

# **CHAPTER II**

## **PERFORMANCE AUDIT RELATING TO GOVERNMENT COMPANY**

### **WORKING OF THE KERALA MINERALS AND METALS LIMITED**

## Chapter II

### PERFORMANCE AUDIT ON THE WORKING OF THE KERALA MINERALS AND METALS LIMITED

#### Executive Summary

##### **Introduction**

*The Kerala Minerals and Metals Limited is a PSU under the administrative control of Industries Department, Government of Kerala, engaged in the business of mining and processing of minerals and metals. The main product of the Company is Titanium Dioxide Pigment (TDP).*

*A Performance Audit covering the period 2008-13 was conducted to assess the economy, efficiency and effectiveness in production, procurement, marketing and financing activities of the Company.*

##### **Operational Performance**

*The profit of the Company decreased from ₹92.45 crore in 2009-10 to ₹62.59 crore in 2010-11 and from ₹154.08 crore in 2011-12 to ₹75.94 crore in 2012-13. The sales in quantity terms were steadily declining during the review period.*

##### **Cost of production**

*The cost of production showed an increasing trend during the five years ended March 2013. The cost of production per MT of TDP increased by 90 per cent from 2008-09 to 2012-13.*

##### **Production performance**

*Under-utilisation of the available capacity of the plants led to increased cost of production, declining market share, and accumulation of stock.*

##### **Procurement**

*The Company violated its own purchase procedure and procured materials of high value on limited tender basis, instead of inviting competitive open tenders and failed to ensure supply of ordered quantity at quoted price by the suppliers.*

##### **Marketing**

*The Company failed to take timely decision for determining prices with reference to available cost data and market trends. Retaining a higher price over a prolonged period led to reduction in sales and accumulation of stock.*

##### **Human Resources**

*Total production decreased during 2011-12 and 2012-13 compared to 2008-09 to 2010-11. However, the man hours utilised were 33 and 32 hours per MT during 2011-12 and 2012-13 as against 27 hours per MT of earlier years. The unproductive wages paid by the Company on account of lower labour productivity worked out to ₹18.71 crore.*

##### **Financial Management**

*The Company was extending loans and contributing equity to other loss making PSUs which were not recoverable.*

## 2.1 Introduction

The Kerala Minerals and Metals Limited (Company) was incorporated in February 1972 with the objective of carrying on the business of mining and processing of minerals and metals. The main product of the Company is Titanium Dioxide Pigment (TDP) which constitutes 88 *per cent* of total production and other minerals like Rutile, Zircon and Sillimanite constitute remaining 12 *per cent*. TDP is mainly utilised in the industries engaged in manufacture of paints, printing inks, plastic, paper, rubber, textile, ceramics, etc. Approximate annual demand of TDP is two lakh MT. The Company is the sole producer of Rutile grade TDP in India.

There are two Units in the Company *viz.*, Mineral Separation (MS) Unit and Titanium Dioxide Pigment (TP) Unit. The Company uses beach sand from which Ilmenite is separated in the MS Unit and this Ilmenite is used for manufacturing TDP in TP unit. The installed capacity of the TP unit is 40,000 MT per annum.

## 2.2 Organisational Setup

The Company is managed by a Board of Directors (BoD) consisting of 10 Directors nominated by Government of Kerala (GoK). The Managing Director is the Chief Executive Officer of the Company who is assisted by three Executive Directors. General Managers, Deputy General Managers and Assistant General Managers assist the Executive Directors.

## 2.3 Financial Position and Working Results

The financial position and working results of the Company for the five years from 2008-09 to 2012-13 is shown in *Annexure 8*. The authorised share capital of the Company as on 31 March 2013 was ₹35 crore against which the paid up capital stood at ₹30.93 crore wholly subscribed by the State Government. The accounts of the Company have been finalised up to 2012-13 and the reserves and surplus as on 31 March 2013 was ₹577.27 crore. The net profit of the Company was fluctuating from ₹46.74 crore in 2008-09 to ₹154.08 crore in 2011-12 and then declined to ₹75.94 crore in 2012-13.

## 2.4 Scope of Audit

The working of the Company was last reviewed and the results were included in the Report of the Comptroller and Auditor General of India for the year ended 31 March 2004 (Commercial), Government of Kerala. The Report was discussed by the Committee on Public Undertakings (COPU) and its recommendations were included in its 53<sup>rd</sup> Report (2006-2008). This Performance Audit was conducted to assess whether the Company was carrying out its production, procurement, marketing and financing activities in most efficient, economic and effective manner. The present Performance Audit covered the activities for five years from 2008-09 to 2012-13.

Deficiencies and operational issues are mentioned in the paragraphs related to respective functions.

### 2.5 Audit Objectives

The main objectives of the Performance Audit were to ascertain whether:

- Prudent material, marketing and financial management was in place;
- Utilisation of available resources including human resources and infrastructure was efficient, effective and economical and
- The execution of new projects was effective, efficient and economical.

### 2.6 Audit Criteria

The audit criteria, derived from the following, were adopted to assess the audit objectives:

- Annual Performance Budgets/Capital Budgets/Plan documents of the Company;
- Detailed Project Reports in respect of major capital works;
- Guidelines/norms prescribed for Materials Management;
- Marketing/Human Resource Policy of the Company;
- Policies and guidelines prescribed for Management Information System (MIS)/Internal Control/Internal Audit/Corporate Governance and
- Best practices prevailing in the industry.

### 2.7 Audit Methodology

The methodology adopted for attaining the audit objectives with reference to audit criteria consisted of Review of Agenda notes, Board Minutes and minutes of other committee meetings, tender files and procurement files, pricing and discount schemes, etc. MIS reports/Internal Audit Reports/Project Reports/Cost Audit Reports/Cost Records, financial statements, target and achievement and norms prescribed for performance of different streams of production were also analysed. In addition, an IT audit of the information system of the Company<sup>1</sup> was carried out using IDEA software. Audit also interacted with the functional heads and key officials of the different units/departments and issued audit queries for their comments.

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<sup>1</sup> The Company developed several need based Applications by using Development tool Power Builder and Oracle database from 1999-2000 onwards. It had computerized purchase, stores, production, marketing, finance, HR management, payroll and costing functions.

An Entry Conference was held with the Company/Government in April 2013, wherein the scope, objectives and approach of the Performance Audit were discussed. Field audit involving scrutiny of Company's records was conducted during March-August 2013. The findings were reported to the Management and GoK besides discussing in the Exit Conference held in November 2013. The reply of the Company has been received in November 2013 and considered while finalising this performance audit report.

## 2.8 Acknowledgement

Audit acknowledges co-operation and assistance extended by the staff and management of the Company in conducting this performance audit.

## 2.9 Audit Findings

The Audit findings are discussed in succeeding paragraphs.

### 2.9.1 Operational Performance

#### 2.9.1.1 Analysis of operating performance

The production and sales performance of TDP for the five years ending 2012-13 is indicated in the following *Table*:

**Table 2.1 : Production and Sales Performance**

Year	Production (MT)	Sale of TDP		Gross Sales of all minerals (₹ in crore)	Net Profit (₹ in crore)
		Qty in MT	Amount (₹ in crore)		
2008-09	35486	39158	442.45	463.59	46.74
2009-10	35908	37266	489.08	519.04	92.45
2010-11	36879	36614	552.13	584.69	62.59
2011-12	29117	24812	519.08	617.01	154.08
2012-13	26974	24883	511.07	610.93	75.94

From the above *Table* it could be seen that though the Company earned profit during these years, the sales in quantity of TDP was steadily declining except during 2012-13 when it increased marginally.

The Company's sales volume decreased from 39,158 MT in 2008-09 to 24,883 MT in 2012-13. The amount earned from the sale of TDP fell from 2011-12. The profit fluctuated touching a high of ₹154.08 crore in 2011-12 before again falling drastically to ₹75.94 crore in 2012-13.

The Company's share in domestic market also declined from 31,820 MT (63.16 per cent) in 2008-09 to 22,437 MT (12.38 per cent) in 2012-13 though demand of TDP in India increased from 62,000 MT in 2008-09 to 200,000 MT in 2012-13. The poor market share of the Company despite enjoying monopoly in domestic production is another indicator of its poor performance in keeping its production cost within competitive level.

The Company stated (July 2013) that the competition due to increase in imports as a result of reduction in import duties led to reduced sales. The reply was not acceptable as the rate of customs duty for TDP was five *per cent* during 2008-09 and enhanced to 10 *per cent* in 2009-10 which remained the same up to the period 2012-13.

### **2.9.1.2 Analysis of cost of production**

The sharp decline in profit during 2012-13 by more than 50 *per cent* when compared to the previous year was due to high cost of production of TDP. Though the selling price per MT increased from ₹86,000 in April 2008 to ₹2,12,000 in September 2011, the cost of production per MT also increased from ₹88,685 (2008-09) to ₹1,68,351 (2012-13). The cost incurred to generate one rupee of sale increased from ₹0.86 (2009-10) to ₹0.96 (2012-13).

Audit analysed the elements of cost per MT as per the cost statements for the period 2010-11 to 2012-13 and noticed that cost of production per MT increased by 45.87 *per cent* during the period and power, fuel and utilities alone increased 70.15 *per cent* during the same period.

To find out the minimum production required to match the cost with revenue (Breakeven Point-BEP) Audit worked out the contribution per MT of TDP and did a cost-volume-profit analysis from the Cost statements pertaining to TDP for the above three years and found that the production above the breakeven level, which leads to profit, has come down drastically from 13,987 MT to 6,114 MT. Any further reduction in production beyond BEP level would lead to loss. Audit observed that reduced production coupled with underutilisation of available capacity in turn increased cost per MT and reduced profit as discussed in detail in succeeding paragraphs.

Audit noticed that the recommendations of the COPU, while considering the Audit Report for the year 2004, to ensure regular functioning of the existing Cost Reduction Committee was not adhered to and Committee was not functioning during the period covered in the present audit.

## **2.9.2 Production Management**

### **2.9.2.1 Capacity utilisation**

The Company produces five different grades<sup>2</sup> of TDP using raw Ilmenite obtained from MS unit and outside purchase. The capacity utilisation level of 40,000 MT was decreasing from 2011-12 onwards as shown below:

<sup>2</sup> RC800, RC800PG, RC808, RC813 and RC822.

**Table 2.2: Capacity utilisation**

Year	Installed Capacity <sup>3</sup> (MT)	Targeted production (MT)	Actual Production (MT)	Percentage of actual production to	
				Installed capacity	Targeted production
2008-09	40000	38779	35486	88.72	91.51
2009-10	40000	38082	35908	89.77	94.29
2010-11	40000	41167	36879	92.20	89.58
2011-12	40000	34640	29117	72.79	84.06
2012-13	40000	32250	26974	67.44	83.64

The major reasons for shortfall in production were inefficient operation of plants and excessive down time<sup>4</sup> as discussed in paragraph 2.9.3. The low capacity utilisation increased the cost per MT as explained below:

**2.9.2.2 Under-absorption of fixed cost due to underutilisation of capacity**

Fixed cost like depreciation, employee costs, administration overheads remain the same irrespective of the quantity produced. Therefore, capacity utilisation needs to be maximised to minimise cost of production per MT. Audit, however, noticed that the capacity utilisation during 2011-12 and 2012-13 was 72.79 per cent and 67.44 per cent respectively as compared to the average capacity utilisation of 90.23 per cent during the three years from 2008-09 to 2010-11. The low capacity utilisation resulted in increase in cost per MT of TDP and consequent unabsorbed cost of production amounting to ₹65.36 crore during the two years 2011-13.

Analysis of consumption of power during the review period revealed that during the first three years the power consumption was 1817 units per MT on an average but during 2011-12 and 2012-13 the power consumption per MT increased to 2141 units and 2235 units respectively due to low capacity utilisation. This resulted in excess consumption of 20.65 Million Units (MU) at a cost of ₹ nine crore<sup>5</sup>.

The Company replied (November 2013) that the decrease in production during 2011-12 and 2012-13 was due to shortage of raw Ilmenite and that extra cost was not incurred in absolute terms.

The reply was not acceptable as the Management is responsible for timely procurement of Raw Ilmenite/Beneficiated Ilmenite so as to avoid plant shut down. Further, the low capacity utilisation was also due to break-down of different plants in the TP Unit. The under-absorption of fixed overheads due to low capacity utilisation ultimately resulted in increase in unit cost of production.

<sup>3</sup> Based on the capacity of U 400 Plant from which raw pigment converted to finished pigment.

<sup>4</sup> Breakage of production.

<sup>5</sup> Worked out on the basis of average cost of power.

### 2.9.3 Production Performance

#### 2.9.3.1 Performance of Mineral Separation Unit

The Company had a Mineral Separation (MS) Unit with a capacity to produce 53,000 MT of Raw Ilmenite per annum from the raw sand. Heavy minerals like Rutile, Zircon and Sillimanite are also recovered.

The Company had its own laboratory to analyse the recoverable mineral content in the raw sand fed into the Wet/Dry Mills. The Company, however, had not fixed any standard for recovery of the minerals from the raw sand processed. Audit worked out the quantity of recoverable minerals from the total quantity of 5,31,993 MT raw sand processed in the Dry Mill based on laboratory report prepared at the time of loading different lots and compared it with the actual recovery. Audit found that there was gross under recovery of different minerals valuing ₹670.48 crore.

The Company replied (November 2013) that there was no short recovery of Ilmenite as the plant was designed for 90 *per cent* recovery of Ilmenite. But based on the design parameters of the Plant, the shortfall in recovery of other minerals resulted in loss of ₹45.89 crore.

However, with better production measures, loss of ₹45.89 crore could have been avoided.

#### 2.9.3.2 Performance of Titanium Dioxide Pigment plant

The production of TDP from raw Ilmenite involves the following four different processes and routed through following four plants:

**Table 2.3: Production process and Capacity**

Name of plant	Process involved	Production capacity per annum in MT
IBP	Beneficiation of raw Ilmenite. This consists of equipment for reduction of raw Ilmenite in Roaster, leaching of reduced Ilmenite in Digesters and conversion of leached Ilmenite to Beneficiated Ilmenite (BI) in Calciner	55000
U 200	Chlorination of BI to Titanium Tetrachloride (Tickle)	90000
U 300	Oxidation of Titanium tetrachloride to raw pigment	38000
U 400	Conversion of raw pigment to finished pigment	40000

The deficiencies noticed by Audit in the functioning of these plants<sup>6</sup> are summarised below:

<sup>6</sup> except U300



➤ ***Chlorination Unit (U 200)***

In the Chlorination unit (U 200) of TDP, Beneficiated Ilmenite is routed through chlorine and calcined petroleum coke at 800° – 900° to obtain Titanium Tetrachloride (Tickle). Impurities are removed and further treated with mineral oil and distilled to obtain pure Tickle.

As per norms, 0.535 MT of BI is to be fed in to U200 plant to produce 1 MT of Tickle. Based on this, out of 1,20,755 MT of BI processed, the Company should have produced 2,25,709 MT of Tickle during the three years period from 2010-11 to 2012-13. Due to increase in impurities in BI the actual production was, however, only 2,19,739 MT resulting in loss of production of 5,970 MT of Tickle valued at ₹22.77 crore<sup>7</sup>.

It was replied (November 2013) that the norm for tickle production was based on consumption of Q Grade Ilmenite having low percentage of metallic impurities. The decline in rate of production of tickle was attributed to procurement of raw Ilmenite having higher percentage of impurities from private parties when compared to Q Grade raw Ilmenite obtained from Company's mine.

The fact, however, remained that the Management failed to explore procurement from other sources like Indian Rare Earths Limited having better quality of raw Ilmenite for processing in the Plant.

➤ ***Titanium Dioxide Pigment Finishing Unit (U400)***

In the TDP finishing Plant, the raw pigment slurry obtained from Oxidation Unit (U300) is passed through different sub-sections viz., sand milling and classification, treatment with various chemicals, filtration, drying, micronisation, scrubbing, cooling and bagging the finished TDP.

There was low capacity utilisation of the U400 Plant. The major reason was shortage of input feed resulting from shortage of Raw/Beneficiated Ilmenite as well as shutdown in the upstream plants. The loss of margin due to lack of input feed of raw pigment slurry for the five years ending 2012-13 was ₹96.84 crore as shown below:

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<sup>7</sup> Valued at the rate of ₹38.145 being average of cost of production of Tickle during the period 2010-11 to 2012-13

Table 2.4 : Loss of margin

Period	Loss of stream hours <sup>8</sup> due to lack of input feed	Equivalent Loss of Production (@ 5.75 MT per hour)	Average Margin (₹ per MT)	Loss of Margin (₹ in crore)
2008-09	813	4675	15597	7.29
2009-10	715	4111	27652	11.37
2010-11	700	4025	19712	7.93
2011-12	2270	13053	40927	53.42
2012-13	3863	22212	7578	16.83
<b>Total</b>	<b>8361</b>	<b>48076</b>		<b>96.84</b>

The Company accepted (November 2013) that the major reason for the low capacity utilisation of the U400 Plant was shortage of feed material as well as shut down in the upstream plants.

### 2.9.3.3 Inefficiencies in the operation

On analysing the operational performance, Audit found several operational inefficiencies contributing to increase in cost of production as detailed below:

#### ➤ Excessive down-time

A detailed analysis of the down time of each of the production plants, from IBP to U400 with reference to the actual stream hours<sup>9</sup> available during the five years up to 2012-13 revealed excessive down time in each of the plants. Considering the achievable 297 days per annum of operation of IBP Calciner, normal downtime worked out to 68 days<sup>10</sup> per annum. Similarly, achievable operation of Pigment Production Plant (U200, U300 and U400) was 311 days per annum and normal downtime worked out to 54 days per annum. As the Company had to incur fixed overheads irrespective of the number of hours the plant operated, the unproductive fixed overheads incurred amounted to ₹64.21 crore<sup>11</sup> as detailed in *Annexure 9*.

The reasons for excessive down times were shortage of BI, frequent repairs and problems in U200 Plant.

#### ➤ Shut down of U300 on account of problems in U200

Chlorine gas liberated during oxidation in U300 is used in U200 for chlorination.

<sup>8</sup> Amount of time that the stream remains inoperative.

<sup>9</sup> There are two production lines in all plants except U400. The Company works in three shifts and stream hour per day is  $24 \times 2 = 48$  hours.

<sup>10</sup> 365-297

<sup>11</sup> ₹25.55 crore in IBP, ₹9.02 crore in U200, ₹10.34 crore in U300 and ₹19.30 crore in U400 Plant.

In the absence of storage, both these plants have to be operated simultaneously and any problem in U200 forces to shut down U300 also.

Audit noticed that the shutdown in U300 plant due to problems in U200 plant had a generally increasing trend during the five years ended 2012-13. The total down time in U300 plant during the review period due to problems in U200 was 6995 hours resulting in loss of production of 17,086 MT Raw pigment valued at ₹192.61 crore. This was attributed to the increase in frequency of the bed draining<sup>12</sup> of chlorinators due to impurities/high silica content in BI. Audit, on further verification, noticed that the downtime in U300 Plant was disproportionate to the downtime in U200 plant due to bed draining of chlorinators.

Audit recommends that the Company should explore the possibility of creating facilities for liquefying and storing chlorine gas liberated from U300 plant.

The Company while acknowledging the audit recommendation stated (November 2013) that the chlorine gas liberated at U 300 is a mix of gases such as chlorine, nitrogen, oxygen, carbon dioxide etc and the mix cannot be technically liquefied.

The reply was not acceptable since the Company was purchasing liquid chlorine.

➤ **Failure to replace Tickle Pre-Heaters**

The Central Power Research Institute (CPRI), Bangalore, after conducting energy audit reported (February 2008) that the thermal efficiency of the Tickle Pre-Heaters used in U300 Plant was as low as 4.35 *per cent* and recommended to replace the existing with energy efficient ones to achieve considerable reduction in LPG consumption.

The Original Equipment Manufacturer (OEM) for the tickle pre-heaters, Selas Fluid Processing Corporation (SFPC), USA, offered (August 2010) furnace with guaranteed thermal efficiency of 76 *per cent* which would enable savings of 975 tons of LPG per annum and the landed cost of two furnaces was around ₹8.90 crore. Ignoring the possibility of huge savings in the consumption of LPG, the Company did not initiate effective action for replacement of the tickle pre-heaters even after a lapse of more than five years. The failure in replacement of the pre-heaters deprived the Company of the benefit of savings in cost of LPG to the extent of ₹13.24 crore<sup>13</sup> from August 2010 to March 2013.

It was replied (November 2013) that the e-tender for the tickle pre-heaters was floated (August 2013) and due to lack of offers the validity of the same has been extended up to December 2013.

**2.9.3.4 Excess Consumption of Chemicals**

➤ **Hydrochloric Acid**

The raw Ilmenite is first processed in the Rotary Roaster in the Ilmenite

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<sup>12</sup> Removal of impurities from the chlorinator vessel.

<sup>13</sup> 975 MT x 2 years 8 months x (average rate of ₹ 50945) = ₹13.24 crore.

Beneficiation Plant (IBP) to get reduced Ilmenite. The reduced Ilmenite is then leached in the Digesters using Hydrochloric Acid. The spent Hydrochloric acid is regenerated in the Acid Regeneration Plant and is used again in the Digesters. As the regenerated acid would be of lesser concentration, Hydrochloric acid with higher concentration procured from external sources is used as makeup acid to improve the concentration of acid used for leaching.

The norm fixed for usage of makeup Hydrochloric acid for the production of one MT of Beneficiated Ilmenite (BI) was 0.65 MT whereas the actual consumption during the year 2008-09 was 0.84 MT. The Company raised the norm to 0.85MT in the subsequent year. Even after revision of the norm, the actual rate of consumption during 2009-10 to 2012-13 ranged from 0.94 MT to 1.30 MT which far exceeded the norm. The excess consumption for the four years from 2009-10 to 2012-13 was 34,160 MT resulting in extra expenditure of ₹9.94 crore<sup>14</sup>.

The Company stated (November 2013) that higher consumption of Hydrochloric Acid was due to low quality of outsourced Ilmenite and action has been initiated to overcome the raw material shortage.

Audit noticed that during the four years period upto 2012-13, the Company processed 2,18,241 MT of Ilmenite. Out of this, purchase from outside was only 46,312 MT (21 *per cent*) and rest was met from own production of MS Unit. Further the Company was aware of excess iron content in outsourced Ilmenite and had fixed higher norms.

➤ **Liquid Chlorine**

The BI obtained from IBP is subjected to chlorination in the U 200 Plant to produce Titanium Tetrachloride (Tickle). The Tickle when subjected to oxidation in the U 300 Plant produces raw Titanium Pigment. The gaseous chlorine liberated during the oxidation process is recycled to U 200 Plant.

The norm fixed by the Company for usage of makeup chlorine<sup>15</sup> for the production of one MT of tickle is 0.10 MT. The actual rate of consumption of the chlorine exceeded the norm showing an increasing trend during the last five years ending 2012-13 and ranged from 0.11 MT to 0.14 MT. The excess consumption during the above period was 7135 MT of Liquid Chlorine resulting in extra expenditure of ₹4.90 crore<sup>16</sup>.

The Company replied (November 2013) that the naturally occurring ferrous form of iron in the outsourced raw Ilmenite which was carried over in the BI led to the excess consumption of makeup chlorine. The fact, however, remains that the failure of the Management in procuring raw Ilmenite having required quality resulted in the excess consumption of chemicals.

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<sup>14</sup> Worked out on the basis of weighted average purchase rate.

<sup>15</sup> Chlorine purchased from external sources.

<sup>16</sup> Worked out on the basis of weighted average purchase rate.

### **2.9.3.5 Other deficiencies**

#### **Premature failure of new Refractory lining for Chlorinator**

The U200 Plant consists of three chlorinators. The refractory lining of the chlorinators was being done using indigenous bricks of silica and alumina costing ₹14.40 lakh. In order to extend the life of the refractory linings and to ensure simultaneous and continuous operation of the three chlorinators, the Company decided to replace the indigenous bricks with electro cast zirconia based bricks on experimental basis without ascertaining its technical suitability. The Company procured the zirconia based bricks at a cost of ₹96.95 lakh from SEPR Refractories, Palakkad on nomination basis and the relining was completed in March 2012. Though the firm assured a minimum life of one year, the Company did not obtain any guarantee from the firm.

On putting the chlorinator into operation (April 2012), there was increase in internal temperature and the chlorinator could be operated only at a lesser load. Consequently, the average production rate was only 6.34 MT of tickle per hour as against the rate of 6.67 MT per hour from other chlorinators. During the above period (April – October 2012) the chlorinator was under shut down for 55 days. The refractory lining failed prematurely in October 2012. Request of the company to replace the defective material was also not acceded to by the supplier. Thus, the operational life obtained from the new refractory lining was only 150 days as against the minimum assured life of one year. Thus going for the new refractory lining without assessing its technical suitability and without insisting on performance guarantee resulted in unproductive investment of ₹96.95 lakh.

The Company replied (November 2013) that the new refractory lining for chlorinators was only an experimental effort and that legal action was proposed against SEPR.

Audit, however, observed that the selection of the refractory material as well as the supplier was purely arbitrary without resorting to global tender. The progress in legal action proposed against SEPR was awaited (December 2013).

#### **2.9.4 Project Management**

The Company had implemented following three projects during the period covered in audit:

**Table 2.5: New projects**

Sl. No	Name of project	Total cost (₹ in crore)	Objective
1	Capacity Augmentation of IBP	29.41	Self-sufficiency in BI
2	Zircon Silliminate Plant	16.99	Improvement in Recovery of Heavy Minerals
3	Effluent Treatment Pond	37.24	Effluent storage

Audit findings on the above projects are summarised below:-

#### **2.9.4.1 Capacity Augmentation of Ilmenite Beneficiation Plant**

The plant was initially equipped with a stream of one Roaster, one Calciner and four Digesters with a total production capacity of 37,000 MT per annum of Beneficiated Ilmenite (BI).

During the period 2003-2008, four more Digesters were procured and commissioned. As the number of Digesters in operation became eight, the Company initiated (October 2008) a project for augmentation of capacity by procuring one Roaster and one Calciner and allied equipments at an estimated cost of ₹32.37 crore (actual cost ₹29.41 crore). Though additional stream of one Roaster, one Calciner and four Digesters had enhanced the production capacity to 74000 MT of BI, the Company restricted the capacity augmentation to 55,000 MT due to limitation in the capacity of the existing Acid Regeneration Plant (ARP) for processing spent Acid. Though the capacity augmentation was targeted by January 2010, the project could be commissioned only in February 2011 mainly due to the delay in completion of civil and structural works. The delayed commissioning of the additional stream resulted in extra expenditure of ₹6.13 crore<sup>17</sup> due to procurement of 11,266 MT of BI from private firms.

A review of production performance of the plant during the five years ending 2012-13 revealed that the capacity utilisation of the plant in 2008-09 was 32,125 MT (86.82 per cent). While operating the plant with two streams during 2011-12 and 2012-13, actual production of BI was only 32,301 MT and 36,126 MT respectively and remained less than 50 per cent of the production capacity. Moreover, the Company had to procure 5611 MT of BI from outside sources at an average cost of ₹50,675 per MT against which the cost of production was ₹35,089 per MT only even after the capacity augmentation resulting in extra expenditure of ₹8.75 crore<sup>18</sup>.

The underutilisation of the IBP after the capacity augmentation also resulted in steep increase in consumption of furnace oil during the last two years ending 2012-13. The excess consumption of furnace oil during 2011-12 and 2012-13

<sup>17</sup> 11266 MT x ₹ 5444 ( difference between external purchase price and variable cost of BI from IBP).

<sup>18</sup> 5611 MT x ₹ 15586 (being the difference between external purchase price and variable cost of BI from IBP).

compared to that during 2010-11 worked out to 974.67 KL resulting in extra expenditure of ₹3.56 crore.

It was stated (November 2013) that the original plant had a capacity to produce 30,000 MT of BI only. The Company also admitted the excess consumption of furnace oil.

The above contention was not acceptable. As per the Detailed Project Report (DPR) for the capacity augmentation, the IBP Calciner had the total capacity to produce 37,000 MT of BI. Further, procuring 5611 MT of BI from outside sources was not justified after augmentation of the capacity.

#### **2.9.4.2 Zircon Silliminate Plant.**

The Company initiated (October 2008) the project for modification of the existing Zircon plant at an estimated cost of ₹21.05 crore to increase the rate of recovery of Zircon from 8-12 *per cent* to 40 *per cent* and for recovery of Silliminate. Audit found that the Zircon-Silliminate Plant scheduled to be completed by April 2010 was put into operation only in December 2010 due to delay in completion of civil and structural works by the contractor and consequent delay in installation of plant and equipments. Further, problems in the froth floatation system were also occurred. The short recovery of Zircon and Silliminate resulted in loss of ₹67.84 crore.

The Company replied (November 2013) that the Plant was completed within a period of 14 months as against the scheduled time of completion of 15 months.

The reply was not tenable as the targeted period of 15 months was to be reckoned from the award (December 2008) of consultancy agreement.

#### **2.9.5 Effluent Treatment**

Wastes in the form of liquid, gas and solid are generated during the manufacturing process of Titanium Dioxide. The major wastes in terms of volume are (i) slurry generated from Effluent Treatment Plant (ETP) and (ii) iron oxide slurry from the ARP.

When the ponds for storing iron oxide and ETP slurry were on the verge of filling up, the Company constructed new secured landfills (ponds constructed above surface) at the instance of Kerala State Pollution Control Board (KSPCB) and Supreme Court Monitoring Committee (SCMC). The new ponds for the storage of iron oxide generated in the ARP and the ETP sludge were commissioned in March 2009 at a cost of ₹37.24 crore.

As the pH value of the water samples taken from around the factory premises was low and the area has become acidic, the Chairman, KSPCB directed (July 2011) the Company to take preventive measures. However, the measures were yet (December 2013) to be fully taken by the Company.

Many public interest litigations have been filed against the Company alleging that its functioning was without necessary safeguards for environmental protection, without compliance to statutory directions and that the Company was causing hazard of radiation, depletion of ground water, deprivation of the water for local people and pollution of surface, sub-surface and groundwater.

Further, the Central Pollution Control Board (CPCB) had directed (September 2012) the Company to carry out an environmental investigation through a reputed institution on the four non-capped old ponds to assess environmental risks, damages occurred and the need for rehabilitation. The environmental investigation was not yet completed (December 2013).

The iron oxide pond and more particularly the ETP pond are on the verge of filling up within one or two years. Effective steps have to be taken at the earliest for disposing of the iron oxide (hazardous waste) and ETP wastes stored in its premises as otherwise the accumulation would create serious risks on sustainability of the Company.

The Company replied (November 2013) that efforts were taken for disposal of iron oxide to competent end users by inviting tenders and action initiated for installation of a suitable filter system for dewatering iron oxide for dumping it to the new pond. Further efforts were also underway for marketing ETP solids.

Considering the adverse environmental impact and pending litigations, Company needs to address the issue urgently.

## **2.9.6 Purchase and Inventory Management**

### **2.9.6.1 Procurement of raw material and stores**

#### **System of procurement**

The Purchase procedure approved by the BoD in September 2001 regulates the purchase of raw materials, stores and spares so as to make purchases at the most competitive rates through fair competition. As per the purchase procedure, an exhaustive vendor list shall be prepared covering all the 38,608 items of materials required by the Company. The Company follows limited as well as open tenders based on the nature of purchase.

- Limited tenders - for purchase of items valuing less than ₹10 lakh with minimum three quotations.
- Open tenders –for all annual contracts and all purchases above ₹10 lakh or if the approved vendor list for an item to be procured by limited tender is not sufficient to get competitive response.

For all major purchases, the Company assesses the annual requirement and orders are placed for staggered delivery in 12 months. The Materials department invites tenders and the Tender Committee consisting of representatives from Materials, Finance and user Departments evaluates the bids and finalise the tender. The



Materials department places orders with the successful bidder with the approval from the Managing Director. This is not required to be approved by the BoD.

### **System deficiencies**

The Procurement activities of the Company were managed by a computerised system using Oracle software and Power Builder application. Audit analysed 65,584 enquiries, 87,360 quotations, 37,437 purchase orders and 84,874 Stores Receipt Notes using IDEA software to check the effectiveness of the controls in the system which revealed the following deficiencies:

#### ***2.9.6.2 Failure to develop Vendors for all items***

The Vendors list prepared by the Company contains vendors for only 15,287 items as against 38,608 items of materials required by the Company. Further, only one vendor each was registered for 4,903 items and two each for 1,929 items. The Vendor lists were not being updated periodically. Due to the absence of sufficient Vendors, competition could not be ensured. Audit noticed that out of the 13,950 limited enquiries issued to approved vendors during the period covered in audit, 3,181 enquiries were sent to one vendor only and 1151 enquiries were sent to two vendors only. Against 3181 single enquiries made, 3108 quotations were received of which 2609 quotations were accepted and purchase orders were issued. Thus, purchases worth ₹45.04 crore were made on single quotations without ensuring competitiveness of the rates.

The Company replied (November 2013) that many items in the Management Information System had become redundant and updation of the same was in progress and vendor development was also given priority. It was further stated that the purchases were made on single bid basis where only Original Equipment Manufacturer (OEM) supply could be possible.

However, the fact remained that the Company was violating its own purchase procedure and competitiveness was not ensured in all purchases.

#### ***2.9.6.3 Procurement through limited tenders violating the monetary limit***

Though the monetary limit for limited tenders was restricted to ₹10 lakh, out of 2609 purchase orders placed on the basis of limited tenders, value of 69 Purchase Orders placed ranged between ₹10 lakh and ₹203.07 lakh as per database maintained in Oracle, violating the purchase procedure and total purchase value stood at ₹23.94 crore. Thus, these purchases were made without ensuring competitiveness of the rates obtained and resulted in irregular procurement of materials.

Company replied (November 2013) that spare equipments/subsequent replacements for spare parts supplied by OEMs were to be procured from the same party on limited tender basis for interchangeability even though the value exceeds ₹10 lakh.

However, Audit noticed that the Company did not have an approved policy for such procurement and even the spares having approved drawings and high value

equipments like motors, front-end loaders etc, were also purchased from single sources without floating open tenders.

#### **2.9.6.4 Extra expenditure due to deficient procurement**

On scrutiny of records relating to procurement of raw material, stores and spares, Audit noticed various deficiencies leading to extra expenditure of ₹21.14 crore in the procurement as discussed below:

##### **➤ Failure to execute agreement and consequent non-recovery of extra cost on risk purchase**

Audit noticed that the Company did not have a system of executing agreement with the suppliers and as a result some of the suppliers, after supplying a portion of the ordered quantity, stopped supplies citing increase in market prices. Resultantly, the Company procured the short/non-supplied material at higher rates from alternate sources incurring extra expenditure of ₹16.53 crore in the procurement of raw materials and chemicals during the period 2008-09 to 2011-12 as detailed in *Annexure 10*.

The Company while accepting the audit finding intimated that valid agreements would be executed with suppliers in future.

##### **➤ Undue delay in finalisation of tender and consequent non-acceptance by the party**

The offers were valid for a specific period stipulated in the bid and the Company should have finalised the tenders and place orders within the validity of the offers. Audit, however, noticed instances where the Company failed to finalise the tender within the validity period and orders were placed after the expiry of the validity period. As a result the bidders refused to accept the order and the Company had to procure the material at higher rates obtained in subsequent tender/next higher bidder. Failure of the Company to place orders within the validity period of the offers resulted in extra expenditure of ₹3.38 crore in purchase of four items as detailed in *Annexure 10*.

The Company replied (November 2013) that the Company with a unique process and the resultant requirement for raw materials with stringent specifications had to maintain an ethical and cordial relationship with the available suppliers to ensure that all the sources are accessible at all times. In case of sodium silicate, the order could be placed only after the completion of supply in the previous order and in case of Calcined Petroleum Coke (CPC), the party provided a limited validity period for the prices. In respect of magnesium, it was stated that the offer of Minerals and Metals Trading Corporation (MMTC) was not valid for three months as stipulated in the bid and that the stipulated technical specifications were not confirmed by MMTC.

However, the fact remained that the Company could not obtain the validity period extended so that a valid purchase order could be placed. In respect of procurement

of magnesium, Company could have obtained confirmation regarding the technical specifications after clarifying with MMTC.

➤ **Extra expenditure due to allowing price increase though the prices were firm**

The purchase orders stipulated that the prices were firm during the tenure of the contract. The Company, however, allowed enhancement in prices as demanded by the suppliers of petroleum coke and liquid oxygen during the validity period. The extra expenditure incurred on account of this worked out to ₹1.23 crore as detailed in *Annexure 10*.

It was replied (November 2013) that the price revision for NPF grade petcoke was allowed on the basis of the terms of agreement and based on the price of M/s Reliance, the only producer of the material in the country. Price revision for Liquid oxygen was made for a major additional quantity required on urgent basis due to break down of the captive oxygen plant.

Audit, however, noticed that the terms of tender with respect to validity of price had been subsequently reduced from 12 months to three months and repeat orders were given without floating fresh tender and also the Company has not instituted any mechanism to monitor the price of M/s Reliance. The price revision for liquid oxygen was not on any additional quantity but on the original ordered quantity.

➤ **Deficiencies in vendor updation and vendor evaluation**

Audit noticed instances where the registered vendors backed out from their offer citing errors in their original offer. As a result the Company had to procure the spares at higher rates from the same/alternate vendors incurring extra expenditure of ₹ 3.42 crore as shown below:

**Table No 2.6: Extra expenditure on purchase of spares**

Item	Original offer		Actual procurement		Quantity	Extra expenditure (₹ in crore)
	Name of Vendor	Rate (₹ in lakh)	Vendor	Rate (₹ in lakh)		
Radiant coil assembly	UNI Abex Alloy products	22.01	UNI Abex Alloy products	45.21	2 nos.	0.46
Inlet stand pipes	Titanium Tantalum Products	26.08	ASE Apparatebau GmbH	100.10	4 nos.	2.96
<b>Total</b>						<b>3.42</b>

The management while accepting the observation stated (November 2013) that the purchases were made from OEMs.

However, the fact remained that the original lower prices were quoted by the listed vendors and the purchase of radiant coil assembly was made from the same firm at higher rates and in case of inlet stand pipes, the lower rates offered by the

listed vendor was not honoured by the firm and hence extra expenditure had to be incurred.

**2.9.6.5 Failure to ensure quality of Calcined Petroleum Coke for regulating payment**

The Company uses Calcined Petroleum Coke (CPC) as fuel in the chlorination plant and the average consumption during the last five years was 9,926 MT per annum. During the five years ended 2012-13, the Company procured 49,631 MT of CPC with 3.5 per cent Sulphur and 1 per cent Ash at a total cost of ₹110.48 crore. Audit noticed that though the price of CPC was determined by the sulphur and ash content in it, the Company did not have a mechanism to ascertain the same in the CPC supplied and to regulate payments accordingly. Increase in the sulphur content and slippage to the lower grade having high sulphur and ash content would give a minimum price advantage of ₹3364 per MT to the supplier and the financial impact of the same would be ₹16.70 crore in respect of 49,631 MT procured.

The Company while accepting the observation stated (November 2013) that the Company did not have the facility to analyse sulphur content and action for outsourcing the same was in progress.

**2.9.6.6 General lapses in procurement**

Audit noticed following general lapses and deficiencies in the finalisation of tender and issuing of Purchase Orders:

- In the IT system, the lab module was not integrated with other modules to enable the system to generate the payment advices/debit notes to the suppliers based on the actual quantity accepted and the quality parameters as per the lab report.  
The Company while endorsing the audit observation replied (November 2013) that the existing system was designed in such a way that lab module was not integrated for the incoming materials. In the proposed higher end ERP integration would be possible.
- Penalty was not imposed on suppliers delivering inferior quality materials resulting in rejection after quality analysis so as to recover the expenditure incurred by the Company on chemical analysis and handling and storage of the materials.

The Company replied (November 2013) that in case of rejection of consignments the loading/unloading and transportation charges, if any, incurred by the Company are recovered from the supplier.

However the fact remained that no specific clause for penalising the supply of inferior quality supplies were incorporated in the terms and conditions of purchase order in order to restrict the supply of substandard materials which had to be accepted with deviations in times of scarcity for the continuous operation.

### 2.9.6.7 Inventory control

On an analysis of master table of materials, stores and spares, Audit observed that out of the 38,608 items:

- ❖ Stock levels (maximum/minimum and reorder levels) were not fixed for 28,118 items.
- ❖ Stock of 2170 items for which stock levels were fixed exceeded the maximum level. The cost of the excess stock worked out to ₹4.98 crore.
- ❖ Stock of 2306 items for which minimum level was fixed fell short of the minimum level.
- ❖ Classification based on the consumption value of inventory was not specified for 22,022 items.
- ❖ Classification based on the criticality of inventory such as Vital, Essential and Desirable (VED Classification) was not specified for 21,937 items
- ❖ 12,672 items valuing ₹13.44 crore were not issued for consumption for the last five years and 1345 items valuing ₹2.71 crore were not issued for consumption for the last three years.
- ❖ Paper bags were overstocked and the stock as on 31 March 2013 was sufficient to cater to the requirement upto 13 years as per the current level of production.

The Company while accepting the audit findings replied (November 2013) that a committee has been formed for reviewing all non-moving items and the stock of paper bags could be depleted within two-three years based on projected sales and further purchases will be made only after considering the present stock.

## 2.9.7 Marketing Management

The Company is the only producer of Rutile grade TDP in India and has been selling five grades of pigment in the domestic as well as foreign market. The low import duty (10 *per cent*) on TDP caused increased competition from multinational companies in the domestic market. In domestic market the products are being sold through Stockists as well as directly.

### 2.9.7.1 Sales Performance

The Company has not adopted any long term marketing policy and did not have a system of marginal costing for facilitating effective marketing and pricing decisions. The marketing measures including the price fixation is being generally reviewed and fixed on a monthly basis by Marketing Promotion Committee<sup>19</sup> (MPC). The Company's marketing can be broadly classified into domestic and exports.

The table below compares the Company's actual sales with budgeted sales of TDP for five years ended 2012-13.

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<sup>19</sup> Consisting of The Managing Director, Executive Directors (Finance/TSP/MS), Joint General Manager (T), HOD(Finance) and HOD(Marketing)

**Table No 2.7: Comparison of actual and budgeted sales**

Year	Budgeted sales (MT)	Production (MT)	Actual Sales (MT)			Percentage of actual sales to budgeted sales
			Domestic	Export	Total	
2008-09	44352	35486	31820	7338	39158	88.28
2009-10	40452	35908	32982	4284	37266	92.12
2010-11	40452	36879	30760	5854	36614	90.51
2011-12	39064	29117	20721	4091	24812	63.52
2012-13	39064	26974	22437	2446	24883	63.70

Source: Annual Accounts of the Company for respective years

As could be seen from the above *Table*, total sales showed a decreasing trend. The actual sales vs the budgeted sales also recorded gradual decline and reached 63.70 per cent in 2012-13 from 88.28 per cent in 2008-09.

The shortfall in achievement of target was mainly due to absence of an effective pricing policy, lack of synchronisation of sales plan with actual production, which ultimately led to non-execution of sales orders as discussed in paragraphs 2.9.7.2 to 2.9.7.4.

The Company replied (November 2013) that in a volatile market, it is bound to adopt flexible marketing strategies rather than long term policy and non achievement of target was not attributable to lack of synchronization of sales plan with production but due to the melt down of global economy in the recent times.

The reply was not acceptable as the demand for Titanium Dioxide in the domestic market increased from 61785 MT in 2008-09 to 2,00,000 MT in 2012-13 and Company's sales decreased from 39,158 MT to 24,767 MT.

### 2.9.7.2 Absence of pricing policy

The Company did not have a well defined pricing policy to regulate the prices considering the profit margin based on cost data available with the Company to achieve maximum sales. The MPC failed to analyse the variable/fixed cost and the profit margin per MT to take timely decision on fixation of selling price and instead fixed the prices after ascertaining the selling price of the competitors in the domestic market.

On an analysis of monthly sales and stock position, Audit noticed that the price of RC 822<sup>20</sup> registered an increase of 146.51 per cent from ₹86,000 (April 2008) to ₹2,12,000 (September 2011). However, the monthly domestic sales declined from 3378 MT (April 2008) to 1596 MT (September 2011). The MPC, however, pegged the price at ₹2,12,000 for a long period i.e. upto July 2012 and the monthly sales further declined to the minimum of 897 MT (September 2012) which led to piling up of stock upto 6785 MT (March 2013). When the price

<sup>20</sup> This grade constituted 80 per cent of total sales.

started declining in August 2012, the monthly domestic sales increased from 1021 MT to 3605 MT (March 2013).

Audit further noticed that the Company had a profit margin of ₹ 61,532 per MT at the selling price of ₹2,12,000 (2011-12) and the MPC should have reckoned this fact in order to avoid steep fall in sales and consequent accumulation of stock. In order to liquidate the stock the Company sold 684 MT (March 2013) at a negotiated average selling price of ₹1,39,314 per MT to three parties<sup>21</sup> as against the normal selling price of ₹1,60,000 per MT resulting in a loss of ₹1.41 crore.

The Company replied (November 2013) that to be competitive in market it requires market to market pricing strategy than a marginal cost/cost plus approach.

The reply was not acceptable since the Company had a profit margin of ₹61,532 per MT at the selling price of ₹2,12,000, and it could have further reduced the selling price to maintain the sales volume. When the Company reduced price in August 2012 to ₹2,06,000 and continued price reduction up to ₹1,60,000 in March 2013, the sales volume increased from 1021 MT to 3605 MT during the corresponding period.

### **2.9.7.3 Failure to plan production in line with sales order**

The U200 plant is having an installed capacity of producing 90,000 MT of Titanium Tetrachloride (Tickle) per annum. Though the Company produces tickle mainly for its captive use in the production of TDP, it also sells tickle to other firms based on the orders received. Audit noticed that though there was sufficient profit margin as well as spare capacity for producing Tickle, the Company did not execute the orders in full. The profit margin of Tickle, as per Cost Audit Report, during the review period ranged between ₹23,000 to ₹48,800 per MT. The position of actual production and sale of Tickle during the five years ended 2012-13 was as below:

**Table No 2.8: Production and sales of tickle**

Year	Installed Capacity	Actual Production	Under utilised capacity	Targeted sales	Sales order Received	Sales order Executed	Sales order Cancelled	Margin (₹ per MT)	Loss (₹ in crore)
(in MT)									
2008-09	90000	82857	7143	2000	919.61	909.36	10.25	36916	0.04
2009-10	90000	83642	6358	1200	738.35	717.5	20.85	33636	0.07
2010-11	90000	86232	3768	1200	2410.98	1822.54	588.44	23207	1.37
2011-12	90000	69235	20765	4400	3765.11	1893.31	1871.8	48836	9.14
2012-13	90000	64272	25728	4400	2215.95	2063.82	152.13	48954	0.74
<b>Total</b>	<b>450000</b>	<b>386238</b>	<b>63762</b>	<b>13200</b>	<b>10050.00</b>	<b>7406.53</b>	<b>2643.47</b>		<b>11.36</b>

<sup>21</sup> M/s Chimica, Italy, ESSAR International, Mumbai and Chemcoat India Limited, Thane

The Company was not able to achieve 60 per cent of the sales target for Tickle. Failure of the Company to plan production in line with the orders in hand despite sufficient capacity resulted in cancellation of orders and consequent loss to the extent of ₹11.36 crore.

The Company replied (November 2013) that though they could not sell tickle as per the sales orders received, that quantity was converted in to Titanium Dioxide Pigment.

The reply was not acceptable as the production capacity of Tickle was 90,000 MT per annum and actual production was only 69,235 MT and 64,272 MT during the last two years and the average stock of TDP was 5937 MT. In view of the tight competition in TDP market and good margin available from tickle sales, the cancellation of sales orders lacked justification.

#### 2.9.7.4 Failure to maintain minimum stock

On a test check of sales orders received by the Company, Audit noticed that the customers in their orders clearly mentioned delivery schedules (date-wise), the grade, quantity and location. Company, however, failed to plan production in line with the orders leading to cancellation of orders for 4286 MT of TDP during the five years ended 2012-13 as below:

**Table No 2.9: Demand and sales of TDP**

Grade	Orders received (MT)	Sales (MT)	Orders not Executed (MT)
RC822	118159	115732	2427
RC813	7094	5716	1378
RC800PG	14862	14486	376
RC808	1511	1430	105
<b>Total</b>	<b>141626</b>	<b>137364</b>	<b>4286</b>

The cancellation of orders was due to insufficient stock. Although RC 822 and RC 800 PG grades constituted more than 90 percent of the sales volume, the monthly stock of RC 822 ranged between 18 MT and 872 MT for 36 months and that of RC 800 PG ranged between 0 MT and 99 MT for 30 months during the period covered in audit. In respect of RC813 the monthly stock varied from 0 MT to 99 MT for 41 months during the review period.

Failure to maintain minimum stock of the TDP resulted in cancellation of sales orders to the tune of ₹11.53 crore during the last five years.

The Company replied (November 2013) that during a period of high demand it would be difficult to cater to the requirements of customers in a uniform manner and difficult to maintain buffer stock as required.

The reply was not acceptable as the Company was holding huge volume of stock of RC 822 during the last two years without maintaining minimum stock for the



other grades which ultimately resulted in cancellation of confirmed sales orders and loss to the Company.

### 2.9.7.5 Domestic vis-à-vis Export Sales

The Company had been exporting TDP and details of quantity sold, price per MT, margin per MT, etc., for domestic and export sales for the five years ending 2012-13 are as below:

**Table No. 2.10 Export and domestic sales**

Particulars	2008-09		2009-10		2010-11		2011-12		2012-13	
	Export	Domestic	Export	Domestic	Export	Domestic	Export	Domestic	Export	Domestic
Quantity sold (MT)	7338	31820	4284	32982	5854	30760	4091	20722	2330	22437
Average selling price/MT (in ₹)	96137	104201	107701	124264	134494	140759	156971	198843	148627	184491
Cost of sales (in ₹)	89838	88204	99538	96612	121924	121047	155449	156058	176913	176913
Margin per MT (₹)	6299	15997	8163	27652	12570	19712	1522	42785	(-)28286	7578

Source: Compiled by audit from the Cost Audit Reports.

The margin on export sales was much lower as compared to the domestic sales. The export of TDP during 2012-13 resulted in cash loss to the extent of ₹6.59 crore<sup>22</sup> as the export margin was negative during the year.

Company admitted (November 2013) the audit observation and stated that it was decided to partially meet the requirement of their export clients in order to maintain overseas presence that was already established.

## 2.9.8 Financial Management

### Loans /investment in other Public Sector Undertakings

The Company extended loans to the tune of ₹43.05 crore to four PSUs and investments to the extent of ₹35 crore in two PSUs as per the directions of the State Government during the period from 2008-09 to 2012-13. The total amount outstanding as on 31 March 2013 was ₹98.72 crore<sup>23</sup>.

Of the above, loan amounting to ₹3.05 crore was interest free. Though loan of ₹30 crore extended to Kerala State Textile Corporation Limited (KSTC) carried interest at seven *per cent*, KSTC had not paid any amount towards interest or principal so far. The loss of interest (at seven *per cent*) to the Company on this account worked out to ₹2.10 crore per annum.

<sup>22</sup> ₹ 28286 x 2330 MT.

<sup>23</sup> Loan – ₹ 63.55 crore and Investment – ₹ 35.17 crore.

Further, loan of ₹23.52 crore extended to different PSUs are doubtful of recovery, especially those<sup>24</sup> advanced to Kerala State Cashew Development Corporation Limited (₹9.78 crore) and Kerala State Cashew Workers Apex Industrial Cooperative Society Limited (₹2.36 crore). The Company had already written off ₹0.34 crore and provided ₹1.86 crore towards doubtful loans. The Company availed a Cash credit of ₹50 crore (availed ₹21.58 crore in May 2013) from Banks during the year 2012-13 for meeting its working capital requirements and incurred ₹0.87 crore towards interest.

The Company replied (November 2013) that the financial assistances were extended as per the direction of the Government and actions were already initiated to recover the amounts from the PSUs. It was also stated that though the sanctioned cash credit was ₹50 crore, the average availment was around ₹10 crore only.

However the fact remained that a major portion of the cash balance of the Company was eroded due to Government directions which was against the financial interest of the Company.

## 2.9.9 Human Resource Management

### 2.9.9.1 Payment of excess wages due to poor productivity

The Company had deployed 1125 employees on an average in TP Unit during the period covered in audit who were distributed among production, maintenance and administrative departments.

Audit reviewed the utilisation of manpower in Production department and found that the labour productivity had decreased in the last two years as detailed below:

**Table No. 2.11: Excess wages paid**

Year	Production of TDP (MT)	Capacity utilisation (per cent)	Normal man hours worked	Overtime hours worked	Total man hours	Man hours utilised per MT	Total wages paid (₹ in crore)	Excess wages (₹ in crore)
2008-09	35486	88.72	822056	145924	967980	27	30.06	0
2009-10	35908	89.77	782813	161197	944010	27	34.60	0
2010-11	36879	92.20	797712	190564	988276	27	40.91	0
2011-12	29117	72.79	786751	170202	956953	33	53.41	9.53
2012-13	26974	67.44	722060	150316	872376	32	55.57	9.18
<b>Total</b>			<b>3911392</b>	<b>818203</b>	<b>4729595</b>		<b>214.55</b>	<b>18.71</b>

As could be seen, the man hours utilised per MT of production was 27 during the first three years. When the production was reduced during 2011-12 and 2012-13 the man hours utilised increased to 33 and 32 hours per MT respectively. The

<sup>24</sup> These entities were incurring losses and running on budgetary support

unproductive wages paid by the Company on account of lower labour productivity worked out to ₹18.71 crore.

The Company accepted the audit observation and stated that the increase in man hours utilised was mainly due to the low throughput from the pigment production unit which was due to various reasons like raw material shortage and technical issues.

However, the fact remains that the management's failure in arranging the required raw materials and utilising the plant in optimum level has resulted in excess wages and the engagement of workmen on overtime could have been avoided.

#### ***2.9.9.2 Other deficiencies/irregularities***

A review of the position of manpower revealed that as on April 2013 there was a shortage of 368 employees in TP Unit and excess of 225 employees in MS Unit in workmen category. The pay rolls are managed using COBOL data base of THP system. Audit analysed 14,46,942 records using IDEA software and noticed the following deficiencies/irregularities:

As per the provisions of the Factories Act, 1948 and Kerala Factories Rules 1957, the total hours of work in any day shall not exceed 10 hours, total hours in a week including overtime shall not exceed 60 hours and total hours of overtime in a quarter shall not exceed 50 hours. If a worker is engaged for shift work continuously for three shifts, his next shift shall not commence before a period of 16 hours has been elapsed. The Company, however, engaged its employees on overtime violating the above provisions as detailed below:

- Out of the 1393 employees, 1156 employees worked on 2,42,848 days in excess of the prescribed maximum working hours of 10 per day.
- Overtime of 1,35,065 hours was allowed to 905 workers in 13,652 man days during off days.
- During the period of five years 1979 days compensatory off for continuous four or more shifts working was given to 134 employees. This had resulted in overtime of 31,664 hours.
- Instances of workers working for more than 56 hours in a week, overtime exceeding more than 50 hours in a quarter were also noticed.
- Overtime wages were to be calculated on the basis of 240 hours of work in a month whereas the Company reckoned 180 hours only. This was pointed out in the Report of Comptroller and Auditor General (Commercial) for the year 2009. This mistake has not been rectified so far (November 2013). The non-rectification of the method of calculation had resulted in an extra expenditure of ₹10.53 crore during these five years.

The Company replied (November 2013) that the restrictions imposed by the Factories Act on overtime work is not fully workable in the absence of leave reserve and off reserve and the requirement of manning the operation continuously. The mistake in method of calculation of the overtime wages could

not be rectified as the trade unions did not agree for any change in the existing practices.

The reply was not acceptable as the management failed to abide by the provisions of Factories Act and to deploy the available man power optimally.

### **Conclusion**

- **Under-utilisation of the available capacity led to increased cost of production, declining market share and stock accumulation.**
- **The existing infrastructure could not ensure the extraction of heavy minerals at the optimum levels.**
- **The Company violated its own purchase procedure and procured materials of high value on limited tender basis, instead of inviting competitive open tenders.**
- **The Company failed to ensure supply of ordered quantity at quoted price by the suppliers and allowed short/non supply of materials resulting in procurement of same at enhanced prices even from same suppliers.**
- **The Company failed to comply with the provisions of Factories Act and Rules while engaging employees on overtime and could not regulate the expenditure on this head in accordance with the level of production.**
- **The Company failed to synchronise the production according to sale orders and lost margin due to disposal of accumulated stocks at negotiated prices.**
- **There was lapse on the part of the Company in taking timely decision in fixation of price. Despite having a cost data it prolonged the higher price which adversely affected the sales and resulted in reduction in sales and accumulation of stock.**
- **Extension of loans to and investment in other PSUs resulted in blocking up of its funds in unproductive manner.**

### **Recommendations**

**The Company may:**

- **develop a mechanism for periodical assessment of cost of production with cost data and investigate the reasons for increase in cost of production;**
- **utilise the capacity of plants at optimum level to avoid under absorption of elements of cost especially in view of increasing power cost and employees cost;**
- **ensure that employees are engaged on overtime to utmost necessity and benefits are derived from such additional expenditure;**

- **make periodical revision of registered vendors and explore possibility of finding new vendors with price advantage through wide publicity or using of web enabled e-tendering system;**
- **incorporate a clause in open tenders and limited tenders for raw materials, stores and spares insisting the successful bidders to execute an agreement for uninterrupted supply and also make a provision for imposing penalty in case of breach and to keep the price fixed during the validity of agreement;**
- **should scrupulously follow the approved purchase procedures of 2001 and take action to make required modifications to ensure most competitive tenders, using of software for evaluation of tenders, etc. and**
- **should utilise the available cost data effectively, price the products to optimise the sales in view of competition and to avoid accumulation of stocks.**