Disaster Recovery Plan

The Disaster Recovery (DR) site of Engine division was located within the factory complex and was subject to same vulnerability of loss of operations as of original server. No DR site existed for Nashik division. Thus, the risk of disruption of the business continuity in the event of disaster still existed.

The Management stated (October 2010) that a Data Centre would be established at a geographically different location and on completion, the offsite DR site would also be planned.

7.4.3.3 Change Management

Despite the audit recommendations in the Audit Report Commercial No.10 of 2008, the Company was yet to initiate action to acquire the source code and continued to depend on the implementer for changes to be carried out in the system. At the divisional level, only operational issues were being handled based on user requests. Further more, the changes made in the system were not documented and in the absence of which, the audit trail of problems and solutions relating to implementation was absent. The risk of unauthorized changes and continued dependence on selected individuals existed.

The Nashik division agreed (June 2010) to record user requests and the action taken on it. Management stated (October 2010) that source code was proprietary of IFS and the implementer would not share the information with the Company.

However it is suggested that a third party escrow account for the source code, which would serve in the event of any threat or discontinuance of support from implementer may be explored.

7.4.3.4 Physical and logical access controls

It was noticed that:

- Due to insufficient storage capacity, the logs of physical access control system (CCTV) were maintained only for 5 days. Thus the logs could not be used for review of damage to the system due to lapse in physical access controls beyond the backup period.

The Management stated (October 2010) that permanent backup of log as suggested with regular monitoring would be examined.

- The changes in roles of users necessitated due to change in incumbency were done by rewriting the earlier identity. However, it was observed that no logs of creation and deletion of user ids were maintained in the system for audit trail. The logs of successful/unsuccessful attempts to user's account were also not being maintained.

The Management has since initiated (October 2010) action to maintain the logs.

- Various stages of placement of purchase orders (PO) such as 'planning, release, approval' and arrival/receipt of material were authorized with same user id in 5907 POs out of 6610 POs issued during 2009-10 indicating absence of proper segregation of duties. This lack of preventive controls required for authorizing the transactions increased the risk of errors remaining undetected.

The Nashik division replied (June 2010) that on making amendment to POs during material receipt would result in display of same identity at all stages and assured of necessary corrective steps.

The reply indicated flaws in the system design and this discrepancy needed to be rectified. The Management (October 2010) further assured to exploit the utilization of on line features.

- The instructions regarding the password policy were not enforced through the system. Thus the risk of gaining un-authorised access to system data could not be ruled out.

The Management (October 2010) assured to review the system.

Recommendations

- ***Formulate IT Policy and Security Policy and establish DR site at the earliest.***
- ***Obtain the customized source code or explore the possibility of an escrow account.***
- ***Create permanent backup of the log.***
- ***Incorporate proper segregation of duties at all levels through the system.***

7.4.4 System design/customization deficiencies

As per the Accounting Policy of the Company, the finished goods were to be valued at cost or net realizable value, which ever is lower. However, due to non-configuration of Fixed Price Quotation (FPQ) prices in the system, the finished products were being valued based on the weighted average rate without correlating to the realizable value.

This resulted in overvaluation of inventory and overstatement of profit as on 31 March 2010 by ₹ 4.52 crore.

The Management stated (October 2010) that such flaws in the valuation had since been corrected.

However, since only accounting entries were corrected, the system design remained to be corrected in consonance with the Accounting Standard/Accounting policy.

Recommendation
Ensure valuation of Inventory as per Accounting Policy

7.4.5 Relational Integrity

The relational integrity between two related data should ensure automatic updation of the changes made in the corresponding data. Instances where relational integrity was not ensured are discussed below:

7.4.5.1 Status of Purchase Orders

After completion of inspection/ acceptance of the received materials and payment, the PO should be closed in the system. Data analysis, however, showed that the status of 1876 items relating to 348 POs issued by Engine division during 2009-10 was displayed as 'items received' even after acceptance of all materials ordered therein and payment thereon. The age-wise analysis of such POs revealed that 157 POs were in the 'received status' for more than four months to one year and 141 POs were more than one year.

Hence, the system required to be configured to change the status of PO in relation to the change of status corresponding to RR and payments.

The Management (October 2010) replied that the relational integrity was ensured in the system.

The reply of the Company could not be accepted in the light of the facts mentioned above and the need for review of the system is reiterated.

7.4.5.2 Goods in Transit

It was observed that even after inspection, acceptance, finalization of RR and consumption of the materials, materials valued at ₹ 3.31 crore were still shown under Goods in Transit (GIT) resulting in overstatement of GIT, evidencing lack of relational integrity between material management and financials modules. Necessary corrective action was carried out by Engine division during certification audit of 2009-10.

The Management attributed (October 2010) the error to migration issues and further stated that the same had been rectified.

Necessary controls in the system have to be employed to automatically update the status of the material from GIT to inventory for smooth work flow automation.

7.4.5.3 Customer Orders and Sales Orders

- The customer orders fed in the system had to be approved and after approval only further relating processes such as creation of work orders, sales order and commencement of production process were to be carried out. However, it was observed that 30232 customer orders of Nashik division pertaining to 2009-10

were not approved through the system even though their status was indicated as closed. Thus, the processing of the orders was allowed by the system without proper initial authorization through the system and indicated manual intervention in this regard.

The division agreed (June 2010) that the approval was not part of the customer order cycle. However, a necessary system check for authorization was essential for future scope of work flow automation.

- Status of the orders were being indicated as 'released', 'delivered', 'closed' etc against the respective orders in the system. A comparison of the status of sale orders with the corresponding customer orders in respect of 1725 cases out of 10381 pertaining to Nashik division of the period 2009-10, showed that the status indicated were different. This indicated absence of integration between the orders through the system.

The Management stated (October 2010) that the necessary corrections were being carried out. However, necessary inbuilt controls in the system were required to be provided.

7.4.5.4 Production Orders

It was noticed that the processing status of work order was displayed as 'started' even before release of such order. This indicated system allowing processing of the work orders before authorizing the same through the system.

Management agreed (October 2010) that necessary checks would be employed to avoid such occurrences in future.

Recommendation

Ensure work flow automation and relational integrity of the data stored in the system by employing appropriate controls in the system

7.4.6 Referential integrity

Referential integrity is a database concept that ensures that relationships between tables remain consistent and changes made to the linked table are reflected in the primary table.

7.4.6.1 Receipt of materials in excess of tolerance limit

The ordered quantity in PO and receipt quantity in Receiving Report (RR) needs to have referential integrity between them. The allowable tolerance level of excess/shortage in measurement of each material depending upon factors such as minimum order level, weights, etc. were also required to be considered while incorporating the referential integrity of these two related items. However, data analysis showed that the receipt quantity as per RR in 2543 cases out of 3409 cases relating to Engine division for the period 2009-10 exceeded the ordered quantity specified against the corresponding PO beyond the tolerance level of 10 *per cent.*

The Management replied (October 2010) that receipt quantity depends on the tolerance level, excess supplies and the receipt quantity should reflect actual receipts.

However, it was insisted that since receiving materials in excess of the tolerance level of the ordered quantity required higher approvals, appropriate authorization should be incorporated in the system.

7.4.6.2 Excess purchase of materials

The Engine division initiates the procurement activity based on the confirmed orders received from customer for carrying out the Repair and Over Haul (ROH) jobs of various engines. Since the customer order details were not fed into the system, the Material Procurement Request (MPR) was not linked to the quantity specified in these orders resulting in lack of control on the quantity in MPR and PO with that of the customer requirement. Thus, due to absence of proper in built control, the system allowed excess procurement over and above the actual task/requirement for Artouste engines during 2006-2009 by incurring an additional expenditure of ₹ 5.85 crore.

The Management stated (October 2010) that the procurement activity was initiated based on forecasted orders and that there were changes in the actual/firm orders and that the extra procurement had to be utilized against future orders.

However, it was insisted that immediate corrective measures may be taken through built in controls in the system.

> ***Recommendation***
>
> ***Ensure referential integrity to avoid the risk of incorrect data being processed and accounted.***

7.4.7 Non mapping of business rules

7.4.7.1 Preparation of Financial Accounts

- As pointed out in the Audit Report Commercial No.10 of 2008, the system was used to derive trial balance and these values were manually fed to generate balance sheet as per the Company's format, due to non availability of facility in the system for grouping the details as required by the Company. Even though this aspect was envisaged during PQD and included in the expected benefits from IFS implementation, failure to configure the system for online generation of balance sheet resulted in manual intervention in the key area with risk of manual errors and manipulations.

The Management accepted (October 2010) the observation in principle.

- Contrary to the Company's accounting policy on depreciation where in the fixed assets were to be depreciated to one rupee as net value, due to non-mapping of the accounting policy into the system, it allowed assets with zero residual value.

7.4.7.2 Accounting of transfer of stock

As per the accounting instruction on 'accounting of inter-divisional transactions', the materials received from inter divisions, were to be accounted based on delivery and acceptance of the main equipment (aircraft/helicopter). Accordingly, the engines delivered through inter division transfer orders, were accounted as 'stock in trade' (SIT) in Engine division till the aircraft/helicopter were delivered to the customer. However, engines accounted in financial module under 'SIT' were shown as 'delivered' in material

management module. Thus, SIT could not automatically flow from the system evidencing non-integration of two related modules, resulting in passing of manual entries.

The Management assured (October 2010) to incorporate this process in the system.

Recommendation

Map the Business Rules in the System to indicate the status in consonance with the accounting instructions to avoid manual intervention establish integration amongst divisions for proper flow of SIT.

7.4.8 Data migration

7.4.8.1 Migration error

The Materials valued at ₹ 36.25 crore issued to production/work orders were migrated as inventory and to that extent material consumption was not accounted during the year 2007-08. On being pointed out in accounts audit for the year 2007-08, Company passed necessary adjustments in the accounts.

7.4.8.2 Non-cleansing of data

- The comparison of data on long outstanding liabilities towards procurement in Engine division with the actual PO files revealed that there was no actual liability for an amount of ₹ 3.31 crore. The outstanding liability was displayed due to improper cleansing of data, partial upload/ non availability of payment details, non feeding of details of rejected materials, non matching of payments with receipt details, non-adjustment of advances and LC payments, non-clearance of exchange rate variations during migration etc.

On being pointed out by audit, rectification entries were passed in the accounts of 2009-10.

- Examination of accumulated provision for doubtful claims receivable from vendors (old GIT) of ₹17.55 crore in Nashik division revealed that the provision was created to clear old uploaded data wrongly shown under GIT even after receipt, acceptance and settlement of claims of materials during migration.

The Management agreed to review the same during 2010-11.

Thus non-cleansing of data before migration to IFS system resulted in overstatement of assets and liabilities and fictitious charging of provision to Profit & Loss account affecting the profitability of the division. Management assured (October 2010) to take up data cleansing.

Recommendation

Review the migrated data and initiate appropriate action for data cleansing.

7.4.9 Input controls

7.4.9.1 Incomplete data

- The system accepted data input without value or rate against 282 items out of 15815 items pertaining to POs issued by Engine division for the year 2009-10. Further analysis revealed that in 14 items, though rate was shown as zero, the

value was available indicating absence of input controls to ensure complete and accurate data.

The Management attributed (October 2010) the error due to formatting of downloaded data.

The reply was not acceptable as the data was directly taken from the IFS. Hence action was required to be taken by the Management to arrest such occurrences.

- In the absence of range check or reference check, system accepted manual data entry of a higher number[♣] under exchange rate for Euro.

The Management related (October 2010) the issue to typographical error and stated that at the time of P.O. generation system recognizes current exchange rate only.

However, system has to be equipped with such control to disallow such incorrect inputs.

7.4.9.2 Stock levels and Material classification

The system accepted blank/zero quantity against safety stock, re order point, minimum and maximum lot size to be produced in the production planning details in respect of 180344 items of Engine division. It was further noticed that system indicated manual control over the planning in respect of safety stock and ordering point etc. In the absence of such details in the system, system based inventory control could not be established.

Further, it was noticed that duplicate ABC classification existed in respect of two materials with same part number and same material codes (534) had been allotted to different materials (1712) with different material description ranging from 2 to 34. Thus, due to non-mapping of system requirements, no ABC classification rules had been incorporated into the system to ensure proper procurement planning process.

The Management stated (October 2010) that due to nature of business of the Company, such parameters were being considered on case to case basis and hence not enforced in the system.

The reply could not be accepted since the business processes could have been mapped into the system for better decision-making through system.

Recommendation

- ***Configure the system to automatically relate the exchange rate with the master table and ensure correct updation of exchange rate master table***
- ***Incorporate proper input controls to ensure complete and correct data***

7.4.10 Validation checks

7.4.10.1 Vendor Master and material codes

- The System allowed entry of duplicate vendor codes for the same vendors in same location in Engine division with the risk of irregularity in placement of orders and corresponding follow up of payments.

The Management noted (October 2010) the observation for compliance.

♣ ***674,625.0000***

- Duplicate part number even against engines and blank part number were observed due to absence of proper validation checks required to ensure non blank, unique and feeding of valid data in vital fields.

The reply of the Management (October 2010) that inventory part master did not allow any duplicates/blank part numbers was not tenable as the actual data observed in the system by audit was commented upon.

- There was no uniformity in the pattern of codification of part numbers, resulting in difficulty in differentiating engines from spares/part of the engines. In the absence of uniformity in codification of part numbers, analyzing the stock for proper planning and status reporting would be difficult.

The Management stated (October 2010) that part numbers provided by the licensors were being used.

Reply was not acceptable as uniformity should be ensured in system for easy access.

7.4.10.2 Material Procurement Requests

- System permitted creation of 698 POs valuing ₹ 17129.04 crore during 2007-10 in Engine division without the Material Procurement Requests (MPR) i.e. without validation checks in this regard.

The Management stated (October 2010) that these were dummy POs created based on Hawk contract.

It was suggested that in respect of POs created based on any contract should have the corresponding reference.

- The lack of validation checks on dates and non employing of specific date format, allowed input of PO date earlier to MPR date, PO date later to delivery due date and even later to the receiving report date (2492 cases out of 22128). Also 'invalid date time' was observed as displayed under inspection offer date of production planning, while the date of entry of the customer enquiry into the system was shown as earlier to the customer enquiry date itself.

The Management assured (October 2010) to review the cases.

7.4.10.3 Inspection of materials

It was observed that the date of inspection was earlier to that of 'offered for inspection' date, date of 'offered to stores' was earlier to date of approval of charges, date of shifting to store was earlier to date offered to stores in 7 out of 42 RRs of Engine division of April 2009.

The Management stated (October 2010) that these date columns were only for internal monitoring purposes.

It was reiterated that such validation checks with regard to dates would ensure better internal monitoring.

7.4.10.4 Fixed Price Quotations

The prices of the products/supplies for repair and overhaul jobs undertaken by HAL to IAF and Army were governed by the FPQ with effect from 01 April 1995. Though the

FPQ prices were captured into the system, it was not linked with procurement cost. It was observed that the purchase price was more than agreed FPQ, resulting in under recovery of ₹ 8.46 crore in various Artouste engines parts procurement and this prevailed continuously from 2006-07. Thus, in the absence of such validation, the system could not be effectively used to monitor the procurement cost against the corresponding realizable FPQ prices for initiating timely action to take up the cost escalation with the customer.

The Management assured (October 2010) to explore the linking of FPQ and purchase prices.

Recommendations

- ***Ensure integration of FPQ prices with purchases***
- ***In built controls to authorize PO Process with necessary forewarning***
- ***Avoid duplicate /non-blank entries and ensure relevant controls over date columns***
- ***Avoid manual intervention and duplication of work in all modules.***

7.4.11 Integration between Material Management and Financials modules

Due to non-integration of material management module with financials module automatic cost could not be arrived at, resulting in manual interventions and abnormal variation in cost booking, thereby, the data could not be relied upon. As observed in Nashik division, since the system was not configured to allocate proportionately the entire cost of materials towards the delivery of two Sukhoi aircraft during 2008-09, there was unrealistic and unjustifiable material cost booking against these two aircrafts. Further, wide variation in material consumption for identical production evidencing irregular material cost booking was observed wherein the material cost booked for one aircraft was at ₹ 98.24 crore and while the other was at ₹ 48.59 crore.

The Management assured (October 2010) to employ strict control on issue of materials against correct work orders.

Recommendation

Ensure complete integration of relevant modules

Conclusion

The major objectives of implementing ERP envisaged in the PQD were reduction in cost of production, reduction in inventory levels, reduction in cycle time, reduction in stock outs, improved on-time deliveries/services, increased manpower productivity, on-line information availability for quick decision making.

However, failure on the part of the Company to ensure complete mapping of business rules and control designing resulted in non-integration of modules, dependence on legacy system and other utilities, manual intervention and duplication of work. Further, due to the lack of input, validation and proper supervisory controls over the input and processing of transactions, the system is prone to entry of incomplete, redundant, irrelevant and unauthorized data. Thus, the very objective of work automation from

implementation of ERP system is defeated and the desired objectives could not be achieved.

The matter was reported to the Ministry in June 2010; reply was awaited (February 2011).

7.5 Setting up dedicated manufacturing facilities without firm commitment

The decision of the Company to set up dedicated facilities for undertaking export orders without firm commitment or equity participation with P&WC was injudicious, resulting in blocking up of funds to the tune of ₹ 53.57 crore and infructuous expenditure to the tune of ₹ 46.97 crore.

Pratt & Whitney, Canada (P&WC), the manufacturer of Aero-Engines, expressed their interest (February 2006) for outsourcing critical rotating components[♣] to Sukhoi Engine Division, Koraput (the Division) of Hindustan Aeronautics Limited (Company). The Division agreed (July 2006) to manufacture these components by setting up of dedicated facilities and for undertaking export orders to P&WC. The Board approved (September 2006) the above proposal and sanctioned ₹ 74.99 crore towards capital commitment for procurement of machines.

The proposal inter-alia envisaged that:-

- the project would generate an export sale of ₹ 2234.45 crore (US$ 507.83 million) and a profit of ₹ 278.42 crore (US $ 63.28 million) over a period of ten years with a margin of 14 *per cent*, commencing from 2008-09 to 2017-18;
- the prices of these components would be valid for an initial period of three years;
- the Division was to procure the machines from the sources designated by P&WC to ensure quality and conformity with the proven parameters; and
- man power requirement would be around 152 personnel for execution of the export order.

Consequently, the Division entered into a Long Term Purchase Agreement (Agreement) with P&WC (February/ March 2007). Thereafter, the Division initiated procurement action from the sources designated by P&WC for imported machines worth ₹ 71.75 crore. However, the Division did not ensure that the investment in the project was either shared by P&WC, so that P&WC had stake in the project or there was firm commitment from P&WC for export orders so that the investment was recovered. The Agreement contained a clause for cancellation of orders by P&WC and payment for inventory and work-in-progress but not recovery for investment.

During July 2009, that is, after 27 months from the date of signing agreement, P&WC cancelled the orders placed on the Division on the pretext that their personnel were not comfortable with regard to manufacturing of critical rotating parts outside their direct supervision and the sustained concerns of their senior Management regarding their personnel security.

[♣] ***Turbine Discs (51 numbers), Compressor Discs (13 numbers) & Compressor Hubs (10 numbers) of Aero – Engines.***

As of 31 March 2010, the Division had procured all the machines/equipments required for dedicated facilities worth ₹ 88.79 crore[1] and these were installed and commissioned, except two machines valuing ₹ 21.74 crore. The Division apart from transferring 48 personnel to this project also recruited 46 personnel and incurred ₹ 35.02 crore towards manpower cost. The Division also incurred ₹ 11.95 crore towards interest on borrowed funds. By the time, the order was cancelled, 17 components were ready for trial operations.

Subsequently, the Division preferred a claim (May 2010) of ₹ 125.44 crore towards compensation for canceling the order. P&WC, however, did not respond to the claim. Consequent upon cancellation of order, eight CNC machines and one Broaching machine procured at ₹ 35.22 crore were being diverted to SU-30 project and the balance equipments including tooling, consumables and spares worth ₹ 53.57 crore were lying idle. Audit observed that the Division did not include a clause in the agreement that in case of cancellation of order there would be payment of compensation by PW&C to safeguard the Company's interests.

The Management in its reply (September 2010) contended that the facilities set up for P&WC were of general purpose and these would be used for all future programs; hence Division neither obtained any advance payment nor any financial commitment for these capital expenses from P&WC.

The contention of the Management was not convincing in view of the fact that dedicated facilities were created for undertaking export orders to P&WC and later these have become redundant.

Thus, the decision of the Company to set up dedicated facilities for undertaking export orders without firm commitment or equity participation by P&WC was injudicious which resulted in blocking up of funds to the tune of ₹ 53.57 crore and infructuous expenditure to the tune of ₹ 46.97 crore[2] till end of October 2010.

The matter was reported to the Ministry in September 2010; reply was awaited (February 2011).

---

[1] ***Imported machinery ₹71.75 crore; indigenous equipment ₹6.10 crore; Tools costing ₹8.54 crore; and Consumables & Spares ₹2.40 crore.***

[2] ***Manpower cost- ₹35.02 crore; Interest cost on borrowed funds- ₹11.95 crore.***