FOURTEENTH KERALA LEGISLATIVE ASSEMBLY

COMMITTEE
ON
PUBLIC UNDERTAKINGS
(2019-2021)

NINETY FIFTH REPORT

(Presented on 1st July, 2019)

SECRETARIAT OF THE KERALA LEGISLATURE
THIRUVANANTHAPURAM
2019

FOURTEENTH KERALA LEGISLATIVE ASSEMBLY

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On

TRAVANCORE TITANIUM PRODUCTS LIMITED

(Based on the Report of the Comptroller and Auditor General of India for the year ended 31 March, 2014)

817/2019.

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COMMITTEE ON PUBLIC UNDERTAKINGS (2019-2021)

COMPOSITION OF THE COMMITTEE

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Members :

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Legislature Secretariat :

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Shri P. B. Suresh Kumar, Joint Secretary

Shri G. Harish, Deputy Secretary

Smt. Reji D. O., Under Secretary.

INTRODUCTION

I, the Chairman, Committee on Public Undertakings (2019-2021) having been authorised by the Committee to present the Report on its behalf, present this Ninety Fifth Report on Travancore Titanium Products Limited based on the Report of the Comptroller and Auditor General of India for the year ended 31st March, 2014 relating to the Public Sector Undertakings of the State of Kerala.

The aforesaid Report of the Comptroller and Auditor General of India for the year ended 31st March, 2014, was laid on the Table of the House on 23-3-2015. The consideration of the audit paragraphs included in this Report and the examination of the departmental witness in connection thereto was made by the Committee on Public Undertakings constituted for the years 2016-2019 at its meeting held on 6-12-2017. The recommendations of the Committee on the basis of audit para are included as Chapter I. In order to obtain more clarification, the Committee visited Travancore Titanium Products Limited on 20-12-2017. Recommendations of the Committee on the basis of the visit are included as Chapter II.

This Report was considered and approved by the Committee (2019-2021) at its meeting held on 19-6-2019

The Committee places on record its appreciation for the assistance rendered to them by the Accountant General (Audit), Kerala in the examination of the Audit paragraphs included in this Report.

The Committee wishes to express its thanks to the officials of the Industries Department of the Government Secretariat and Travancore Titanium Products Limited for placing the materials and information solicited in connection with the examination of the subject. The Committee also wishes to thank in particular the Secretaries to Government-Industries and Finance Departments and the officials of the Travancore Titanium Products Limited who appeared for evidence and assisted the Committee by placing their views before it.

Thiruvananthapuram,
19th June, 2019.

C. DIVAKARAN,
Chairman,
Committee on Public Undertakings.

REPORT

on

TRAVANCORE TITANIUM PRODUCTS LIMITED

Audit Paragraph 2.1.1-2.1.47 (2013-14)

Introduction

2.1.1 Travancore Titanium Products Limited (Company), established in December 1946, is engaged in the manufacture of Titanium Dioxide (TiO_2) through sulphate process. The Company is the sole manufacturer of Anatase grade TiO_2 in Kerala. TiO_2 is mainly used in the manufacture of paints, rubber, textile, paper, cosmetics, ceramic, etc. The major raw materials used in the production process are ilmenite, sulphuric acid and scrap iron. Ilmenite and scrap iron are procured from outside while sulphuric acid is manufactured in-house using sulphur purchased from other sources.

Organisational Set Up

2.1.2 The Management of the company is vested in a Board consisting of twelve directors including the Managing Director (MD). The day to day affairs of the Company are managed by the MD who is assisted by Executive Director, General Manager, Finance Controller and Chief Managers.

Financial Position and Working Results

2.1.3 The financial position and working results of the Company for the five years from 2009-10 to 2013-14 are shown in Annexure 7. The Company has finalised its accounts upto the year 2009-10 only and for remaining period upto 2013-14, provisional accounts have been furnished. The Paid up Capital of the Company as on 31 March 2014 was ₹ 13.77 crore held by Government of Kerala (₹ 13.43 crore), Kerala State Industrial Development Corporation Limited (₹ 0.14 crore) and others (₹ 0.20 crore). The net profit earned by the Company increased from ₹ 5.96 crore in 2009-10 to ₹ 14.74 crore in 2010-11, to ₹ 30.75 crore in 2011-12 and then decreased to ₹ 1.24 crore in 2012-13; In 2013-14, the Company incurred a net loss of ₹ 0.34 crore.

Scope of Audit

2.1.4 The working of the Company was last reviewed and the audit findings were included in the Report of the Comptroller and Auditor General of India (Commercial) for the year ended 31 March 2007, Government of Kerala. The Report has not yet been discussed by the Committee on Public Sector Undertakings (CoPU). The present Performance Audit was conducted to assess whether the Company was carrying out its marketing, production, procurement and financial activities in an efficient, economic and effective manner during the five years period from 2009-10 to 2013-14.

Audit Objectives

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

- reasons for the increased cost of production by analysing the management of procurement, production and manpower; and
- the effectiveness of marketing management by analysing the pricing policy and constraints in marketing.

Audit Criteria

2.1.6 The following audit criteria were adopted:

- Financial and Capital Budgets and Detailed Projects Reports in respect of major capital works of the Company.
- Monthly targets fixed in respect of capacity utilisation, turnover, etc.;
- Procurement policy, procedures and consumption norms fixed in respect of raw materials and utilities;
- Decisions of Sales Promotion Committee; and
- Market scenario and best practices relating to procurement in the industry.

Audit Methodology

2.1.7 The methodology adopted for attaining the audit objectives with reference to audit criteria consisted of explaining the audit objectives to top management of the Company, scrutiny of records of the audited entity, interaction

with personnel in audited entity, analysis of data with reference to criteria, issue of audit queries, discussion of audit findings with management and issue of Draft Performance Audit Report.

An entry Conference was held with the Company/Government in August 2014, wherein the scope and objectives of the Performance Audit were discussed. Field audit involving scrutiny of Company's records was conducted during June to September 2014. The findings were reported to the Management and Government of Kerala besides discussing in the exit conference held in November 2014.

Acknowledgment

2.1.8 Audit acknowledges the co-operation and assistance extended by the management and staff of the Company in the conduct of this Performance Audit.

Audit Findings

2.1.9 Audit observations on the production, procurement, marketing and financial management activities of the Company are discussed in succeeding paragraphs.

Operational Performance

2.1.10 The production, sales and stock of TiO_2 during the five years from 2009-10 were as detailed below:

Table 2.1 : Statement showing production, sales and stock

Year	Production (in MT)	Sales # (in MT)	Sales value# (₹ Crore)	Average stock (in MT)	Stock as percentage of sales	Net operating profit (Rs. Crore)
1	2	3	4	5	6	7
2009-2010	15273	15470	132.34	666.94	4.31	5.95
2010-11	15749	16175	160.92	702.27	4.34	14.74
2011-12	12701	11801	181.55	658.30	5.58	30.75
2012-13	11550	10682.	163.92	1106.98	10.36	1.24
2013-14	10817	10419	152.92	1732.11	16.62	(-) 0.34

Excluding Special Grade Potassium Titanate, Sodium Titanate and Hydrated Titania.
Figures from 2010-11 are provisional

As may be seen, there was a sharp decline in the profit earned by the Company during 2012-13 and 2013-14. The huge increase in profit during 2009-2012 was due to increase in the sale price of TiO_2 per MT from ₹ 85,000 (April 2009) to ₹ 1,60,000 (August 2011 to August 2012). The sale volume as well as production of TiO_2 showed a steady decline from 2011-12 and the accumulation of stock showed an upward trend from 2012-13. The sales revenue also registered a continuous decrease from 2012-13 onwards.

The sales of the Company in domestic market also declined from 13583.42 MT in 2009-10 to 10018.61 MT in 2013-14 despite increase from 79561[1] MT to 241136[2] MT in the overall demand of the product in the country during the same period. The poor performance of the Company even in the domestic market indicated failure to thrive in the competitive market.

The Company in their reply (November 2014) admitted their inability to face stiff competition from domestic competitors as well as importers and offer its product at competitive prices due to higher cost of production.

Analysis of cost of Production

2.1.11 An analysis of the cost data furnished by the company revealed that the cost of production per MT increased from ₹ 81,063 (2009-10) to ₹ 1,48,513 in 2013-14 (Annexure 8). The percentage of total cost to sales rose to more than 100 per cent during 2012-13 and 2013-14.

The cost incurred to generate one rupees of sale fluctuated over the five year period and ranged from ₹ 0.87 (2011-12) to ₹ 1.02 (2012-13) as shown below:

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1 Source : Indian Mineral Yearbook issued by Indian Bureau of Mines, Ministry of Mines.

2 Source : Import date furnished by Kerala Minerals and Metals Limited, a State PSU engaged in the same industry as enhanced by production of domestic manufactures.

Table 2.2: Details of Cost incurred to earn one rupee sale

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Raw Materials	0.31	0.40	0.35	0.46	0.38
Power and fuel	0.20	0.16	0.17	0.18	0.17
Other variable cost including discount	0.08	0.08	0.07	0.07	0.10
Employee cost	0.27	0.22	0.20	0.25	0.29
Finance cost	0.05	0.03	0.02	0.03	0.03
Other fixed cost	0.03	0.02	0.06	0.03	0.04
Total cost	**0.94**	**0.91**	**0.87**	**1.02**	**1.01**

During 2012-13 and 2013-14, the Company had to incur ₹ 1.02 and ₹ 1.01 respectively to earn sales revenue of one rupee resulting in operational loss. Audit analysed the various elements of cost, taking the average for the period of three years from April 2009 to March 2012 as the base and noticed increase in raw material cost (2012-13), employee cost (2013-14) and other variable cost including discount (2013-14).

The Company stated (November 2014) that it had done a very serious analysis of higher cost of production and had made clear plans for turnaround of its operations. The plan, however, could not be proceeded with due to resource constraints and the matter was being pursued with government.

The deficiencies in production, procurement, consumption of raw materials, marketing and utilisation of man power that contributed to increased cost of production are discussed below:

Production Management

2.1.12 The Company has a Titanium Dioxide Pigment Plant (TDP plant) and Sulphuric Acid Plant (SAP) with installed capacities of 24500 MT and 99000 MT respectively. The achievable capacity of TDP plant was assessed as 15000 MT as against the installed capacity of 24500 MT. The manufacturing process of TiO_2 is given below.

Table 2.3 : Manufacturing process of TiO_2

Sl. No.	Stage	Process	Product
1	Digestion	Ilmenite is fed into Ball mills to make it fine powder, digested using sulphuric acid and reduced using scrap iron	Crude liquor
2	Clarification	Reduced crude liquor is dosed with settling agents and sent through settling tanks to remove sludge	Settled liquor
3	Concentration and Precipitation	Clear overflow from settler is concentrated to a specified extent and then charged into precipitation tanks	Pulp
4	Filtration, Leaching and Treatment	The pulp is then filtered over drum type rotary vacuum filters, any ferric iron still present is reduced by leaching the pulp with sulphuric acid.	Pulp
5	Calcination and Milling	Pulp is calcined in a rotary kiln and de-agglomerated in pendulum mills to very fine particles	TiO_2

Production planning

2.1.13 Production planning helps a manufacturing unit to minimize cost, utilize the available resources optimally and maximize efficiency. Proper planning also helps to co-ordinate the activities of different departments and to maintain proper stock levels of raw materials as also finished products.

Non-achievement of target fixed

2.1.14 The monthly production and sales targets are fixed by Titanium Management Council (TMC) comprising heads of all functional wings and headed by MD. The TMC target was fixed after talking into account stock position, market constraints, production constraints, etc. The targeted and actual production of TiO_2 for the period from 2009-10 to 2013-14 was as under:

Table 2.4 : Details of targeted and actual production

Year	Production (MT)		Percentage of actual to targeted production
	As per TMC Target	Actual	
2009-10	-	15273	-
2010-11	16250	15749	96.92
2011-12	14225	12701	89.29
2012-13	13775	11550	83.85
2013-14	11625	10817	93.05

The actual production was only 83.85 per cent to 96.92 per cent of TMC target.

The Company replied that the reason for non achievement of TMC target was constraints like feed break caused by power outage.

The reply of the Company is not acceptable since TMC target was fixed after making due allowances for such disruptions in production.

Production below break even point

2.1.15 Break Even Point (BEP) indicates the minimum production required to match the total cost with revenue. Production and sales above break even level would entail profit. By fixing the BEP, the production activities could be adjusted so as to ensure maximum economy of operation. The TMC did not take BEP into consideration while fixing the targets of production. Based on the cost data provided by the Company, Audit worked out the BEP of the Company for the five years upto 2013-14 as shown below and observed that the actual production during 2012-13 and 2013-14 was below break even level resulting in short recovery of fixed cost to the tune of ₹ 10.95 crore.

Table 2.5 : Details of BEP and un-recovered fixed cost

Year	Production	Break Even Quantity	Shortage in production	Fixed Cost unrecovered (₹ In crore)
	(MT)			
2009-10	15273	14060.23	-	-
2010-11	15749	12544.41	-	-
2011-12	12701	8387.62	-	-
2012-13	11550	11679.46	129.46	4.60
2013-14	10817	11729.18	912.18	6.35
Total				**10.95**

The Company replied that it had recorded profit in 2012-13 and only a marginal loss in 2013-14 and therefore, the question of non-recovery of fixed cost did not arise. It was also stated that stock differential was not considered for BEP calculation by Audit.

The reply is not acceptable since the recorded profit includes non-operating incomes like interest earned, sale of scrap, etc. The Audit observation on BEP is with regard to the production of TiO_2 alone, in which there was operating loss. The contention of the Company that stock differential was not considered for BEP calculation is incorrect as the same was considered.

Deficiencies in Production

Short recovery of TiO_2 due to lower efficiency

2.1.16 Scrutiny of monthly production statements during 2009-2014 revealed that as against the TiO_2 content of 78142.40 MT fed into Stage I, the output at stage IV was only 66090 MT indicating loss of 12052.40 MT in the production process. Further, the monthly actual overall recovery of TiO_2 varied widely and ranged from 78.14 per cent (November 2011) to 85.32 per cent (July 2012). Considering the highest efficiency of 85.32 per cent, the short recovery during the five years worked out to 1950.77 MT of TiO_2 valuing ₹ 23.73 crore. In view of high value of TiO_2, the Company should have analysed and monitored the production efficiency to ensure maximum recovery.

The Company replied that the recovery rate of TiO_2 (85.32 per cent) considered by Audit could not be taken as standard since the practically achievable efficiency was only 84 per cent.

The reply of the Company is not acceptable as the efficiency was mostly around the lower side of range of 78.14 per cent to 85.32 per cent.

Loss due to non achievement of specified quality

2.1.17 The Company produces Anatase/Rutile grade TiO_2 that conforms to the standard specifications prescribed by the Indian Standards Institute (ISI). Quality below ISI grade is marketed as Off Grade/General Purpose (OG/GP) which is sold at a lower price. As per the target fixed (April 2010) 95 per cent of the total production should be of ISI grade. However, production of ISI grade Anatase varied from 58.06 to 100 per cent while that of Rutile grade varied from 26.09 to 100 per cent. Due to non achievement of targeted ISI grade, TiO_2 had to be sold as OG/GP grade at a lower price. This had resulted in revenue loss of ₹ 2.05 crore on 905.15 MT of Anatase grade and 696.67 MT of Rutile grade produced during April 2010 to March 2014.

The Company replied that off-grade products get generated mainly due to reasons such as unplanned plant stoppage, process equipment failure, under/over feeding to calciner, variations in raw material quality etc.

Reply of the Company was not acceptable as the major reasons pointed out were controllable through operational efficiency.

Excessive production of sulphuric acid leading to distress sale

2.1.18 The Company produces sulphuric acid, intended for captive consumption in its own acid plant. The production process required a continuous run of the plant and the minimum level of operation was 180 MT per day i.e., 5400 MT per month. Annual maintenance of the plant required shut down for over one month which was scheduled during April/May every year. The requirement of sulphuric acid per MT of TiO_2 produced was four MT. Excess acid available after captive consumption was being sold in open market based on quotations received/direct enquiries. The details of production, consumption, sales and stock of sulphuric acid during the five years are given below:

Table 2.6: Details of production, consumption, sales and stock of sulphuric acid

(Quantity in MT)

Year	Opening stock	Production	Purchase	Acid sales	Consumption	Closing Stock
2009-10	5368.24	64054.86	1410.45	1684.70	64839.36	4309.49
2010-11	4309.49	69764.52	0.00	1683.51	67053.70	5336.80
2011-12	5336.80	60628.69	4967.93	6404.57	55404.72	9124.13
2012-13	9124.13	58947.22	0.00	6811.23	53564.23	7695.89
2013-14	7695.89	61391.71	0.00	12993.70	48056.97	8036.93

Audit found that the captive consumption of acid showed a declining trend from 67053.70 MT in 2010-11 to 48056.97 MT in 2013-14 whereas the actual production decreased from 69764.52 MT (2010-11) to 58947.22 MT (2012-13) and then increased to 61391.71 MT (2013-14). Thus, the monthly production of sulphuric acid was not regulated in line with the requirement for captive consumption. This led to accumulation of stock and on reaching alarming levels, the Company resorted to distress sale in bulk quantities from 2011-12. The sale of sulphuric acid increased steeply from 1684.70 MT in 2009-10 to 12993.70 MT in 2013-14. Due to such distress sale in bulk quantities, the Company could not get competitive offers and during 2013- 14, the Company sold 3356 MT of acid below variable cost incurring a loss of ₹ 16.41 lakh.

It was also observed that the uncontrolled production and bulk sale of sulphuric acid resulted in shortage of sulphur in the month of December 2012. This led to forced shut down of SAP for the period from 4-12-2012 to 4-1-2013 and consequent excess consumption of 189.50 MT furnace oil costing ₹ 70.66 lakh for generation of steam and 8.50 kilo Litre of Superior Kerosene Oil worth ₹ 4.18 lakh for cold start of SAP. Besides this, the production of TiO_2 during December 2012 was only 426 MT against the targeted production of 850 MT.

The Company replied that due to global glut in the TiO_2 market, in 2012-13 and 2013-14, it was forced to operate TiO_2 plant with small calciner for one month and two months respectively which led to decrease in the captive consumption and resultant accumulation of stock of sulphuric acid.

The reply of the Company is not tenable as the reason for accumulation of sulphuric acid was not the operation of small calciner but the failure of the Company to regulate the production of sulphuric acid to minimum level of production at 5400 MT per month, which was sufficient to cater to reduced production targets of TiO_2.

Procurement of Raw Materials

2.1.19 In order to ensure optimum level of stock of raw materials and to effect economies, Company should have fixed different stock levels (Maximum, Minimum, Re-order level and Danger level) and adhered to it. In the Company, the procurement of raw materials is managed by Commercial Advisory Committee (CAC). The Purchase Manual of the Company prescribes detailed procedures for the procurement of quality materials from reliable sources in required quantities at appropriate time and at minimum prices. As per the Purchase Manual, the Commercial department has to do the following due diligence.

- monitor the daily/weekly stock position of raw materials and take necessary action for procurement based on re-ordering level fixed from time to time; and
- review the re-ordering levels and quantity based on annual consumption and purchase lead time in the previous two years for updating the data.

The instructions contained in the purchase manual were, however, not followed by the Company. Cost of raw materials accounted for 37.47 per cent (2013-14) of the total cost incurred by the Company. The major raw materials used in the production process are ilmenite, sulphur and scrap iron of which ilmenite and sulphur constituted 54 per cent and 30 per cent respectively of the total annual raw material cost (2013-14). Audit reviewed the procurement of ilmenite and sulphur and deficiencies noticed are discussed below.

Ilmenite

2.1.20 Ilmenite, the major raw material, was being procured from Indian Rare Earths Limited (IRE), a central public sector undertaking and from private suppliers. As the Company does not have its own mining facility, it was entitled to supply of ilmenite at concessional rate from IRE. As the allotment of ilmenite from IRE was not sufficient to cater to the full requirements of the Company, procurement from private supplies was also warranted. The TiO_2 content in the ilmenite supplied by IRE Chavara (Q) and Manavalakurichi (MK) ranged between 55 to 60 per cent whereas it ranged between 46.60 to 51.80 per cent only in respect of ilmenite supplied by IRE Odisha (O) and private source. The procurement of ilmenite from Private Parties and IRE during 2009-2014 was as shown below.

Table 2.7 : Supplier-wise procurement of ilmenite

Year	Total Purchase	IRE				Private suppliers	
		MK and Q (55-60 per cent TiO_2 content)	O (46.60 - 51.80 per cent TiO_2 content)	Total	Percentage to total purchase	Quantity in MT (46.60 - 51.80 per cent TiO_2 content)	Percentage to total purchase
		Quantity in MT					
2009-10	32776	22338	0	22338	68.15	10438	31.85
2010-11	33822	21147	963	22110	65.37	11712	34.63
2011-12	26783	13204	4440	17644	65.88	9139	34.12
2012-13	29047	9425	4430	13855	47.70	15192	52.30
2013-14	22369	10505	20	10525	47.05	11844	52.95

Thus, the procurement of ilmenite from private suppliers increased from 31.85 per cent (2009-10) to 52.95 per cent (2013-14) of the total procurement. This was mainly due to allotment of lesser quantity by IRE Q and MK coupled

with short lifting of allotted quantity by the Company. Considering the high quality and price advantage, the Company should have procured maximum quantity from IRE Q and MK. Despite drastic decline in the supply of ilmenite from IRE Q and MK, the Company did not make any concerted effort to get more allotment from IRE. The possibility of entering into long term agreement with IRE as laid down in the Purchase Manual, getting preference in allotment being in public sector, etc., were not explored. Audit further noticed that 76.49 per cent (April 2011 to October 2013) of total ilmenite sale by IRE Q was to a company in private sector.

The Company replied that shortage of funds forced the Company to go for procurement from private suppliers who offer credit facility.

The reply of the Company was not tenable, as funds could have been arranged through working capital loans from banks which could not be availed due to non finalization of accounts in time.

Short lifting of allotted quantity from IRE

2.1.21 On a test check of allotment and procurement of ilmenite from IRE, it was observed that during July 2012-February 2014, the Company did not lift the entire allotted quantity of ilmenite from IRE Q and MK. The short lifted quantity was subsequently procured from private sources at extra cost of ₹ 1.56 crore as shown in the table below.

Table 2.8: Financial impact of short-lifting of ilmenite from IRE

Period of Allotment	Quantity Allotted	Quantity Lifted	Quantity short lifted	Direct Impact of short lifting	Financial Impact of short lifting
	(MT)				
1	2	3	4	5	6
July 2012-May 2013	7645.27 (MK)	7142.90	502.37	575.63 MT procured from Private Parties	Extra expenditure - ₹ 30.13 lakh

1	2	3	4	5	6
October 2013	Unlimited (MK)	364.73	Unlimited	Lost allotment due during the period November 2013 to February 2014.	Procurement of 4013 MT from Private suppliers resulting in extra expenditure of ₹ 1.26 crore
October 2013-February 2014	2437 (Q)	2124.24	312.76	Lost allotment due in December 2013 and March 2014.	

The reason for the non-lifting/delayed lifting of ilmenite from IRE was inability of the Company to make advance payment. The IRE, thereafter, offered 45 days' credit facility to the Company subject to the opening of irrevocable Letter of Credit, which also could not be availed due to non-finalisation of accounts after 2009-10.

While accepting the audit observation, the Company stated that it was not able to lift the entire quantity allotted due to financial constraints.

Failure to tap alternate sources

2.1.22 The Company has to resort to procuring ilmenite from private suppliers even if their quality is inferior as IRE is not able to supply the required quantity. As per the Purchase Manual of the Company, the Purchase Department has to develop vendors and update the vendor list. Despite this, the Company did not follow a system of vendor development for ilmenite, the major raw material and resorted to procurement from two firms based on open tenders. Audit observed that there were several suppliers of ilmenite in the market and some of the firms had participated in tenders floated by the Company. The Company, however, did not place orders with them for reasons like non-furnishing of samples, etc.

The procurement from sources other than IRE was mainly from VV Minerals up to August 2011 and thereafter from Miracle Sands and Chemicals (MSC) and Textile Dye Chem (TDC). Thus, MSC and TDC continued to be the only suppliers of ilmenite from September 2011/June 2012. Thus, the Company had to depend/compromise on the terms and conditions of supply of these firms to a great extent due to limited sources.

The Company replied that sample analysis played a vital part and since source of material was limited, it was not in a position to widen the supply base.

The reply was not acceptable as the procurement was made from agents only and there were other players also in the field. It was also noticed that selected bidders had also not furnished samples. Since acceptance of ilmenite was subject to testing at the lab of the Company, furnishing of sample along with tender was not important.

Non-execution of agreement with suppliers

2.1.23 Execution of formal agreement incorporation the terms and conditions for regulating the deal is essential to conclude a valid contract. The Stores Purchase Manual[3] issued by Government of Kerala stipulates execution of agreement with the suppliers. Audit noticed that the Company invited seven tenders during 2011-12 to 2013-14 and placed 17 purchase orders for 38771 MT of ilmenite. However, no penalty clause or risk purchase clause in case of delay/non-supply was included in the tender. Further, no formal agreement was executed with the suppliers (except four[4] purchase orders) as a result of which the Company failed to ensure compliance of the terms and conditions of the tender/order and legal validity of the contract in the event of default by the supplier.

In respect of the tender dated 7/12/2011, though Ind Chem, Cochin, the L1 bidder, supplied only 203.35 MT of ilmenite out of ordered quantity of 5000 MT and the Company had to procure the remaining quantity of 4800 MT from MSC and TDC at higher rate incurring an extra expenditure of ₹ 2.21 crore, no risk purchase clause could be invoked. The Company, however, did not initiate any legal action against the defaulted supplier. On being pointed out by Audit (March 2013), legal notice was issued to the defaulted supplier on 8 May 2013 (after 11 months from delivery schedule). In the absence of formal agreement, chances of recovering risk and cost were remote.

The Company stated that at present agreements were being executed for high value items and that legal action against Ind Chem is being pursued.

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3 Paragraph 55.

4 PO Nos. 5150 dated 30/5/2013, 7156 dated 15/6/2013, 7204 dated 28/11/2013 and 7205 dated 6/12/2013.

The reply confirms that there was no enabling clause either in the Purchase Order or Tender. In the event of non-execution of the agreement, chance of recovery was remote. As such, the Company should enter into agreements with the suppliers to avoid any loss.

Post tender dilution of terms and conditions

2.1.24 The Company invited tenders for procurement of 10000 MT and 5000 MT of ilmenite in June 2011 and May 2012 respectively. The tender invited in June 2011 stipulated for rejection of material if TiO_2 was below 50 per cent. The next tender invited in May 2012 stipulated a minimum 50 per cent TiO_2 content in the ilmenite with acceptance up to 48 per cent content on pro rata reduction of prices and rejection if below 48 per cent. The Company however, while placing six[5] purchase orders modified the condition in favor of the suppliers that ilmenite with 48-46 percent TiO_2 content would be accepted on pro rata reduction of price with rejection of below 46 per cent content. The Company accepted 9392 MT of ilmenite with TiO_2 content ranging between 46.40-49.99 per cent without effecting pro rata recovery in prices resulting in extension of unintended benefit of ₹ 15.78 lakh to two suppliers[6].

The Company stated that the source of origin of the only one bidder was Srilanka and that the deviation of two per cent in TiO_2 content was recommended by CAC since the TiO_2 percentage was generally lower for Srilankan ilmenite. The reply was incorrect as the guaranteed TiO_2 content as per Lanka Mineral Sands, the sole mining agency in Srilanka, was 53 percent .

Modification of tender conditions

2.1.25 Audit found dilution of other terms and conditions from time to time in favour of the suppliers as detailed below,

5 PO no. 2919 dated 13-10-11, 2935 dated 10-12-11, 2940 dated 2-1-12, 2949 dated 17-2-12, 3890 dated 2-6-12 and 3891 dated 6-6-12.

6 Miracle Sands & Chemicals Limited and Textile Dye Chem

Table No. 2.9: Details of changes in terms and conditions of tenders and impact

Sl. No.	Terms and Conditions		Impact/Implication
	Earlier tender	Subsequent tender	
1	Minimum daily/monthly supply quantity	No minimum fixed	There would be non-synchronisation of supplies with production requirement.
2	Security deposit of five per cent of the cost of material	Security deposit ₹ 2 lakh	Being very nominal amount, it did not serve the purpose of security for due performance of contract.
3	Rejection level-TiO_2 content below 48 per cent	Rejection level - TiO_2 content below 46 per cent	Compromise in quality of ilmenite.
4	Maximum limit of moisture content to be 0.5 per cent	No such condition included	Compromise in quantity of ilmenite since there were many instances of higher moisture content ranging upto 0.86 per cent.

The Company replied that Serial numbers 1,3 and 4 were altered in favour of the Company. Regarding security deposit, the supplier had supplied as per the tender conditions.

The reply was not tenable as the alterations were detrimental to the interest of the Company which calls for fixing of responsibility. Completion of supply which falls at a later date was not valid ground for reduction in security deposit.

Non-inclusion of price reduction clause

2.1.26 As the price of ilmenite is subject to high variation, the Company while placing repeat orders/giving extension for delivery period should have

incorporated a condition that 'price applicable would be existing price or price as per next tender whichever was lower'. The Company, however, failed to include price reduction clause leading to extra expenditure of ₹ 1.05 crore as detailed in **Annexure 9.**

The Company stated that the price reduction was not made as the supplies of the amended/extended orders were completed before finalising the next tender.

The reply was not acceptable as the tendering process was started much before placing amendment/extension orders.

Lapses in procurement of sulphur

Failure to ensure timely supply

2.1.27 As the price of sulphur was subject to wide fluctuations, the Company should have regulated the procurement in accordance with production requirement so as to avoid excess procurement at higher rate and consequent accumulation of stock. Audit found that the Company placed purchase orders with Mincore Resources Private Limited (Mincore) without assessing the requirement and accepted the supply beyond delivery schedule which led to unwarranted procurement as detailed below:

Table 2.10: Statement showing delayed supply of sulphur

(in MTs)

PO No. & date	Quantity Ordered & (delivery schedule)	Quantity supplied		
		Within delivery schedule	After delivery schedule	Total
1672 dated 8-12-2010	6000 (within 14-2-2011)	2958	2372	5330
5101 dated 1-12-2012	6000 (3000 MT within 20-1-2013 and balance within 19-2-2013)	No supply within 20-1-2013 and 4492 MT within 19-2-2013	1485	5977

It was noticed that the failure of Mincore, to deliver sulphur in time against PO No. 5101 dated 1-12-2012 led to shutting down of SAP for 14 days. There was no penalty clause in purchase order for delayed supplies to ensure prompt supply.

Though Mincore did not adhere to the schedule, the Company accepted the entire quantity supplied though there was no requirement at that time considering the supply from BPCL. Had the Company regulated the purchase of sulphur to the required minimum of 1782 MT per month, procurement of 5349 MT[7] of sulphur worth ₹ 6.88 crore and consequent blocking up of funds on accumulated stock could have been avoided.

The Company stated that the belated supply (PO 1672) from Mincore was due to delay in getting NOC and documentation. The fact, however, remains that the Company failed to ensure timely supply by executing agreement with penal provisions for delayed supply.

The above serious lapses call for investigation and fixing of responsibility.

Lack of penalty clause for non supply/short supply of ordered quantity

2.1.28 As per Stores Purchase Manual of Government of Kerala, an agreement should be entered into with successful tenderer for the satisfactory fulfilment of contract embodying the conditions of the order and providing the necessary penal clauses for any breach of the conditions of the contract. The Company had not incorporated risk and cost/penalty clause in the purchase order that could be invoked to safeguard its interest in case of failure to perform the contract. Moreover, security deposit and performance guarantee was also not insisted for ensuring supply of materials as per delivery schedule. Non incorporation of penalty clause led to short supply and consequent financial loss to the company as detailed below:

7 2372 MT at the rate of ₹ 11300/MT in PO No. 1672 and 2977 MT (1492+1485) at the rate of ₹ 14100/MT in PO No.5101.

Table 2.11: Statement showing quantity ordered and supplied by two firms

PO No. & date	Name of Supplier	Quantity ordered (MT)	Rate/ MT (₹)	Quantity supplied (MT)	Quantity short supplied (MT)	Remarks
9822 dated 18-9-2009	SPIC	6000	5344	1864.38	4135.62	Supplied during October to December 2009. Stopped supply citing steep rise in international price of sulphur
228 dated 25-1-2010	Mincore	2000	11825	846.92	1153.08	Purchase Order was placed due to short supply by SPIC. However, the firm supplied during February to April 2010 only and balance quantity not supplied.

Consequent upon the above short supplies, the Company procured[8] a further quantity of 1988 MT from SPIC and Mincore at a higher rate of ₹ 14625 per MT. Thus, failure of the Company to ensure supply of entire ordered quantity of sulphur, led to procurement of 846.92 MT (Mincore) at the rate of ₹ 11825 per MT and 1988 MT (SPIC and Mincore) at the rate of ₹ 14625 per MT incurring extra expenditure of ₹ 2.40[9] crore. Since the act of non-incorporation of penalty clause in purchase order is very serious, the Government needs to take action against the Company officials for such lapses which resulted in loss of ₹ 2.40 crore to the Company.

8 PO No. 248 dated 20/03/2010 (SPIC) and 249 dated 23/03/2010 (Mincore)

9 (₹ 11825-₹ 5344)x846.92 MT = ₹ 0.55 crore + (₹ 14625-₹5344) x 1988MT = ₹ 1.85 crore

Consumption of raw material

2.1.29 Control over consumption of raw materials merits special attention of the management in view of the high cost involved. The Company had fixed the standards for consumption years back which were not reviewed rendering the same unrealistic.

Excess consumption of raw materials

2.1.30 The TiO_2 content in the ilmenite procured from various sources varied widely and consequently the consumption per MT of TiO_2 produced also differed. Further, the quantity as well as the quality of ilmenite was the deciding factor for consumption of other raw materials. An analysis of the consumption of major raw materials viz., ilmenite, sulphuric acid and scrap iron revealed that the actual consumption during the review period varied from year to year. Considering the maximum efficiency of 2.133 MT, 4.245 MT and 0.218 MT achieved in consumption of ilmenite (2009-10), sulphuric acid (2009-10) and scrap iron (2013-14) respectively for production of one MT of TiO_2 as basis, the excess consumption during the review period worked out to ₹ 6.85 crore, ₹ 4.05 crore and ₹ 2.88 crore respectively as shown on **Annexure 10**. The specific consumption of ilmenite and sulphuric acid is related to the TiO_2 content in ilmenite and in case of scrap iron, it depends on both ferric iron content and TiO_2 content in the ilmenite. Hence, the excess consumption of the raw material was due to poor quality of ilmenite procured from private parties.

The Company accepted Audit observations stating that the raw material consumption caries widely with the type ilmenite used.

The Company should minimise the procurement of low quality ilmenite so as to optimise the consumption of raw material.

Concealment of shortage of material

2.1.31 As per the norms, 0.33 MT of sulphur was required for producing one MT of sulphuric acid. An analysis of consumption of sulphur revealed that the Company has been accounting the consumption not on actual weighment basis but based on the norm only. During the period from October 2012 to December 2012,

the consumption of sulphur per MT of sulphuric acid produced was, however, reckoned as 0.34 MT, 0.35 MT and 0.35 MT respectively. Thus, there was excess consumption of 197.32 MT of sulphur than the norm. Considering the net cost of ₹ 13150 per MT of sulphur from BPCL during the above period, the extra expenditure incurred on account of this worked out to ₹ 25.95 lakh.

The Company while accepting the audit observations stated that the variation in consumption norm was necessary to adjust the physical stock.

The reply of the Company is not acceptable as Company cannot adjust such shortage of material by showing the same as issued from physical stock.

Marketing

2.1.32 The Company produces mainly (84 per cent) Anatase grade TiO_2 and a meager quantity of Rutile grade TiO_2 and sells it in domestic (91.87 per cent) as well as international market. The Company sells its products through stockists and directly to customers.

Sales performance

2.1.33 The sales performance of the Company for the five year period was as given below:

Table 2.12: Statement showing sales performance

Year	Sales (in MT)			Sales Value (₹ crore)	Average stock (in MT)
	TMC Target	Actual	Percentage of Actual to Target		
2009-10	15750	15470	98.22	132.34	666.94
2010-11	16350	16175	98.93	160.92	702.27
2011-12	13800	11801	85.51	181.55	658.30
2012-13	13400	10682	79.72	163.92	1106.98
2013-14	13125	10419	79.38	152.92	1732.11

As seen from the table above, the actual sales was only 79.72 and 79.38 per cent of the targeted sales during 2012-13 and 2013-14 respectively. The Company was not able to achieve even the monthly target fixed by TMC at very lower levels, after considering the various constraints.

Audit analysed the market-wise and customer-wise sales of the Company taking 2009-10 as the base year as detailed in the following table:

Table 2.13: Statement showing Performance of the Marketing Department

Year	Sales (MT)								Per cent
	Domestic					Export		Total Sales (MT)	
	Stockist		Direct		Total Domestic sales (MT)				
	MT	*Per cent	MT	Per cent*		MT	Per cent		
2009-10	12424.70	100.00	1158.72	100.00	13583.42	1897.80	100.00	15481.22	100.00
2010-11	12670.00	101.97	1665.68	143.80	14335.68	1848.00	97.38	16183.68	104.54
2011-12	9882.53	79.54	1383.92	119.44	11266.45	542.95	28.61	11809.40	76.28
2012-13	9443.53	76.01	772.75	66.69	10216.28	508.00	26.77	10724.28	69.27
2013-14	9044.55	72.79	974.06	84.06	10018.61	458.15	24.14	10476.76	67.67
Total	**53465.31**		**5955.13**		**59420.44**	**5254.90**		**64675.34**	

**2009-10 taken as the base year*

It has been noticed that over the review period, the total sales decreased to 67.67 per cent of the sales of 2009-10. The export sales decreased to 24.14 per cent as compared to 2009-10. The domestic sales through stockists and direct customers decreased to 72.79 per cent and 84.06 per cent respectively over the review period.

It was replied that import of TiO_2 from Chinese market affected the overall demand for the product which resulted in poor sales performance of the Company.

The reply was not tenable since the overall demand for TiO_2 in India had increased from 79561 MT (2009-10) to 241136 MT (2013-14) and also the antidumping duty imposed on the imported TiO_2 enables the domestic manufacturers to compete with importers. By reducing the cost of production and through effective marketing targeted sales could have been achieved.

Lack of professionalism in marketing

2.1.34 An effective and regular market research is essential for identifying the market demand and supply conditions, price trend, competitors' pricing strategy, etc. so as to adopt short term pricing strategy to avoid accumulation of stock. The marketing department, however, did not have an established mechanism to this effect. Though, the Company entered into agreement with stockists and they were required to submit above details, it failed to collect the data from the stockists or other sources for creating a data base. The absence of a reliable and accurate market database resulted in wrong pricing decisions affecting the profitability of the Company as discussed below.

Defective pricing mechanism

2.1.35 The Company had not adopted a long term marketing/pricing policy. The Sales Promotion Committee (SPC) (till November 2011)/ Marketing department/Commercial Advisory Committee (CAC) periodically fixes base price for TiO_2 and formulates discount schemes, separately for stockists and direct customers. The price revision, however, was not on any scientific and systematic basis but was resorted to on grounds of 'favourable/unfavourable market condition or increased competition or accumulation of stock or increased cost of production'. Though the Company was mandatorily required to maintain cost records, this was not being complied with. The Marketing department did not consider the marginal cost of production as well as breakeven level for taking pricing decisions. This coupled with absence of accurate market data base resulted in fixing higher prices.

A comparison of the periodical price revision effected by the Company with the Wholesale Price Index (WPI) of TiO_2 published by Economic Advisor to Government of India revealed that the price revision was unscientific and arbitrary leading to decrease in sales turnover as shown below:

Table 2.14: Statement showing price deviation

Year	Monthly Average of Wholesale Price Index	Monthly Average of Actual Price[10] Index	Average Price Deviation	Sales (MT)
2009-10	120.73	133.33	12.60	15470
2010-11	130.99	154.19	23.20	16175
2011-12	181.86	240.74	58.88	11801
2012-13	184.47	236.27	51.80	10682
2013-14	175.64	227.20	51.56	10419

It was seen that the price revision during 2011 to 2014, was abnormally high compared to the market price of TiO_2 which led to the Company's inability to push the product into the market and consequent poor financial performance during the years 2012-2014.

The Company stated that it was unable to offer competitive price for the products due to higher cost of production and constraints of a PSU in fixing market responsive pricing.

The reply of the Company is not acceptable since the Company is free to fix the selling price for its products.

Ineffective stockist network

2.1.36 During the years 2009-2014, 82.67 per cent of the sales of the Company were through stockists. As per the terms of agreement, stockists were to lift minimum quantity of 18 MT of TiO_2 per month and 250 MT annually, failing which the dealership of the stockists were to be cancelled. Though the Company had 24 stockists, the number of active stockists who adhered to the minimum qualifying off take of 250 MT per annum was only 11 in 2009-10 which was reduced to 9 in 2013-14. Further, off take by these active stockists also declined

10 Base year for the WPI as well as actual price index of the Company is 2004-05.

from 10650 MT in 2010-11 to 7410 MT in 2013-14. Since the Company mainly depends on the stockists, the failure in developing and growing an effective dealership network had adversely affected the overall performance of the Company.

The Company in its reply accepted the need for establishing wide network of stockists/dealers in domestic market.

Ineffective and irrational discount scheme

2.1.37 The Company offers trade discount to its customers to augment the sales. The periodical discount scheme was designed by the SPC/CAC. Different rates of discounts were applicable for stockists and direct customers. The stockists were eligible for special quantity discount and additional special discount based on their off take, in addition to flat trade discount. The sales performance vis-a-vis the trade discount offered to the stockists and direct customers were as shown below:

Table 2.15: Statement showing discount allowed

Year	Sales (MT)	Increase in sales (per cent)	Discount (₹ in crore)	Discount/ MT (₹)	Increase in discount/ MT (per cent)	Ineffective discount/MT (₹)[11]	Total ineffective discount (₹ crore)
2009-10	15470	---	5.48	3540	---	---	---
2010-11	16175	4.56	5.81	3590	1.41	---	---
2011-12	11801	-23.72	4.48	3794	7.18	254	0.30
2012-13	10682	-30.95	6.47	6054	71.02	2514	2.69
2013-14	10419	-32.65	9.64	9249	161.27	5709	5.95
Total			**31.88**				**8.94**

Note:Discount per MT for the year 2009-10 of ₹ 3540 being the lowest, was taken as the base.

11 Discount per MT for the respective year as reduced by discount per MT for 2009-10.

During the year 2013-14, the effective discount per MT sold increased by 161.27 per cent and the sales volume decreased by 32.65 per cent, as compared to 2009-10. This indicated that the increase in discount offered to the customers/stockists had not benefitted the Company by way of increased sales. Out of the total discount of 31.88 crore offered to the stockists/customers, an amount of ₹ 8.94 crore (28.04 per cent) became ineffective due to defective discount schemes as discussed below:

1. The flat discount per MT was not linked with the sale price per MT. Upto January 2013, the flat discount was ₹ 2500 per MT (1.69 per cent of sale price). This was increased to ₹ 4000 per MT (2.71 per cent) in February 2013 and to ₹ 5000 per MT (3.36 per cent) in July 2013. Despite the increase in flat discount, the sales quantity decreased from 15470 MT (2009-10) to 10419 MT (2013-14).

2. Additional Special discounts were also offered to stockists for encouraging higher sales volume. With effect from October 2013, the monthly sales quantity required for the additional special discount was fixed at 70 per cent of the maximum monthly off take during the last one year. The fixation of qualifying quantity for the additional special discount, much below the normal monthly off take did not serve the purpose of encouraging the stockists to procure higher quantity.

3. Special Quantity Discounts of ₹ 500 to ₹ 6500 per MT were allowed to stockists for off take above eight MT based on different slabs. The quantity discount offered was applied based on non-telescopic method. When the quantity off take exceeded specific slabs, higher discount was given for the entire quantity, instead of on the incremental quantity, as done by another PSU[12] in the same industry. The special discount scheme applicable to stockists for March 2014 and impact of the irregular discount scheme was as given below:

12 Kerala Minerals and Metals Limited, Kollam.

Table 2.16: Statement showing impact of non-telescopic discount scheme for March 2014

Slabs of Monthly off-take (MT)	Discount (₹/MT)	Maximum discount in the slab (₹)	Discount when one MT is lifted above maximum quantity in the slab (₹)	Effective discount for the extra one unit (₹)
1	2	3	4*	5 (4-3)
0 - 17	Nil	Nil	36000	36000
18 - 35	2000	70000	108000	38000
36 - 53	3000	159000	216000	57000
54 - 99	4000	396000	500000	104000
100 - 149	5000	745000	862500	117500
150 - 199	5750	1144250	1300000	155750
200 and above	6500	-	-	-

**When one MT is lifted above the maximum quantity in one slab, the entire quantity becomes eligible for higher discount as per the next slab.*

The non-telescopic discount scheme resulted in higher sales promotion expenditure for the Company without any significant increase in the sales volume. Majority of the stockists took advantage of this defective scheme by marginally increasing their off take to barely reach the next slab. A test check of the sales activity of 17 stockists during the month of March 2013 revealed that due to the irregular discount scheme, ₹ 6.35 lakh was allowed as discount to 13 stockists for achieving 22 MT of additional sales **(Annexure 11)**.

In the reply, Management justified the discount scheme stating that the present system might motivate the stockists/customers to reach the next slab as they get more benefit.

The reply of the Company is not acceptable as the discount scheme was skewed in favour of stockists as it offered more benefit to the stockists whereas benefit for the Company by way of increased sale was negligible.

Accumulation of stock of TiO_2 pigment

2.1.38 The steady decline in the sales volume and defective production planning resulted in accumulation of stock. The average stock held over the five year period increased from 667 MT to 1732 MT; the maximum accumulation being during 2012-13 and 2013-14 representing 10.36 per cent and 16.62 per cent of sales respectively. Had the production been optimised subject to the BEP level as well as marketing plan or orders in hand, the accumulation of finished goods could have been minimised. Considering the minimum BEP production levels and actual sales, Audit worked out the loss of interest as ₹ 1.64 crore on account of accumulation of stock and working capital blocked as shown below:

Table 2.17: Statement showing interest loss due to stock accumulation

Year	Average Monthly Accumulation (MT)	Monthly average of Working Capital Blocked (₹ in crore)	Interest loss (₹ in crore)
2009-10	445.42	2.36	0.20
2010-11	653.51	4.32	0.37
2011-12	609.16	5.49	0.46
2012-13	481.48	5.17	0.44
2013-14	205.82	2.00	0.17
		TOTAL	**1.64**

It was accepted by the Management that production level was planned based on the availability of raw material in view that sales could be developed further.

Human Resource management

2.1.39 Employee cost forms the second major element of the total cost incurred by the Company. The average annual production during the years 2011-2014 was reduced by 24.64 per cent, as compared to that of 2009-2011, resulting in steady increase in the employee cost per MT of TiO_2 produced from ₹ 23227 in 2009-10 to ₹ 42850 in 2013-14. The major factors that contributed to the increase were as below:

Payment of unproductive wages due to poor labour productivity

2.1.40 The Company had deployed 567 workmen for its operations as on 31 March 2014. Audit reviewed the utilisation of manpower in Production department and found that the average man hours utilised for production of one MT of TiO_2 increased from 81.94 hours during 2010-11 to 109.94 hours during 2013-14. Reckoning the man hours utilised in 2010-11 (81.94) as optimum, the unproductive wages paid during 2009-2014 due to lower labour productivity worked out to ₹ 4.66 crore as detailed below:

Table 2.18: Statement showing unproductive wages

Year	Production (MT)	Capacity utilisation (per cent)	Man hours utilised	Man hours/ MT	Excess man hour/ MT	Excess man hours used	Total wages paid (₹ crore)	Labour Hour Rate (₹)	Unproductive wages (₹ crore)
(1)	(2)	(3)	(4)	(5)=(4/2)	(6)	(7)=(6x2)	(8)	(9)=(8/4)	(10)=(7x9)
2009-10	15273	101.82	1257350	82.33	0.39	5956.47	6.43	51.14	0.03
2010-11	15749	104.99	1290427	81.94	---	---	7.25	56.18	---
2011-12	12701	84.67	1270859	100.06	18.12	230142.12	7.42	58.39	1.34
2012-13	11550	77.00	1136523	98.40	16.46	190113.00	8.26	72.68	1.38
2013-14	10817	72.11	1189180	109.94	28.00	302876.00	7.49	62.98	1.91
TOTAL									**4.66**

Thus, the failure of management in operating the plant at optimum level resulted in payment of unproductive wages. Further, a comparison with another PSU (Kerala Metals and Minerals Limited) engaged in the same industry revealed that the man hours utilised per MT of TiO_2 produced by the Company was exorbitant ranging from 82 to 109 as against 27 to 33 for the other PSU. The monetary impact of this worked out to ₹ 24.98 crore.

The Company did not submit any specific reply to the observation.

Financial Management

2.1.41 The Finance Department is headed by Finance Controller who is assisted by Finance Manager. Audit found that the deficient financial management adversely affected the overall performance of the Company during the years 2012-2014 as detailed below:

Working Capital Management

2.1.42 An efficient management of Accounts Receivable, Accounts Payable and Inventory constituting working capital would ensure reduced cost of capital and better operational performance. A detailed analysis of the working capital position for the five years up to 2013-14 is given below:

Table 2.19: Statement showing working capital cycle

(in days)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
1. Average Debtors Collection Period	28	30	37	65	76
2. Average Stock Holding Period	56	48	54	76	89
3. Average Creditors Payment Period	44	28	23	24	53
Working Capital Cycle (1+2+3)	40	50	68	117	112

Audit observed that:

- Due to inefficient management of working capital constituents, the working capital cycle[13] increased from 40 days (2009-10) to 112 days (2013-14) resulting in reduction in cash and cash equivalent[14] by 71.45 per cent[15] leading to working capital crisis.

13 The time required to convert investment in working capital in to cash.
14 Cash in hand and at Bank.
15 Cash and cash equivalent of ₹ 14.08 crore during 2009-10 reduced to ₹ 4.02 crore during 2013-14.

- The actual average collection period which was 28/30 days during 2009-10 and 2010-11 had increased up to 76 days (2013-14). Consequently, funds locked up in debtors resulted in interest loss of ₹ 62.81 lakh **(Annexure 12)** during the period from 2011-12 to 2013-14.

- The high inventory holding period of 89 days (2013-14) indicated excessive accumulation of inventory.

- The creditors' management was also very poor during 2010-2013. Though the position had improved in 2013-14, the credit period available to the Company was much lesser than that allowed by the Company.

Arrears in finalisation of accounts

2.1.43 Preparation and analysis of periodical financial statements are essential for effective Financial Management. Section 210 of the Companies Act, 1956 read with Section 166 of the Act provides for finalisation of annual accounts by 30 September. The Company, however, had finalised its accounts only up to 2009-10. The non-preparation of financial statements for the years 2010-2014 was in violation of provisions of the Act which resulted in defective Management Information System and consequent defective decision making.

The Management stated that earnest efforts were taken to make the accounts up to date.

Non-maintenance of cost records

2.1.44 Being a process oriented manufacturing company, maintenance of cost records is mandatory as per Section 209 of the Companies Act, 1956 and existence of a robust and reliable costing system is essential to make available information essential for cost control and managerial decisions. The main objectives of cost accounting are ascertainment of cost, cost control, cost reduction and assistance in decision making on pricing, production plan, budgeting, etc. The Company, however, had not maintained cost records which resulted in wrong managerial decisions in respect of fixation of optimum activity level, price revision, regulating labour efficiency and accumulation of raw material stock, etc.

It was replied that the cost records would be maintained after the completion of statutory audit for the respective years.

Monitoring of receivables

2.1.45 Accurate recording of the debtor's transaction and periodical reconciliation of the balance with the debtors' books of accounts is one of the major functions in debtors' management. It was, however, noticed that the debtors' transactions were not being recorded regularly by the Finance wing resulting in poor monitoring of the debtors collection as evident from the following:

- In respect of Asian Paints Limited (APL), a major direct customer, books of accounts were not maintained. In order to reconcile the differences in balance, regular transactions had to be temporarily cancelled during the period April to October 2011. This has resulted in loss of business to the tune of 210 MT amounting to ₹ 3.41 crore during the period.
- Admitting the observation the Company stated that the fall in general demand also contributed for the drop in sales.
- The Company had made arrangement with MSC, an ilmenite supplier to settle the dues by supplying TiO_2 to them. The non-maintenance of books of accounts of MSC led to excess lifting (30 September 2013) of TiO_2 worth ₹ 1.91 crore by MSC and this was set off by subsequent purchases (October/December 2013) of ilmenite. This situation forced the Company to purchase high priced low quality ilmenite from private parties, forgoing the offered quantity of 1508 MT of high quality ilmenite from IRE resulting in loss of revenue amounting to ₹ 1.55 crore.

The Company replied that the dues were cleared and the accounts were reconciled.

Though the dues were cleared later the fact remains that there was a lapse in regular monitoring of the receivables, which led to loss of ₹ 1.55 crore for which accountability may be fixed.

Monitoring of payables

2.1.46 There was no system for effective monitoring of the advance payments made to the suppliers. In respect of IRE, there had been many instances of excess advance payments resulting in blocking up of funds with the supplier. The excess advance of ₹ 63.62 lakh remained with IRE for a period ranging from three months to one year.

Environment and pollution control measures

2.1.47 The major effluents generated in the production process of TiO_2 viz., waste ferrous sulphate and waste sulphuric acid were discharged into the sea. With the enactment of the Water (Prevention and Control of Pollution) Act, 1974, treatment of effluent was made mandatory. Accordingly, the Company decided to implement Effluent Treatment Project (ETP) comprising of Acid Recovery Plant (ARP), Copperas Recovery Plant (CRP) and Neutralisation Plant (NP) cum modernisation activities in 2004. The Company engaged (June 2004) MECON Limited as Project Management Consultant (PMC). As per the proposal (January 2005) of the Consultant, total estimated cost of implementation of the package for pollution control and expansion in two phases was ₹ 256.10 crore. The Company awarded (February/March 2006) the work relating to ARP/CRP (package I) and NP to Chematur Ecoplanning Oy, Finland and VA Tech Wabag Limited respectively and proceeded with import of critical equipments for CRP/ARP. In June 2007, MECON intimated escalation in the project cost to ₹ 414.40 crore (161.81 per cent of original estimate). The Board of Directors decided (October 2007) to abandon the ARP as it was not financially viable, rendering the investment of ₹ 58.45 crore infructuous. It was also decided to defer phase II of the project in view of the huge financial commitment involved and unviability of the project.

The details of investment up to March 2014 are given below:

Table 2.20: Details of expenditure incurred for ETP

Particulars	Payment made (₹ crore)	Remarks
Acid Recovery Plant	58.45	Abandoned: provision created in accounts
Copperas Recovery Plant	16.48	Kept in abeyance
Neutralisation plant	36.76	To be commissioned. Trial run in progress
MECON (consultant)	5.56	...
Interest on Loan	21.36	Bank loan of ₹ 49.40 crore[16]
Total	**138.61**	

Due to delay in completing the ETP project, the Company also incurred committed liability as detailed below:

- Due to the failure to implement the ETP, the major effluents generated in the production process are being discharged into the sea which is detrimental to the environment. It had also resulted in non compliance of the Water (Prevention and Control of Pollution) Act, 1974 as well as High Court order for setting up of the ETP before 1-7-2010.
- Demand for the repayment of availed import subsidy of ₹ 17.33 crore, under EPCG[17] scheme together with interest at the rate of 15 per cent consequent upon the failure to achieve the prescribed export obligation within 8 years, against which appeal is pending with CESTAT[18], Bangalore.
- The demand for Service Tax for technical component of the project amounting to ₹ 2.55 crore, against which an appeal is pending with CESTAT, Bangalore.

16 Federal Bank-₹ 4.40 crore, Union Bank of India-₹ 45 crore.
17 Export Promotion Capital Goods Scheme
18 Central Excise & Service Tax Appellate Tribunal.

- The compensation claim of ₹ 1.01 crore by the contractor, VA Tech Wabag Limited towards loss incurred by them due to delay on the part of the Company in completing the project.
- Loss of envisaged benefit of ₹ 4.82 crore and ₹ 2.34 crore per year on account of water and copperas respectively to be recovered in the treatment process.

The ARP proposed by MECON envisaged regenerated/recovered acid having a lower concentration than being used in the existing TiO_2 plant. The Company did not have the technical know-how to process the regenerated acid to the required concentration level and the contractor was also exempted from providing the required technical know-how. The deficiencies in the conceptualisation and implementation of the project have contributed to the failure of ETP project and consequent loss of ₹ 58.45 crore invested in the abandoned project. The infructuous investment has adversely affected the liquidity position of the Company in addition to the non compliance to the statutory requirement.

Company while admitting the observation added that it was unable to continue with the Acid Recovery Plant due to high cost; that Copperas Recovery Plant would be commenced when the financial position improves and that Neutralisation plant has been completed.

Conclusion

- The Company failed to maintain cost records and fix breakeven level of production. Production below breakeven level resulted in short recovery of fixed cost during 2012-2014.
- Lower efficiency in production led to under-recovery of TiO_2.
- Company violated its own purchase procedure leading to excess procurement of ilmenite and dilution of terms and conditions of tenders.
- Company had not adopted a dynamic marketing/pricing policy.
- Failure of the Management in operating the plant at optimum level resulted in payment of unproductive wages.

- Finalisation of annual accounts of the Company is in arrears from 2010-11.

[Audit Paragraph 2.1.1-2.1.47 contained in the Report of the Comptroller and Auditor General of India for the year ended 31st March 2014]

The Notes furnished by the government on the Audit Paragraph are given in Appendix II.

Discussion and Findings of the Committee

The Committee sought explanation on the huge losses suffered by the Company on account of their failure in achieving the production target fixed and pointed out that the Company failed to adopt business strategies or marketing policies to capture market despite having highly competitive products.

The witness replied that owing to shortage of ilmenite in 2011 and sulphur during 2011-2013, the Company could not achieve targeted production. Due to steep rise in cost of raw materials, production cost had also increased. The Company also had to face stiff competition from Chinese-made products which were cheaper in the market. As a result of failure in obtaining adequate supply of raw materials, the Company had also to procure raw materials from private sources, however, the Company failed to capture the market.

To a query of the Committee on steady decline in production and profit from 2011-12, the witness admitted the fault and stated that the steady decline in profit was due to the scarcity of raw materials.

The Committee remarked that there is no established mechanism seen in the company for monitoring the sales of its products and that it was a serious lapse. The Committee blamed the company for its inefficiency to capture even the domestic market even though Titanium products were having good market value.

The Committee enquired about deficiencies in production, procurement, consumption of raw materials, marketing and utilisation of manpower which had contributed to increased cost of production.

The Committee refuted the Managing Director's explanation regarding shortage of raw materials at that time, as the Company had failed to procure

mineral sand allotted by IREL (Indian Rare Earths Ltd.) in time and remarked that they had not even requested for additional stock from IREL and also there was no long term agreement between IREL and TTPL (Travancore Titanium Products Ltd.). The witness admitted that agreement was not made with IREL; as a result of which they had supplied only 50% of the raw material requirements of TTPL.

The Committee criticised the Company for lack of proper management over production, procurement, marketing and manpower to achieve targeted profit through maximum production. The Committee observed that TTPL being an earlier endeavour in the industry, has however no mine of its own and has not gone in the path of diversification of products and cited the instance of success achieved by companies KMML (Kerala Minerals and Metals Ltd.) and IREL which were established later.

The Committee enquired about the achievable capacity of the Titanium Dioxide Pigment Plant (TDP plant) assessed as 15000 MT as against the installed capacity of 24500 MT.

The witness explained that the raw material ilmenite, procured by the Company from private sources during the period 2010-2014 was of low quality leading to production interruption and that was the main reason for the decline in production.

Regarding procurement of raw materials from IREL, the witness explained that even though IREL agreed to supply the required raw material to TTPL continuously, at the time of labour agitations in the mining areas of IREL, the supply got interrupted causing instability in production.

The Committee enquired details after the intervention of Government in resolving the problems faced by TTPL. The Secretary, Industries Department explained that the Principal Secretary of Industries Department is a member of IREL Board and that he participates in all Board meetings of IREL. He agreed to present in the next Board meeting of IREL the proposal for a long-term agreement between IREL and TTPL for supply of raw materials to TTPL. Such an agreement has the potential to ensure permanent supply of raw materials to TTPL. He

further added that being the oldest PSU in the state, all machinery in TTPL are outdated; however the government had allocated funds in the current budget for modernisation of the old and obsolete machinery in TTPL.

The Committee criticised that the Industries Department is not felt to give enough care in various issues of the company by giving precepts for the betterment of the Company.

The Committee insisted that the company should consider the audit objections more seriously and criticised the company for its lethargic attitude noticed in every process and for failure in adopting measures for modernisation. The witness explained that the company had submitted a business plan for its modernisation before the Government.

The Committee observed that the losses suffered by the company were due to lack of financial management and market intervention and not due to shortage of staff or scarcity of raw materials. The Committee also voiced its view that company is in a sinking stage and that financial anarchism prevails in the company.

To a query of the Committee on measures taken for achieving targeted production, the MD replied that as per the clearance of Pollution Control Board, one day's production is limited to 30 tonnes and for increasing the production, the capacity of the utilisation plant has to be increased accordingly and for that a consultant has been appointed and tenders have been invited.

The Committee enquired about the reason for non achievement of targeted production during 2013-14. The witness replied that dearth of sulphur and ilmenite during 2012-13 caused hindrances in achieving the targeted production. However, currently, on account of adequate supply of ilmenite from IREL, the situation has changed.

To a query about achieving the fixed targets, the witness replied that 90-95 percentage of fixed target can be achieved at present and that during 2009-10 and 2011-12, the company was able to achieve profits exceeding the fixed targets, but in 2012-13 and 2013-14 due to shortage of raw material which led to the company sourcing it from private firms, the profit had decreased.

The Committee was not convinced with the reply and remarked that it is the duty of the company management to scrutinize the fluctuations in the business.

Regarding the production of the company below the breakeven point during 2012-13 and 2013-14, the Committee remarked that it was a serious issue and criticised the Company for furnishing improper reply to the Committee. The Committee wants the company to view the audit observations seriously inorder to improve the efficiency of the Company.

The Committee expressed dissatisfaction at the replies furnished by the Government about the short recovery of TiO_2 (Titanium Dioxide) noting that the replies did not pertain to the audit observations.

The Committee noted that the Company suffered revenue loss of ₹ 2.05 crore during 2010-2014 on account of non-achievement of targeted production of ISI grade Anatase & Rutile TiO_2 and stressed strongly that lack of operational efficiency has to be pinpointed the main reason for the low quality of products. The Committee expressed dissatisfaction on the reply furnished by the department in this regard which was not acceptable to the Audit.

The Committee enquired about the excess production of sulphuric acid in 2011-12, 2012-13 and 2013-14 while the consumption showed a decline, leading to distress sale incurring a loss of ₹ 16.41 lakh.

The witness elaborated the Titanium Dioxide production process and stated that in a situation when H_2SO_4 (Sulphuric acid) has to be produced in large quantities, an unexpected fall in market demand led to decline in production of TiO_2. As a result, the company has had to resort to distress sale of accumulated H_2SO_4 in bulk quantities.

The Committee observed that accumulation of sulphuric acid which came about was due to the failure in regulating the production of sulphuric acid with the requirement for captive consumption.

The witness explained that the minimum capacity of Sulphuric acid plant was 180 MT/day while running in turn-down ratio, thus automatically resulting in production of excess Sulphuric acid. The process could be stopped only if the working of the TiO_2 Plant was stopped at frequent intervals. However, the production process of TiO_2 necessitated a continuous run of the plant. Regarding

the measures taken to improve the quality of products, the witness revealed that in 2015-16 and 2016-17 there was increase in TiO_2 production as a result of availability of high quality ilmenite from IREL.

The Committee enquired about the failure of TTPL to follow the Purchase Manual of the Company for the procurement of raw materials and the reply furnished by the Department which was contrary to this.

The Committee asked about the officer who is responsible for taking decision to accept orders for procurement of low quality Ilmenite with TiO_2 content below 50%, which subsequently led to decline in production and losses to the Company. It was revealed that the Purchase Department of the Company deals with the purchase of raw materials.

The Committee demanded to know whether the Company had procured raw materials from any private sector other than Manavalakurichi & IREL; to which the witness replied in the affirmative.

The Committee enquired about the failure of the Company to lift the allotted quantity of Ilmenite from IREL and Manavalakurichi during 2012-2014. The witness elucidated that the allotted raw materials from IREL could be lifted only if advance payments were made to IREL and due to shortage of working capital, TTPL was unable to make advance payments to IREL.

The Committee refuted this explanation pointing out the earlier reply furnished in which they had accepted the audit observation. The Committee opined that issuance of a Letter of Indent would have solved the entire monetary issues.

The witness replied that IREL refused to accept the request regarding the issuance of Letter of Indent. The Committee further enquired about the measures adopted by TTPL in coordination with Government in lifting the allotted raw materials.

The witness replied that IREL had refused to supply raw materials even after a Letter of Intent request from the Government.

The Committee criticized strongly the Company's failure on the grounds that the decision to procure the rawmaterials from private sources resulted in incurring an extra cost of ₹ 1.56 crore.

The Committee observed that the Company had not completed its audit in 2009-10 and hence it is not possible to assess the financial position of the Company, resulting in non-acceptance of the Letter of Intent from the Government.

The Committee enquired about the non-execution of a formal agreement with Ind Chem, Cochin, the LI bidder for supply of ilmenite, resulting in short supply of ilmenite and consequent purchase of ilmenite by TTPL at higher rates from MSC and TDC thus incurring an extra expenditure of ₹ 2.21 crore. The witness explained that TTPL had issued the purchase order to Ind Chem for supply of ilmenite without agreement of supply, however the purchase order had a clause for recovery of losses on account of short supply. TTPL had filed an arbitration against Ind Chem utilising this clause and the arbitration awarded a compensation of ₹ 12 crore in favour of TTPL, from Ind Chem considering the Purchase Order as a valid document for contract. He added that Ind Chem had filed an appeal against the arbitration.

The Committee noticed that the Company did not take any legal action against the defaulted supplier and that legal notice was issued after a delay of 11 months.

The Committee enquired about the possibility of revenue recovery. The witness replied that 3 months' execution notice should be issued before initiating revenue recovery process.

The Committee criticized TTPL for not having a definite marketing and pricing policy and for not conducting any market study or analysis before executing an agreement. The Committee could only view this as sheer negligence of duty and inefficiency of management in TTPL.

To a query of the Committee on the measures taken by the Company to decrease cost of production, the witness replied that modernisation works of Sulphuric acid and Titanium Dioxide plants were being carried out and a project for implementing automation of production processes aiming at preventing process fluctuations had been initiated.

The Committee enquired about the payment of unproductive wages amounting to ₹ 4.66 crore during 2009-2014. The witness replied that the employee cost increased as the production decreased from 15000 MT to 10000 MT during 2009-2014.

The Committee observed that the financial management, especially working capital management of the company was inefficient.

The Committee noted that the finalisation of annual accounts of the company was completed only upto 2009-10 and the financial statements of the company during the period 2010-2014 were not prepared in accordance with the Companies Act, 1956. The Committee enquired about the present position of clearance of arrears in finalization of accounts. The witness explained that the audit for 2011-12 had been completed and audit for 2012-13 was going on and added that delay had occurred in completion of statutory audit. The witness further explained that the company had finalised its accounts upto 2016-17. Once the arrears in auditing was cleared, the updation of the company's annual accounts could be completed by September 2019. Internal auditing was also being carried out along with this.

The Committee enquired about the pollution problems faced by TTPL and the witness replied that at present there are no pollution problems.

The Committee pointed out that imported machinery worth crores of rupees was kept unopened, with the result that it was remaining idle in the Company premises. The Committee expressed apprehension about the present condition of the machinery which can cause pollution and suggested that the company should initiate steps for auction of these machinery. The Committee enquired whether any cases were filed against the officials responsible for the importing of the machinery.

The witness explained that vigilance enquiry was undergoing related to the case and hence it was impossible for the company to take any measures in this regard, without obtaining clearance from the Vigilance Department. He added that the machinery was currently under the custody of the Customs Department due to lapses in paying customs duty. The witness revealed that the machinery was imported for the acid recovery plant, however the project was later abandoned.

The Committee expressed concern that the machinery was no longer useful. The Committee noted that along with the customs duty, the losses due to the company on account of the import of the machinery would amount to 100 crore rupees. The Committee condemned the enormous wastage of public money in this regard.

In order to obtain more clarity on audit observations, the Committee also visited TTPL on 20-12-2017 and conducted detailed discussion with the Company management and employees. Based on the discussions and subsequent visit to the Company the Committee put forth the following recommendations.

CHAPTER I

Recommendations of the Committee on the basis of the Audit Paragraph

1. The Committee recommends that the Company should maintain cost records to fix break even level of production and should achieve the targeted production by increasing the capacity of the utilization plant.

2. The Committee observes that TTPL failed to capture even the domestic market of titanium products. The Committee wants the Company to adopt business strategies and marketing policies to capture the market making use of the huge demand of titanium products. The Committee stresses the need for an established mechanism in the Company for monitoring the sales of its products.

3. The Committee recommends that the Company should formulate a proper and effective management system in the areas of production, procurement, marketing and manpower utilization for achieving maximum profit.

4. The Committee recommends that TTPL should enter into a long term agreement within a period of 3 months with IREL (Indian Rare Earths Limited) for adequate and timely supply of raw materials to the Company so as to avert decline in production due to shortage of raw materials.

5. The Committee recommends that the Company should embark on diversification of its products, by conducting proper market studies.

6. The Committee finds that all machinery in TTPL are outdated. The Committee recommends that the Company should expedite measures within a period of 6 months for the modernization of Sulphuric Acid and Titanium Dioxide Plants and for automation of production process. The Committee also recommends to furnish a detailed report regarding the same.

7. Expressing its dissatisfaction on the production of TiO_2 below the breakeven point during 2012-13 and 2013-14, the Committee demands that the Company should analyze and monitor production efficiency to ensure maximum recovery of Titanium dioxide. It insists that the recovery rate of Titanium Dioxide should never fall below the practically achievable efficiency of 84%.

8. The Committee urges to regulate the production of Sulphuric acid with the requirement for captive consumption. The Committee recommends that the Company should explore possibilities of storage and marketing of excess sulphuric acid remaining after captive consumption and should obtain prior sanction from the government for the sale of excess sulphuric acid so as to avoid distress sale of accumulated sulphuric acid in bulk quantities.

9. The Committee recommends that the Industries Dept. should ensure that the Company adopts an attitude of absolute professionalism in the functioning of the Company especially in the areas like marketing of products, procurement of raw materials and in solving diverse issues faced by the company.

10. The Committee recommends that the Company should take necessary measures to increase the operational efficiency of its plant so as to achieve targeted production of ISI Grade Anatase and Rutile Titanium Dioxide.

11. The Committee directs the Company to submit within a period of 2 months a detailed report on the measures taken by the Company to improve quality of its products and to increase the efficiency and productivity of the Company.

12. The Committee demands to submit within a period of 2 months a detailed report on all pending vigilance cases in the Company, and their present status.

13. The Committee wants to be furnished within a period of 2 months the relevant documents regarding the accordance of Government sanction to the Company for bulk purchase of raw materials from private sector which had led to decline in production and incurred loss to the Company. It also recommends that the Company should strictly follow the Purchase Manual for the procurement of raw materials.

14. The Committee insists that maximum quantity of the raw material Ilmenite should be procured from IRE, Chavara and Manavalakurichi instead of bulk purchase of lower quality and higher priced ilmenite from private suppliers.

15. The Committee demands that the Company should fix responsibility and take stringent action against the officials responsible for violation of Stores Purchase Manual with regard to bulk purchase of low quality raw materials like Ilmenite from private sector, incurring huge loss to the Company. The Committee recommends to furnish a report regarding the same within a period of 2 months.

16. The Committee recommends that the Company should conduct detailed market study and analysis before executing purchase agreements with suppliers.

17. The Committee recommends that the Company should have a specific and well defined marketing and pricing policy. It also recommends to re-organize its marketing wing so as to compete with global private companies and to capture the world market.

18. The Committee demands that the Company should operate its production plants at optimum level within a period of 2 months so as to increase production in order to avoid payment of unproductive wages.

19. The Committee recommends that the Company should, after obtaining state Government's permission, approach the Central Government within a period of 2 months to ensure clearance of the Central Pollution Control Board for the Company's planned measures to increase production.

20. The Committee observes that the accounts and auditing of the Company had not been completed and so the actual financial position of the Company could not be assessed which led to the refusal of the Letter of Intent from the Government by IREL for lifting allotted quantity of Ilmenite from IREL. The Committee strongly recommends that the Company should keep its annual accounts up to date and should complete its ongoing audits urgently in a time bound manner.

CHAPTER II

The Committee visited the Travancore Titanium Products Limited (TTPL) at Thiruvananthapuram on 20-12-2017. On the basis of its visit and detailed discussion with Company officials and employees of the Company, the Committee made the following observations and recommendations:

21. The Committee is astonished to note that owing to the nonpayment of customs duty in time on imported machinery worth ₹62 crore, the Company had to pay an interest of 15% of the customs duty and its corresponding penal interest. The Committee finds that the proposed acid recovery plant for which the machinery was imported has been abandoned by the Company thereby idling imported machinery worth crores of rupees. The Committee urges to take up the matter with the Central Government and try to get benefit of exemption of customs duty. The Committee also suggests to explore the possibility of lessening the loss incurred by the Company through auctioning of the idling machinery or through some other means.

22. The Committee irately criticizes the Company for not taking any action against the erring officials responsible for the import of the machinery without examining its feasibility. The Committee recommends to penalize the officers responsible for this huge misappropriation and demands immediate and stringent action, including revenue recovery proceedings against all the erring officials including those who had retired from service.

23. The Committee expresses its concern on the long pending vigilance cases which were not settled till date. The Committee calls for immediate resolution of pending vigilance cases in the Company and urges that the Company should discuss the pendency of cases with the Vigilance Special Law officer for resolution of the cases in a time bound manner.

24. The Committee views with great concern, the death of a Company employee in an accident inside the factory and demands that the Company should seriously consider the issue and install modern safety measures in the factory to prevent the recurrence of such incidents.

25. The Committee notes that the Company has decided to award a compensation of ₹ 30,000 each to the two children of the deceased employee along with other insurance claims and an additional amount of ₹ 43.5 lakh to the two children. The Committee demands that the declared benefits should be disbursed immediately. The Committee also recommends that the Company should recompense the two children of the deceased employee with additional compensation and should ensure their protection in order to cope with the loss suffered by them due to the negligence of the Company in providing safety measures to safeguard the life of its employee. The Committee wants to be furnished with the details of action taken in this regard.

26. The Committee suggests that the Company should diversify its products and should think for new subproducts by conducting proper market studies outside the state or abroad.

27. The Committee recommends that State Government should hand over the title deeds of the 56 acres of land currently possessed in lease by the Company and that the Company should construct a mini Titanium Plant complex in the land after getting approval from the Government. The Committee suggests that TTPL should bear the financial expenses of this project. The Committee recommends that the Company should consider entering into collaborative projects with KMML.

28. The Committee recommends that the Company should discuss the issue of obtaining power at lower rates from KSEBL and submit a request to KSEBL for supply of power at lower rates. It also recommends to examine the possibility of installing solar panels in the Company.

Thiruvananthapuram,
19th June, 2019.

C. DIVAKARAN,
Chairman,
Committee on Public Undertakings.

APPENDIX-I

SUMMARY OF MAIN CONCLUSIONS/RECOMMENDATIONS

Sl. No.	Para No.	Department concerned	Conclusions/Recommendations
1	2	3	4
1	1	Industries	The Committee recommends that the Company should maintain cost records to fix break even level of production and should achieve the targeted production by increasing the capacity of the utilization plant.
2	2	Industries	The Committee observes that TTPL failed to capture even the domestic market of titanium products. The Committee wants the Company to adopt business strategies and marketing policies to capture the market making use of the huge demand of titanium products. The Committee stresses the need for an established mechanism in the Company for monitoring the sales of its products.
3	3	Industries	The Committee recommends that the Company should formulate a proper and effective management system in the areas of production, procurement, marketing and manpower utilization for achieving maximum profit.
4	4	Industries	The Committee recommends that TTPL should enter into a long term agreement within a period of 3 months with IREL (Indian Rare Earths Limited) for adequate and timely supply of raw materials to the Company so as to avert decline in production due to shortage of raw materials.
5	5	Industries	The Committee recommends that the Company should embark on diversification of its products, by conducting proper market studies.

1	2	3	4
6	6	Industries	The Committee finds that all machinery in TTPL are outdated. The Committee recommends that the Company should expedite measures within a period of 6 months for the modernization of Sulphuric Acid and Titanium Dioxide Plants and for automation of production process. The Committee also recommends to furnish a detailed report regarding the same.
7	7	Industries	Expressing its dissatisfaction on the production of TiO_2 below the breakeven point during 2012-13 and 2013-14, the Committee demands that the Company should analyze and monitor production efficiency to ensure maximum recovery of Titanium dioxide. It insists that the recovery rate of Titanium Dioxide should never fall below the practically achievable efficiency of 84%.
8	8	Industries	The Committee urges to regulate the production of Sulphuric acid with the requirement for captive consumption. The Committee recommends that the Company should explore possibilities of storage and marketing of excess sulphuric acid remaining after captive consumption and should obtain prior sanction from the government for the sale of excess sulphuric acid so as to avoid distress sale of accumulated sulphuric acid in bulk quantities.
9	9	Industries	The Committee recommends that the Industries Dept. should ensure that the Company adopts an attitude of absolute professionalism in the functioning of the Company especially in the areas like marketing of products, procurement of raw materials and in solving diverse issues faced by the company.

1	2	3	4
10	10	Industries	The Committee recommends that the Company should take necessary measures to increase the operational efficiency of its plant so as to achieve targeted production of ISI Grade Anatase and Rutile Titanium Dioxide.
11	11	Industries	The Committee directs the Company to submit within a period of 2 months a detailed report on the measures taken by the Company to improve quality of its products and to increase the efficiency and productivity of the Company.
12	12	Industries	The Committee demands to submit within a period of 2 months a detailed report on all pending vigilance cases in the Company, and their present status.
13	13	Industries	The Committee wants to be furnished within a period of 2 months the relevant documents regarding the accordance of Government sanction to the Company for bulk purchase of raw materials from private sector which had led to decline in production and incurred loss to the Company. It also recommends that the Company should strictly follow the Purchase Manual for the procurement of raw materials.
14	14	Industries	The Committee insists that maximum quantity of the raw material Ilmenite should be procured from IRE, Chavara and Manavalakurichi instead of bulk purchase of lower quality and higher priced ilmenite from private suppliers.
15	15	Industries	The Committee demands that the Company should fix responsibility and take stringent action against the officials responsible for violation of Stores Purchase

1	2	3	4
			Manual with regard to bulk purchase of low quality raw materials like Ilmenite from private sector, incurring huge loss to the Company. The Committee recommends to furnish a report regarding the same within a period of 2 months.
16	16	Industries	The Committee recommends that the Company should conduct detailed market study and analysis before executing purchase agreements with suppliers.
17	17	Industries	The Committee recommends that the Company should have a specific and well defined marketing and pricing policy. It also recommends to re-organize its marketing wing so as to compete with global private companies and to capture the world market.
18	18	Industries	The Committee demands that the Company should operate its production plants at optimum level within a period of 2 months so as to increase production in order to avoid payment of unproductive wages.
19	19	Industries	The Committee recommends that the Company should, after obtaining State Government's permission, approach the Central Government within a period of 2 months to ensure clearance of the Central Pollution Control Board for the Company's planned measures to increase production.
20	20	Industries	The Committee observes that the accounts and auditing of the Company had not been completed and so the actual financial position of the Company could not be assessed which led to the refusal of the Letter of Intent from the Government by IREL for lifting allotted quantity of Ilmenite from IREL. The Committee strongly recommends that the Company should keep its annual accounts up to date and should complete its ongoing audits urgently in a time bound manner.

1	2	3	4
21	21	Industries	The Committee is astonished to note that owing to the nonpayment of customs duty in time on imported machinery worth ₹ 62 crore, the Company had to pay an interest of 15% of the customs duty and its corresponding penal interest. The Committee finds that the proposed acid recovery plant for which the machinery was imported has been abandoned by the Company thereby idling imported machinery worth crores of rupees. The Committee urges to take up the matter with the Central Government and try to get benefit of exemption of customs duty. The Committee also suggests to explore the possibility of lessening the loss incurred by the Company through auctioning of the idling machinery or through some other means.
22	22	Industries	The Committee irately criticizes the Company for not taking any action against the erring officials responsible for the import of the machinery without examining its feasibility. The Committee recommends to penalize the officers responsible for this huge misappropriation and demands immediate and stringent action, including revenue recovery proceedings against all the erring officials including those who had retired from service.
23	23	Industries	The Committee expresses its concern on the long pending vigilance cases which were not settled till date. The Committee calls for immediate resolution of pending vigilance cases in the Company and urges that the Company should discuss the pendency of cases with the Vigilance Special Law officer for resolution of the cases in a time bound manner.

1	2	3	4
24	24	Industries	The Committee views with great concern, the death of a Company employee in an accident inside the factory and demands that the Company should seriously consider the issue and install modern safety measures in the factory to prevent the recurrence of such incidents.
25	25	Industries	The Committee notes that the Company has decided to award a compensation of ₹ 30,000 each to the two children of the deceased employee along with other insurance claims and an additional amount of ₹ 43.5 lakh to the two children. The Committee demands that the declared benefits should be disbursed immediately. The Committee also recommends that the Company should recompense the two children of the deceased employee with additional compensation and should ensure their protection in order to cope with the loss suffered by them due to the negligence of the Company in providing safety measures to safeguard the life of its employee. The Committee wants to be furnished with the details of action taken in this regard.
26	26	Industries	The Committee suggests that the Company should diversify its products and should think for new subproducts by conducting proper market studies outside the state or abroad.
27	27	Industries	The Committee recommends that State Government should hand over the title deeds of the 56 acres of land currently possessed in lease by the Company and that the Company should construct a mini Titanium Plant complex in the land after getting approval from the Government. The Committee suggests that TTPL should bear the financial expenses of this project. The Committee recommends that the Company should consider entering into collaborative projects with KMML.

1	2	3	4
28	28	Industries	The Committee recommends that the Company should discuss the issue of obtaining power at lower rates from KSEBL and submit a request to KSEBL for supply of power at lower rates. It also recommends to examine the possibility of installing solar panels in the Company.

APPENDIX II

GOVERNMENT OF KERALA

INDUSTRIES DEPARTMENT

ACTION TAKEN REPORT OF C&AG FOR THE YEAR ENDED ON 31.3.2014 -PERFORMANCE AUDIT ON OPERATIONAL PERFORMANCE OF TRAVANCORE TITANIUM PRODUCTS LIMITED

Sl. No	Para No.	REPLY FURNISHED BY THE GOVERNMENT
1	2.1.10	The auditors of C&AG have inadvertently compared the data furnished by Kerala Minerals and Metals Ltd with the figures of Travancore Titanium referring that both the companies are engaged in the same industry. It may please be noted that KMML is producing Rutile grade of titanium and TTPL is producing Anatase grade titanium dioxide which are two different products with different characteristics and the uses are also different. Rutile grade is slowly replacing Anatase grade in at least the paints and paper segments and TTPL is holding on by reducing the sales price in comparison with rutile grade. Thus in reality , the overall demand for the product is shrinking and not increasing as the Audit report indicates. It may be noted that narrower price gap between Rutile and Anatase Grade motivates the end user segments to switch grades. Consequent to the above fall in demand, the price of the product has also fallen from Rs 160000/- per Mt in 2011-12 to Rs 147500/- per Mt in 2013-14 which also contributed to the increase in losses.
2	2.1.11	The cost of production is taken without considering the operation of the neutralization plant which is on the verge of commissioning. Once the same is operated scenario will be more severe. As far as TTPL is concerned the decision to be taken is as to whether to close down the unit in the absence of operational viability, or turnaround the company and operate it sustainably with additional capital investment which will run to the extent of Rs.100 crores (estimate). Company has made clear plans for turnaround of its operations; however the same could not be proceeded with, in the context of resource constraints.
3	2.1.12	It may be noted that the practically achievable capacity of TiO2 production is 15000 TPA as against the name plate capacity of 24500 MT per annum (The usage of term 'economic capacity' seems to be inappropriate for the purpose). It may also be noted that the achievable quantity is arrived at in terms of availability from richest source of ilmenite. The optimally possible capacity considering the availability of ilmenite from different sources is only 15000 TPA.
4	2.1.13 & 2.1.14	TMC targets are fixed in advance and variations from targets when supported by justifiable reasons are accepted by reviewing agencies in the normal course of procedures. The company has generally been setting a higher target at Board-level also considering particularly the practical limitations for obtaining revised financial sanction due to wide fluctuation in raw material price. Also TTPL used to set targets of production at maximum attainable levels and not at comfortable levels so as to

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		attain maximum efficiency and productivity. At TMC meetings the maximum possible production levels are set as targets every month, and the achievements have mostly been above 90%. 100% achievement of targets set at TMC was in some months found to be difficult due to constraints like feed break caused by unanticipated power outage etc., while on the other hand production has gone above 100% of the targets fixed during certain months.
5	2.1.15	The company fixes it's targets in the Annual budget fixing the targets after taking into account the breakeven point also and these targets are above the Breakeven point. The targeted productions for these years are above the break even points worked out by Audit. TMC targets are short term targets taking into consideration current market conditions, unplanned plant shutdowns etc which some time resulted in operating the plant even below the Break Even Point considering that continued operations will be more financially prudent at it will help at least partly recovering the fixed cost. In the case of TTP, the break-even level itself is dependent on various aspects including the source of ilmenite (since the Titanium Dioxide content varies with the sources; and the source of ilmenite depends on the allocation by IRE and supplies as per any given shipment). The level of production per-se impacts the variable cost since higher production level would imply lower per unit consumption of electrical energy and furnace oil. Notwithstanding such complexities, the company strives to ensure production in such a way as to at least recover variable and fixed costs.
6	2.1.16	*A detailed analysis of the short recovery in a few of the months during the period of audit spanning 5 years from 2009 to 2014 is given hereunder. The various reasons for the short recovery is examined and explained technically by senior chemical engineers fully conversant with the process.* The major recovery loss occurs during digestion stage and hydrolysis stage. During digestion 100% conversion TiO2 to Titanyl sulphate does not occur, while reacting with sulphuric acid, and the maximum recovery possible will be around 93%, based on Chemical reaction kinetics considerations. This means that loss to the tune of 7% occurs as un-reacted ilmenite, which is removed as waste mud during the settling stage. Similarly the other major loss occurs during hydrolysis stage, and almost 6% of TIO2 will be lost as soluble TiO2 (trivalent Titanium) . The recovery based on these two losses alone will be 87.4 % (0.94x0.93x100). Further losses occurs during all filtration stages, as fines passed through the filter cloths (which is only partly recovered in Dorr tank and remaining portion is lost through the overflow of Dorr tank), fines lost along with flue gas from Calciner, milling losses, spillage etc. *So a practically achievable norm of 0.84 is fixed, as overall recovery, which is consistently being achieved in the TiO2 plant.* Being a batch process, with very many intermediate storage tanks, silos, off grade pigments floored and collected in bags, accumulation of pulp/sludge in dorr tank/settler etc, the recovery cannot be ascertained on a daily basis, as we have to accurately estimate the stock of in-process/partly finished material at various stages through dip stick measurement and converting these in to equivalent TiO2 content. It is quite time

			consuming and laborious effort. So practically the overall recovery is estimated on a monthly basis only, by taking stock of equivalent TiO2 in all stages of production, based on the opening and closing stock and production for the month. The recovery figure reported matches well with the norms within the accuracy limits and as per achievable external industry benchmarks. Variation in the recovery figure ranging between certain values around 84% could also be the result of measurement inaccuracies. As the stage stocks in various storage tanks, unpacked off grade pigments etc is measured using dipstick measurement of levels in very many intermediate storages, and partly based on estimation/assumptions, such as in the case of dorr tanks, the maximum expected measurement accuracy will be around ± 2 percentage or even worse. This is the most probable reason for the difference in the reported efficiency figure, and any monitory loss assessment based on the maximum and minimum value arrived at as per the audit query may not be a prudent judgment. Further, the reason for low efficiency figure of 78.14 percent reported during the month of November 2011 is explained as under: The settler was cleaned to remove accumulated un-reacted mud during the month of October 2011 which was put back in production stream during the month of Nov 2011. So the unaccounted quantity of sludge which existed at the settler bottom prior to cleaning got replaced by fresh Titanyl sulphate liquour produced during November, which could not be clearly accounted for , resulted in an apparent loss in recovery. So the low recovery figure reported in Nov 2014 is not an indication of inefficient operation, rather a mistake resulting from ,the characteristic nature of process recovery estimation, limited by recovery estimation practices inherent to production process. The impact on recovery for the specified month was seen more pronounced owing to low level of production during the month. *Further due to shortage of ilmenite supply from IRE, TTPL had started using Srilankan grade ilmenite for the first time in a substantial way from the month of Nov 2011 onwards. All the process parameters had to be reinvented/readjusted to get optimum recovery during this period to suite with the chemical characteristic of Srilankan Grade ilmenite ,which also contributed to the loss in a little way during the month.*
7	2.1.17		*Action taken by the company to control the above issue is detailed as follows . TTPL is striving all the time to improve the production of ISI grade products and thereby to minimize the production of off grade products. However the production process limitations limits such efforts. By modernizing the Calciner operations with improved monitoring and control of temperature at different Calciner zones would definitely help to improve the product quality from the present level. A proposal to this effect is actively being considered for implementation in the future, as a part of plant modernization programme.* It may be noted that, TTPL attach much importance in maximizing the ISI percentage and is a vital parameter which is regularly being evaluated and reviewed by the management. Moreover being an ISO certified company the importance of the above function cannot be overemphasized as failure may lead to cancellation of the said certification. The company has been achieving the targeted product quality as per IS standards consistently, when taken

			on a yearly basis. It could also be seen that, the ISI percentage has been increasing steadily while evaluating the historical data. However, the ISI grade percentage varies widely when taken on a month to month basis, as observed during the audit. It may also be noted that in any chemical process industry, it is absolutely impossible to get 100% high grade products. Variations in product quality occur due many reasons such as change in the quality of input materials, process upsets, failure of control instrumentation, process upsets during plant start-up and stoppage, operator mistakes, inherent process limitations etc. In the case of TiO2 production process, off grade products like GP and OG occur mainly due to reasons such as unplanned plant stoppage, power outage, process equipment failure, mainly related to calciner operations. Off grade products also get generated due to over/under feeding to calciner, burner system defects, quality variations in feed to calciner, variations in raw material quality etc. Of the above mentioned reasons , some are not controllable like quality of raw materials, power interruptions, process limitations etc. The availability of high quality illmenite, which is the major raw material, is very much limited in comparison with yesteryears and more than 50% of the illmenite is sourced from private suppliers which has its origin in Sri Lanka, in which the Tio2 content is very low when compared with illmenite received from units of IRE(Indian Rare Earth Ltd) in Chavara and Manavalakurichi. In some process industries, off grade products can be upgraded in the process itself, with little or at no extra cost. Due to inherent nature of the process/product, upgrading of low quality products by feeding back to the process is not a feasible or economic option. So off grade products have to be disposed of at a lower price, which would result in monetary loss. The packing section is independent to production process, and the final product delivered from the Calciner is stored in silos. It is not true that final product from the production stream is packed on a continuous basis. The off grade products generated cannot be mixed with the current high quality from the plant. So the off grade products generated during periods mentioned are separately discharged and stored. The off grade products is subsequently milled and packed in a separately earmarked mill. In some months, off grade products are not packed and accounted at all and in such months ISI percentage even reaches to 100%. This doesn't means that off grade products are not produced in such months, rather off grade products are not packed and accounted for production in such months. TTPL packs most of the off grade products accumulated in plants in months of low production from the plant, to meet the targeted production levels. The above explanation clearly explains why off grade products are higher in some months. However when the total off grade product quantity is reckoned on an yearly basis, the value accounts well with the targeted figure as well as expected industry standards.
8	2.1.18		*The report says that the company should strive to run the plant at a production capacity of 5400 Mts per month which works out to 180 Mt per day. This is factually an incorrect assumption because of the following reasons.* *It may be noted that considering 180 MTs./day sulphur production will be more than the average requirement per day based on the average monthly production of TiO2 by about 50 MTs. per day.* *The production of Sulphuric Acid is not in proportion to the production but to meet the shortfall in steam*

requirement which will result in huge loss for the company, as large quantities of furnace oil would be required (about 4 to 5 KL per day@Rs25000/- per KL- average price of Furnace oil) for production of steam required

The minimum capacity at which the Sulphuric acid plant can be run is 180 MTs per day. The stochiometric quantity of Sulphuric acid needed per MT of TiO2 production is about 4.3 MT. The daily quantity of Sulphuric acid required at three production capacities and capacity at which Sulphuric acid plant is to be run to meet the steam requirement are as given below.

Calciner	Capcity TPD	Sulphuric acid consumption	Sulphuric acid plant production TPD	Dailly Excess sulphuric acid production MT	Monthly excess quantity MT
Small	16	70	180	110	3300
Big	32	138	190	52	1560
Small + Big	45-48	210	230	20	600

From the above table it is clear that, if the company consistently running the TiO2 plant with production capacity in excess of 32 MT per day, the accumulation of sulphuric acid will be low and at manageable level without much need for a distress sale. It may be noted that the maximum storage capacity of acid is only 8500 MT only. So whenever the storage level reaches maximum, TTPL has to dispose acid in order to sustain TiO2 production and for safety reasons.

In 2012-13, TTPL has operated TiO2 plant with the small calciner only for one month.In 2013-14, they were forced to operate the plant with the small calciner for two months, resulting in accumulation of acid to the tune of 6600 MTs on these two months alone, leading to sale of more quantity of acid, as compared to 2012-13.

This was due to Global glut in Tio2 market demand which started from 2012-13, worsened further in 2013-14 and which is continuing even now.

9	2.1.19	The major raw materials for the production of Titanium Dioxide are Ilmenite and sulphur. The stock level, arrival and consumption are reviewed in daily basis. The minimum stock of Ilmenite and Sulphur is fixed as 3000 MT which is equivalent for one month production. For all purchases company follows the purchase manual only. As reported the major raw materials are Ilmenite ,Sulphur& scrap which are procured following the instructions of the manual. Moreover ilmenite and sulpur are purchased from reputed central PSU's like BPCL and IRE.
10	2.1.20	The company has always strived hard to obtain maximum allocation from IRE and to lift entire quantities allocated by IRE. However, often there were situations where IRE had not made allocations or TTP did not have funds to lift the quantities allocated due to shortage of funds(from 2012-13 onwards). Payment has to be made in advance to IRE for supply of Ilmenite. Allocation of funds for various purposes is done through

			detailed assessment of fund availability and priorities of payments by a Committee of officers chaired by the General Manager. Efforts have also been made to obtain credit facilities from IRE. IRE had agreed for credit facility based on Letter of Credit, which the born, any was not able to comply. Thus the Company had always given preference to procure IRE ilmenite and the remaining quantity is met from other agencies. The company had given preference to procure high content ilmenite ie IRE Q Grade and MK grade. Up to the year 2009-10, the ilmenite was supplied from IRE, Chavara unit alone. From 2009-10onwards, the supply from IRE had reduced due to several reasons as listed below. 1. IRE had reduced to production capacity to 50% due to unavailability of raw sand. 2. Availability of raw sand was reduced 3. Problems in mining areas 4. Reduction in heavy mineral content in raw sand 5. Issues relating mining of sand from newly acquired land. 6. Local agitation 7. Acute shortage of raw sand due to post tsunami diminishing mineral content 8. Labour problems The Company requires 3000 MT per month. Since the availability of high content ilmenite was insufficient, the remaining quantity was met from IRE, Orissa unit and other sources. Even if the profitability was less when utilizing low content ilmenite, the company able to manage the production so to minimize the loss which will be incurred if production is curtailed due to lower absorption of fixed cost per unit produced.
	2.1.21		*The Audit is spanning a period of 5 years from 2009-10 to 2013-14 and the ilmenite supply improved only in October 2013 to March 14 ie. only for 6 months out of the audit period of 5 years. This shows the non availability of ilmenite from IRE. The company was always preferring Chavara or Manavalakurichi ilmenite but were forced to go for tendering private suppliers only due to non supply/availability of ilmenite from IRE.* Company had made efforts to increase the allotment by letters, emails etc during the period. Several attempts were made in the highest level also. The whole allotted quantity was lifted by the company except 502 MT during March 2013. This allotment was intimated on 15/3/ 2014 and company was not able to lift due stringent financial crisis. The Company was facing acute shortage of working capital due to liquidity problems. During period 2009-10 the cost of the raw material (Sulphur) was high and company was not able to maintain the production level. In 2011-12 the cost of the ilmenite reached at highest rate. The market of TiO2 was not favorable to the company. The company has been engaged in long term contract with BPCL to supply sulphur in credit basis. The company attempt to procure ilmenite by utilizing the credit facility in November 2013. Several communications were made between TTP L and IRE to get credit facility. IRE has informed that they are ready to supply the ilmenite in 45 days credit subject to opening of the irrevocable LC and interest @ 15% will be charged for beyond 45 days. Since TTP was not in a position to open the LC due to financial difficulties and hence the attempt had failed. Company lifted entire allotment except 502.37 MT during the period from July 2012 to May 2013. This

			was additional allotment for the month of March 2013. IRE allotted 1109 MT from MK unit and 500 MT was allotted as an additional allotment and wasinformed on 15/03/2013. The company was not able to lift the allotment due to financial stringency. The allotment for month of October 2013 was unlimited and the company lifted 464 MT in that month and the balance quantity was lifted in the subsequent months and was completed in the month of February. The allotted quantity in the month of February 2014 was 293 MT. The company paid the amount on 13/02/2014 and the quantity was not lifted due unavailability of material from IRE Chavara unit. Later the amount was transferred to MK unit. The purchase order was placed for 6000 MT of Ilmenite in the month of Dec 2013 and the supply was affected in the subsequent months.
12	2.1.22		The Ilmenite is scarce material and is found in the sea shore. The sources are also limited. The suppliers were registered only if the sample is accepted. The sample analysis plays vital part in selection. Since the source of material was limited, the company was not in a position to widen the supply base.
13	2.1.23		The company had initiated legal action against Indchem and the Arbitration award has been received in favour of the company .The company will file execution petition once the appeal period available to the respondent is over. Initially the purchase of Ilmenite was from IRE and there was no agreement executed and the same practice was followed in the purchase from private agencies. Agreements are now being executed for all high value items. But in the case of M/s Ind chem, the company placed order for 5000 MT of Ilmenite. M/s Ind Chem supplied 202.63 MT only and they have not supplied the remaining quantity. The daily requirement of Ilmenite was 100 MT per day. The supply from IRE was also insufficient to meet daily requirement.
14	2.1.24		Tender No: CD/RM/Ilmenite/10-11 dated 23/06/2011 was floated to procure 10000 MT of Ilmenite. As per tender condition the minimum TiO2 percentage was fixed as 50 %. Three samples were collected. After analyzing the samples, it was found that TiO2 percentage was less than 50%. There was only one bidder participated in the tender (M/s Miracle Sands Company) and their source of origin was Srilanka. Since the TiO2 percentage was generally lower for Srilankan Ilmenite and sample result was also less than 50%, CAC dated 12/10/2011 recommended and MD approved to incorporate a deviation of 2% in the TiO2 percentage, prorate rate was applicable from 48% to 46% and below 46% content will be rejected. Tender No: CD/RM/Ilmenite/12-13/1 dated 11/05/2012 was floated to procure 5000 MT of Ilmenite. Since the sample result shows below 50% TiO2 content, CAC dated 30/05/2012 recommended and MD approved to incorporate a deviation of 2% in the TiO2 percentage, prorate rate was applicable from 48% to 46% and below 46% content will be rejected. In both occasions, the availability of Ilmenite from IRE was not sufficient to meet our production target. Hence the remaining quantity was met from private sources.

15 2.1.25

Table below shows the dilution of tender conditions and the Sl. No 1, 2, 4 & 5 were altered and in favour of company. Even though the SD was fixed 5% of the tender value, it was later relaxed to 2 lakhs. But the supplier completed the supply as per tender conditions.

The percentage of moisture content fixed as 0.5% maximum. If the moisture content exceeds the limit the company will deduct equivalent amount from the bill of suppliers. This practice was strictly followed by the company.

Sl. No:	Terms and Conditions		Impact
	Original	Modified	
1	Inspection at Tuticorin Port on arrival and at Company's lab	Final inspection at the Company's lab only	Possibility for supply of materials from supplier's plant after separation of other costly minerals and mixing with cheaper quality.
2	Payment after receipt and acceptance of every 500 MT.	After receipt and acceptance of material	Creditor's payment period reduced
3	Security deposit of five per cent of the cost of material	Security deposit of Rs.2 lakh	Being very nominal amount did not serve the purpose of security for due performance of contract
4	Minimum daily/ monthly supply quantity	No minimum fixed	Erratic and bulk supply adversely affecting results of sample due to testing of composite samples and non-synchronisation with production requirement.
5	Other specifications like Lanks Mineral Sands (LMS) specification and test report	No such clause included	Compromise in quality of ilmenite
6	Maximum limit of moisture content to be 0.5%	No such condition included	Compromise in quality of ilmenite

16 2.1.26

The company is taking care to include the price reduction clause in all tenders hence forth. Even though the price reduction clause was not included in the tender, the price was revised with respect to the change in subsequent tenders.

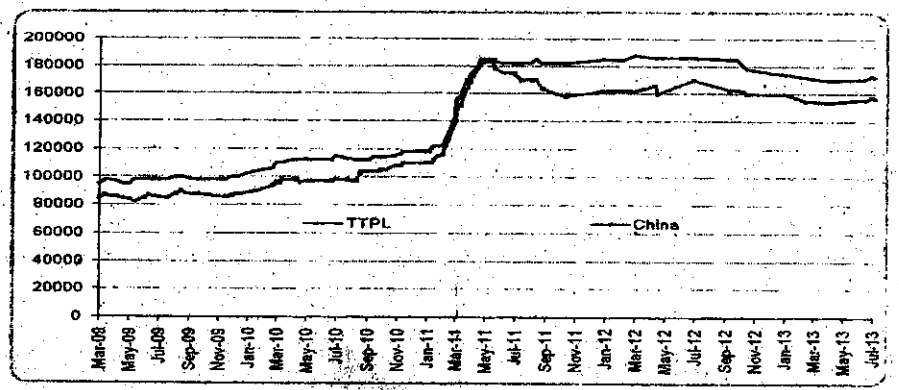
1. The tender No: CD/RM/Ilmenite/10-11 dated 23/06/2011 was floated for 10000 MTs of Ilmenite and only one bidder was participated in the tender. Since the supply from IRE was not enough to meet the requirement of Ilmenite, purchase order No: O- 2919 dated 13/10/2011 placed with M/s MSC for 2000 MT of Ilmenite and the rate was Rs.17500/- .The subsequent purchase orders for this tender with the same supplier were O- 2935 dt 10/12/2011 and O-2940 dt 02/01/2012 for 500 MT for the

			same rate. Since the price of subsequent tender no: CD/CN/Ilmenite/11-12 dated 07/12/2011 finalized on 24/01/2012 @ Rs.16250/per MT, the rate for the remaining supply for the previous tenders was revised accordingly. Hence the Purchase order O- 2949 dt 07/02/2012 was placed with MSC for 520.94 MT @RS.16250 per MT 2. Tender No: CD/CN/Ilmenite/12-13/1 dated 11/05/2012 was floated to procure 5000 MT of Ilmenite and purchase orders No: P.O No: O-3890 dt 02/06/2012 & O-3891 dt 06/06/2012 were issued @ Rs.17500/- per MT to M/s MSC & M/s TDC respective. Later P.O No:O- 3890 and purchase order No: O-3891 dated 06/06/2012 were amended to enhance the quantity by 510 MT and 1000 MT respectively at the same rate. In the subsequent tender No: CD/RM/Ilmenite/12-13/2 dated 07/08/2012, the price was negotiated and fixed @ Rs.19463.5 /- on 28/09/2012. The entire supply from MSC and TDC as per previous supply were completed before finalizing the next tender (28/09/2012) 3. Tender No:CD/RM/Ilmenite/12-13/2 dated 07/08/2012 was floated for 5000 MT of Ilmenite and purchase orders O-4387 dated 29/09/2012 placed with MSC for 3000 MT and O-4390 dated 09/10/2012 placed with TDC 2000 MT. Later purchase order O-4387 was amended two occasions to extend the e delivery period extended up to 31/12/2012 and increase the quantity. In the subsequent tender CD/RM/Ilmenite/13-14/3 dated 31/07/2013 the rate was finalised on 25/01/2013 (Rs.17981/-). M/s MSC had completed the supply the entire quantity before affecting the rate revision based on next tender. Since TDC was not able to complete the supply before the rate revision, the rate was amended to Rs.17981/- with effect from 01/01/2013 for the remaining supply. 4. Tender No: CD/RM/Ilmenite/13-14/2 dated 31/7/2013 was floated to procure 6000 MT of Ilmenite and Purchase order. No: O-7204 dated 28/11/2013 placed with MSC for 4200 MT and O-7205 dated 06/12/2013 placed with TDC for 1800 MT. The revision price with respect to IRE rate was applicable for the extended period only. Since the tender was floated prior to the MD's order, further revision of tender clause is subjected to mutually agreed conditions. Since the deviations were mutually agreed by both bidders, the deviations are incorporated in the purchase orders as Annexure.
17	2.1.27		The company has taken steps to ensure that penal clauses are duly incorporated in all future contracts entered into from now on. The minimum stock for sulphur maintained during 2009-10 to 2013-14 was fixed as 3000 MT to take care

			of various uncertainties in the supply of sulphur. In the case of import the suppliers are delivering the material in bulk quantities. It is unviable to import quantities of Sulphur less than 5000-6000 MT in one consignment. The tender was floated for 6000 MTs in 2010-11, considering the supply from The supply from BPCL during the 2011-12 was 12625 MTs. In addition to this there was import from M/s Mincore 6000 MT. The quantity was supplied in bulk quantities and the period of supply was 60 days.
18	2.1.28		It may be noted that during the period Sulphur price was fluctuating abnormally to as high as Rs.35000 Per MT .The whole operation of TTPL became unviable. The procurement of the alleged supplies without LD clause was effected at a time when the international sulphur price was fluctuating and price had not consolidated for normal trading operations. Under such circumstances no supplier /trader will be normally committing for long term supply contract as per prudent procurement practices. The purchase order (N 9822) was placed with M/s SPIC for 6000 MT and they supplied 1864.38 MT only. Due to exorbitant international price increase of Sulphur, M/s SPIC was not able to complete the supply. Hence new tender was floated for 6000 MT and purchase order was placed with M/s Mincore (O-228) for 2000 MT@ Rs.11825/-. But M/s Mincore supplied only 846.92 MT due price increase in international level. Tender was again floated for 2000 MT to 6000 MT and purchase order was placed with M/s Mincore (O-248) & SPIC (O-249) @ Rs.14625 per MT for 1000 MT each. Purchase order placed with M/s Mincore Resources for the supply of 6000 MTs of sulphur on high seas sales basis and the supply was commenced from 15/12/2010. The supply was delayed due to the delay in getting NOC and documentation for High seas sales. Since they commenced supply from 01/01/2011, with the supply schedule up to 01/03/2011.
19	2.1.29		The norms fixed are realistic and reviewed from time to time for modifications to be made in case necessary.
20	2.1.30		TTPL has been taking all efforts for getting maximum allocation from IRE.IRE has the best quality Illmenite. The short supply from IRE is the only reason why the company is forced to resort to taking low quality illmenite from private suppliers so as to maintain the production target.
21	2.1.31		Slight variations reported above or below the norm in some months were necessary to adjust the physical stock of sulphur in the godown, especially when the physical stock taking is carried out. This is a normal accounting practice in such situation in any process industry, as correct determination of raw material stock in the godown cannot be ascertained on a day to day basis. The theoretical quantity of sulphur required per MT of Sulphuric Acid on 100 % Basis is 0.3269 MT(32.065/98.0785). Considering that the sulphuric acid produced is having a weight concentration of 98.5% and sulphur content in raw sulphur as 99%, the theoretical quantity of raw sulphur required per MT of 98.5% sulphuric acid production will be 0.325 MT (0.3269/0.985/0.99). Considering other losses like carpet loss, loss of sulphur along the sulphur muck removed from sulphur melting pit etc, a practical norm of 0.33 MT/MT

			H2SO4 % is fixed. This figure is being consistently achieved when considered on yearly basis. As the company achieving the well judged norm when taken on an yearly basis, it can be reasonably concluded that there is no loss on account the variation reported in some months (above or below the norm), just to adjust for the physical stock. The proper measurement of production quantity of sulphuric acid using sophisticated quality meters is quite essential for the accurate determination of sulphur consumption so that physical stock would be maintained more precisely. In order to correct the anomaly as pointed out by audit the management of the company are taking steps in future by augmenting additional instrumentation for accurate measurement of sulphur consumption as and when the financial situation improves.
22	2.1.32		It is true that the demand in the country is more than the indigenous production. However the cost of production is higher than the imported materials landed cost owing to lower economy of scale as compared to our competitors abroad. Further the company's employee cost is also on the higher side due to lower economy of scale as well as lack of modernization and automation of the plant for the last 40 years. Worldwide Anatase Grade TiO2 market is shrinking as coated Rutile from China is available at higher competitive prices. It is well known fact that for all TiO2 application, coated Rutile will yield better results and customers prefer to use Rutile Grade Titanium Dioxide, whenever the price gap between the coated Rutile and Anatase Grade TiO2 is less than 25%. Also major Titanium Dioxide manufacturers through the Sulphate route process have modified their plant to produce Coated Rutile Grade TiO2 for sustaining in the market. It is reported that TTPL's domestic competitor VVTi Pigments Pvt. Ltd also scheduled to launch Coated Rutile by next year. The sales performance of TTPL adversely affected as the demand for Anatase Grade is decreasing as explained above and also due to the increased import from China at comparatively very low landed cost.
23	2.1.33		It may be noted that the Sales budget is fixed mainly based on the optimum production level decided by the company and not based on the market conditions alone. TTP strives to achieve the sales target fixed based on the budgeted figures. Unfortunately, due to the unfavourable market conditions resulted mainly from the low cost import with acceptable quality, the customers switched over to Chinese imported material. Apart from above, the recessionary trend in the economy hit our user industries also affected our sales adversely. The general trend of switchover from Anatase to Rutile, due to the reduced price gap between Anatase grade TiO2 & Rutile grade TiO2 also affected our sales adversely. Please note that for almost all applications coated Rutile gives better results over Anatase Grade TIO2, hence the customers prefer to use Rutile grade when the price gap with Anatase grade is below 25%. Import of Coated Rutile from china at attractive prices increased drastically during the period which caused many of our customers to prefer Chinese Coated rutile over our Anatase grade. Liquidity position in the market also was reported to be not favourable during the

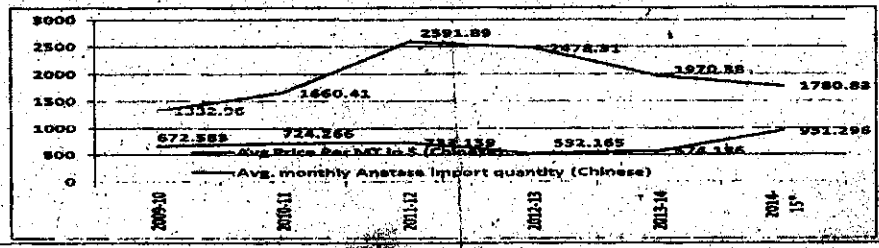
			period. It may be noted that the sales were compared based on the sales during 2009-10 & 10-11 when the market conditions were favourable when the Chinese imported prices were comparable with TTP prices. After the sudden boom in the Titanium Dioxide sales in 2009-10 & 2010-11 market conditions reversed and the market prices came down drastically We are not in a position to reduce the prices as compared to price reductions by our competitors, because of the higher cost of production. Prevailing market prices were also considered by the committee concerned before finalizing the pricing of the company's products. TMC monthly targets were fixed based on production as well as stock position and always set higher target to achieve maximum possible sales. Also after the acquisition of Kilburn Chemicals by VVTi Pigments private Ltd during the year 2011, they have improved their product quality substantially. During this period the global players especially from China and Korea (Chinese-B101 & Korea- KA100) also improved their product quality. This forced some of the customers to switch over to Chinese and Korean products considering the cost advantages and also customers were reluctant to give premium price for TTPL product, which in turn resulted in reduced sales volume. The prevailing cost of production constrained TTPL from further reduction in the price. Export sales decreased as the international prices of TiO2 came down drastically. The acceptable prices for our export customers were quite lower than TTPL's prices, which were fixed based on company's actual production cost.
24	2.1.34		The pricing policy is based on market feed back from the stockists as well as the company's end users. TTPL also depend on import price which is freely available in many websites. So pricing policy what we arrive is based on such inputs and also considering our cost of production. However the company is not able to to provide material at competitive rate to end users due to high cost of production as per reasons given above. There are larger issues other than lack of professionalism in marketing for the decline in sales. Industrial products are marketed based on principally two aspects: the quality (as against the requirement by the industrial customer) and the price. It is more of selling than marketing. TTPL has the above except the vital aspect "capability to offer the product at competitive prices" TTP has a product of excellent quality well accepted by its range of customers. The problem is that it is not able to reduce prices to the levels as is offered by its competitors- both domestic and foreign. Competitors are now able to sell products of acceptable quality at prices less by 20 to 30% of that of TTPL. TTPL has been able to stay on, though with reduced sales turnover, leveraging on a little bit comparative advantage it has been having on the quality aspects and also due to the fact that buyers, notwithstanding price, offer small quantum of orders to TTPL with the object of having a one more consistently high quality supplier in their vendor list. It should also be kept in view that the competitors enjoy a lot of flexibility in pricing and have better responsiveness to price movements. Being a PSU, TTPL has always been having constraints on this front too.

		TTPL has a strong market intelligence network and it organises and analyses market feedback on a daily basis. Company also participates regularly in trade fairs (Paint India, Plast Asia, Plastivistion, Ind-Plast etc...) conducted by various user industry association like ISSPA, IPF, AIPMA etc... Executives of the company pays regular visits to customers/stockists in various regions on promotional missions and also for regular customer feedbacks.
25	2.1.35	Based on observation of audit we humbly submit that we are not in a position to really fix the selling price on a long term basis as we have to consider the cost of production as well as the landed price of the input materials. Usually, the prices of our products & other sales related policies are fixed on a monthly basis. The prices are reviewed and finalized based on the cost of production & market prices. The price difference were reported and discussed in the meetings before finalizing the prices for each month. Detailed sales analysis is done at higher level in meetings like TMC meeting & MRM. It may be noted that there were a drastic price reduction of imported Anatase grade titanium dioxide in India from June 2011. TTP was not able to reduce the price as much as the reduction for Chinese imported Anatase Grade due to the higher cost of production. The comparison of market prices reported in the Economic times daily is as below: 

Details of Anatase Grade TiO_2 Imports					
Year	Yearly Imports from China	Avg. Price Per MT in $ (Chinese)	Avg. monthly Anatase import quantity (Chinese)	Total Anatase import Qty	Avg. Monthly Anatase import (MTs)
2009-10	8070.992	1332.96	672.583	14401.736	1200.145
2010-11	8691.194	1660.41	724.266	15649.348	1304.112
2011-12	8797.904	2591.89	733.159	18066.756	1505.563
2012-13	6385.976	2478.31	532.165	15303.093	1275.258
2013-14	6889.626	1970.38	574.136	16407.983	1367.332
2014-15*	5707.774	1780.83	951.296	11406.875	1901.146

*- Till Sept 2014

The above details were extracted from the reports provided by M/s. Online Telecom Network Services, Mumbai. The quantities mentioned in the table are the import of Anatase grade TiO2 confirmed by the description (Anatase) in the import documents. But there are more quantity imports of Anatase grade apart from the identified quantity which are not incorporated in this report. (May be shown as Titanium dioxide only without specifying the grade)



			As TTPL's competitors offers more discounts with attractive credit facility we have increased the discount to compete up to a certain extent with the imported Chinese products and other domestic competitor's products.
26	2.1.36		As TTPI's customer base is mainly SSIs/SMEs, a wide network of stockist/dealers is required to represent TTP in the domestic market.Considering the changing market scenario, they have introduced sales through Consignment agency, initially, in Gujarat region and we are planning to develop new sales/marketing network in the long run for effective marketing of our products. As the competition in the market is increasing and the better prices are offered by competitors even to company's regular & loyal customers, they are not able to take stringent action against the stockist. Sale of every tone is counted in this scenario. So, if TTPL could have taken stringent actions for defaulters when they do not achieve the monthly/ yearly target as mentioned in the stockists agreement, TTP would have end up with 3 or 4 stockist to market our products in the entire domestic market. As the MRTP act restrict the company from insisting the stockists to market exclusively our products, almost all stockists are promoting our competitor's product as the competitor's are providing more margin with better discounts/credit facilities.
27	2.1.37		TTPL is forced to increase the discount to sustain in the market else we would have lost a large volume of market share. Every month the company is fixing discount scheme after collecting and analyzing market feedbacks from all sources As said earlier, competitors were providing more and more discounts to allow more margins for dealers/stockists to push their products in the market; To encourage the stockist to increase their off-take after due deliberations in CAC we review the discount scheme on monthly basis. Please see the item wise reply. 1. The flat discount is not linked with the Product Price. The company had not increased/decreased the same when TTPL increased/decreased the prices of the products. TTPL had increased/decreased the flat discount based on the market conditions including competitors pricing & discount strategies. 2. It may be noted that Anatase grade market has been shrinking and the customers were switching over to coated rutile, especially from China, as it is available at matching prices with TTPL products. TTPL had put all efforts by providing discount based on their previous performances. The targets were fixed based on the maximum monthly off-take in a year. Monthly off-take of each stockist varies from time to time. TTPL's effort is to retain the business when the sales were declining due to various reasons explained in the previous sections. Hence target fixed at 70% of maximum off-take. 3. As mentioned in the report the company providing slab based discount to stockists/customers/traders and when the party crosses a slab they will be eligible for discount for

			the higher slab for the entire quantity. First, scheme, apart from that it may motivate stoc more benefit by crossing each slab by their customers by passing on the discounts to the u
28	2.1.38		Optimum Production level where planned based on view that sales can be developed & improved in due co benefit. TTPL products are allotted based on the custom so the company require a minimum stock level of 500 to 1 It may be noted that the competition after especially Chinese products, came down drastically. TTPL that the quality of both imported products & domestic c which caused our loyal customers, who are also competin other products for better economy. To summarize, huge imports at better prices fr better prices/discount/credit policies by our domestic comp compan's user industries and the Anatase grade TiO2 to economy caused the decrease in sales.
29	2.1.39		Due to scarcity of high quality ilmenite coupled with fall in n levels from 15273 MT in 2009-10 to 10,817 MT in 2013-1 ... production ... *directly resulted in the increase in employee cost per MT.*
30	2.1.40		As mentioned above due to scarcity of high quality ilmenite coupled with fall in market demand has brought down the production levels from 15273 MT in 2009-10 to 10,817 MT in 2013-14. This has directly resulted in the increase in man hours utilized per MT.TTPL 'labour force' has come down substantially over the years which is evident from the strength of employees in 2006-07 to the strength in 2013-14.These are permanent employees and company utilizing their service in areas wherever required. Hence the notional cost saved on account of non filling up of workers in the production departments may also be considered while drawing up cost computations.
31	2.1.41 & 2.1.42		The Audit has observed the following:

Audit'Observations	REPLY
1. Due to inefficient management of working capital constituents the working capital cycle increased from 40 days to 112 days	1. The real reason is that on account of poor market demand which forced TTPL to extend more credit period to debtors as their competitors were extending more credit period. Thus the credit period was raised from 30 days to 45 days and then to

				60 days and even 90 days in certain cases by sales policies formulated by the marketing department from time to time so as to match with their competitors so as to retain existing customers who may move to the competitor who is extending more credit period.
			2. The average collection period increased from 28/30 days to 76 days resulting in interest loss of Rs.62 lacs	2. This was due to increasing of credit period to debtors so as to retain customers in line with facilities offered by competitors.
			3. High inventory holding period of 89 days	3. This has arisen on account of falling demand for the product in the market
			4. Creditors management was poor. Credit period allowed was more than the credit availed	4. Companies major suppliers were public sector units like BPCL and IRE who used to supply only against advance payment. Suppliers were few for the raw materials purchased and hence the few suppliers were dictating terms and were reluctant to extend credit period since it was a seller's market.
			The financial parameters mentioned viz. working capital management, management of accounts receivable and payable and inventory management should be seen against the practical conditions at any given point in time. The increase in debtors collection period was on account of the poor demand for the product which forced the company to raise the credit limit period from 30 days to 60 days and to 90 days so as to retain the customers. The average stock holding period also increased on account of the lower demand in the market.	
33	2.1.43		There has been remarkable progress in the matter in the past 2 years. The arrears in finalization of accounts started not from the period mentioned by audit, but from the year 2006-07 for which the audit was completed only after four years ie. In 2010 and this resulted in the delays of the subsequent periods. Also another factor which contributed was the increase in out flow of senior officers in accounts department due rolling back of retirement age from 60 yrs to 58 resulting in a sudden exit of senior officers in finance department including the then FC. Subsequent to this, that department was manned by contract personnel and for some period there was no finance professional to head the department. This led to non updation of ledgers and other books and made the finallzation of accounts very tedious. The present FC and his team were recruited by the Company from 2011. Considering the huge arrears of Accounts the work of updation of books and finalization of accounts for the years from 2007-08 to 2010-11 were outsourced to two CA firms M/s. Sarma Associates CA's and Sreejith Associates CA's who completed the arrears up to 2010-11. The books had to be written up and	

			debtors ledger which was discontinued were recreated by the Chartered Accountant firms who had to work close to one year and even working shift style to complete the massive work. The subsequent period from 2011-12 onwards the present team of officers are doing in house. The treatment of expenses incurred for the abandoned portion of the pollution control project was another item which was deliberated at board level and statutory Auditors and this also slowed the progress in finalization of accounts. A decision on the accounting treatment was finally made with the intervention of the office of the AG at a tripartite meeting held on 29-10-2013.
33	2.1.44		Cost records are now being maintained by the company. The above mentioned facts in para 2.1.43 have held up the completion of cost records and cost audit and once the statutory audits are updated the authorities promised to completing the cost audits for the relevant years.
34	2.1.45		Audit has observed that the debtors transactions were not recorded and periodic reconciliations were not done. This is incorrect since recording of transactions were done regularly since accounts are fully computerized. However reconciliations were pending due to backlog in completion of audit of earlier periods and writing up of debtors ledger accounts which were discontinued in earlier periods In the case of MSC the following points may please be noted. Miracle sands and chemicals was originally an illmenite (raw material) supplier to TTP, to whom substantial amounts were pending dues towards raw material supplied (upto 3.5 crores at one point of time) due to tight cash flow situation arising from poor demand for the end product Anatase Tio2.MSC expressed their willingness to register as our sales stockist and this was agreed to considering the poor sales off take position and accumulation of inventory of finished goods in the company. It is not correct to say that proper books were not maintained by finance department for transactions with MSC. The books were properly maintained since the accounting system was computerized and so automatically entries will be generated in the debtors accounts whenever an invoice is raised this being an ERP system. Similarly as and when the payments are received or material is received the parties account will be automatically credited. These entries can be verified to check the correct status. Hence the result of transactions at any time can be ascertained by us. However reconciliation with MSC books was only pending. MSC used to lift goods based on the credit available to them against raw material supplied by them. However initially as the dues position was huge they were lifting finished goods comfortably and the credit limit was not exceeded. If MSC had not made good the debt by supply of illmenite then there would have been serious problem. As illmenite was supplied the issue was settled amicably. Audit had reported loss figure which is more or less a theoretical figure only. The loss of Rs 1.55 Cr is a presumed figure and not a real loss as the audit assumes that the company need not have made sales to MSC and other buyers would have lifted the goods in the absence of MSC. This is not correct since there was huge stock piling of finished goods as there were no buyers who were deprived the product on account of sales made to MSC as there was poor demand for the product which evidenced by huge

			stockpiling of finished goods at TTP and considerable fall in demand in the market for the product. The monitoring of accounts payables and receivables were constrained due to the non finalization and non completion of books due to reasons mentioned above. The accounts of M/s. Asian Paints and also other debtors were not reconciled on an yearly basis leading to different balances reported by TTPL and Asian paints and also C forms etc. were pending to be collected for earlier periods. The matter was needed to be sorted out and this was done subsequently and the accounts are reconciled as of now. However it is felt that the drop insales was attributed largely due to the fall in demand and not just the reconciliation of accounts. In the case of MSC the following points may please be noted. Miracle sands and chemicals was an illmenite supplier to TTP to whom substantial amounts were pending (Upto 3.5 crores) due to tight cash flow situation arising from poor demand for Anatase TiO2. MSC expressed their willingness to register as our stockiest and this was agreed to considering the poor off take position. The outstanding as a supplier and as a debtor have to be seen as separate functions and should not be clubbed together which will give a misleading impression. Miracle sands have cleared their dues and as of now the accounts are also reconciled.
35	2.1.46		The practice with IRE was that they would collect CST at higher rate and refund the amount only at the time of us submitting their 'C' forms. This practice led to the balance remaining with IRE for longer periods than needed. Now the C forms have been supplied and the outstanding has also been cleared.
36	2.1.47		Treatment of effluent in all chemical plants was made mandatory only after the enactment of water (prevention and control of pollution) Act, 1974. Until this period, major chemical industries were disposed of their liquid either through dilution or throwing out into the deep sea. TTPL started to work on treatment of the effluent from the inception of the Act, but due to some reasons, TTPL could not implement. TTPL conducted studies by National Institute of Oceanography (NIO), FEDO and tried to put up the underground pipeline to send the effluent to the sea where it will be neutralized, but all the proposals were not implemented. Finally TTPL commenced the Effluent Treatment Plant comprising Acid Recovery Plant (ARP), Copperas Recovery Plant (CRP) and Neutralization Plant, modernization and expansion of the existing plant. M/s MECON, a central government undertaking was engaged as project management consultant. Even though the proposal was started in 2004, the implementation of the same got delayed due to disposal of different cases in High Court and Lok Ayuktha. After cleared all the cases in the courts, TTPL issued the work order to commence the Acid Recovery, Copperas Recovery and Neutralization Plant during February 2006 and April 2006 respectively. The project was envisaged in two phases and only the tenders were called for I phase and that too limited to Effluent Treatment Plant Viz. ARP, CRP and NP. <u>Details of expenditure</u> <u>Acid Recovery Plant</u>: The Agreement was signed during February 2006. TTPL started implementing 1st phase of the project. which was estimated as Rs.129.4 crores for ETP. As per the direction of the court,

TTPL had to implement the project within the time limit. Due to paucity of funds, TTPL was unable to complete the erection of the plant. Simultaneously TTPL ordered the imported equipment/machineries through MECON/Chematur Ecoplanning (CEP)/AVI. The latest equipment reached TTPL during February 2008. MECON on behalf of TTPL, invited quotations for indigenous packages and the quoted rate was high compared to MECON's estimate and thereby indigenous packages were deferred. Hence TTPL was unable to continue the project with the high cost.

Copperas Recovery Plant: The installation of Copperas Recovery Plant was started in 2010 and TTPL invested Rs.16.48 crores against the imported machineries and for some of the indigenous packages. Work on few more packages are not yet started due to paucity of funds. TTPL is requesting the Government for balance of fund required to complete the project (total cost of the estimated project is Rs.38.83 crores). The project work will be commenced immediately after the financial position improves.

Neutralization Plant: Implementation of the Neutralization Plant has been completed.

Action taken report on recommendations of the C&AG consequent to the performance Audit

Recommedations of C&AG	Action taken Report
1. Maintain cost records so as to fix breakeven level of production	1. The cost records are maintained and the breakeven levels are discussed and finalised
2. Take measures to Improve efficiency	2. Measures are taken to enhance efficiency by proper review of production function.
3. Follow the approved purchase procedure and take measures to obtain maximum allotment from IRE	3. The store purchase manual is broadly followed to the extent possible and the officers are trained to follow purchase procedures.
4. Have dynamic pricing mechanism and effective discount scheme	4. The discount scheme is completely revamped and newer strategies are being implemented.
5. Initiate action to operate the plant at optimum level to avoid payment of unproductive wages	5. The plant is now operating at optimum level and plans to continue the same.
6. Finalise the accounts in a time bound manner.	6. Action is being implemented for updating statutory Audit of accounts in a time bound manner.

[illegible] MAR, P.N
[illegible] Secretary to Govt
[illegible] Department
[illegible] Secretariat
[illegible] Thiruvananthapuram

Annexure 7

(Referred to in Paragraph 2.1.3)

Statement showing Financial Position of Travancore Titanium Products Limited

(₹ in lakh)

Particulars	2009-10	2010-11*	2011-12*	2012-13*	2013-14*
Source of funds					
Share Capital	976.75	1376.75	1376.75	1376.75	1376.75
Reserve and surplus	0.73	0.73	851.80	16.11	-18.31
Long term	6490.78	5956.85	5737.13	5459.70	5245.54
Total	7468.26	7334.33	7965.68	6852.56	6603.98
Application of funds					
Fixed Assets (Net Block)	*962.53*	*896.74*	854.00	703.37	987.42
Other Assets	4.51	4.15	8.86	112.44	112.26
Capital work in progress	4172.85	5074.15	6341.97	6108.32	6108.32
Investments	12.29	12.29	12.29	0.00	0.00
Deferred Tax	231.50	231.50	231.50	231.50	231.50
Current Assets, loans and advances	6762.62	8634.50	9952.26	10532.03	10237.93
Less Current Liabilities and Provisions	7799.09	9366.09	9435.20	10835.11	11073.45
Net Current Assets	-1036.47	-731.59	517.06	-303.08	-835.54
Deffered Revenue	19.32	0.00	0.00	0.00	0.00
Profit and loss account	3101.73	1847.09	0.00	0.00	0.00
Total	7468.26	7334.33	7965.68	6852.56	6603.98

Working Results

(₹ in lakh)

Particulars	2009-10	2010-11*	2011-12*	2012-13*	2013-14*
Income:					
Net Sales	13288.55	16182.62	18459.41	16845.32	15908.27
Interest	59.92	95.95	84.35	0	0
Other Income	72.28	55.73	317.16	114.60	51.73
Stock Differential	-436.75	-181.18	1346.09	1444.36	289.14
TOTAL	12984.00	16153.12	20207.01	18404.28	16249.14
Expenditure:					
Consumption of Raw Materials	4077.23	5748.20	7322.88	11453.18	9333.87
Manufacturing and Other Expenses	7572.71	8592.12	9256.27	6308.62	6371.68
Interest	634.30	248.01	472.14	440	571
Depreciation	103.81	90.81	80.63	78.43	107.01
TOTAL	12388.05	14679.14	17131.92	18280.23	16283.56
Net Operating Profit/ (Loss)	595.95	1473.98	3075.09	124.05	-34.42

**provisional figures*

Annexure 8

(Referred to in Paragraph 2.1.11)

Statement showing analysis of elements of cost per MT in Travancore Titanium Products Limited

(In ₹)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Sales value	85899.10	100045.00	156426.00	153455.00	146529.00
Raw materials	26695.70	39828.18	55174.51	70797.56	55642.15
% to sales	*31.08*	*39.81*	*35.27*	*46.14*	*37.97*
Power and Fuel	16841.38	16637.88	26313.36	27743.68	24414.03
% to sales	*19.61*	*16.63*	*16.82*	*18.08*	*16.66*
Other variable cost	7242.60	8031.10	10831.93	10985.30	15209.64
% to sales	*8.43*	*8.03*	*6.92*	*7.16*	*10.38*
Variable expenses	**50779.68**	**64497.16**	**92319.80**	**109526.54**	**95265.82**
% to sales	*59.12*	*64.47*	*59.02*	*71.37*	*65.01*
Contribution	**35119.42**	**35547.84**	**64106.20**	**43928.46**	**51263.18**
Employee cost	23227.24	22475.99	30775.16	38049.55	42850.42
% to sales	*27.04*	*22.47*	*19.67*	*24.80*	*29.24*
Finance cost	4153.11	2841.62	3740.18	3809.52	4958.16
Other fixed cost	2902.85	1688.50	9222.97	4754.45	5438.58
Total fixed expenses	**30283.20**	**27006.11**	**43738.31**	**46613.52**	**53247.16**
Total cost/MT	**81062.88**	**91503.27**	**136058.11**	**156140.06**	**148512.98**
% to sales	*94.37*	*91.46*	*86.98*	*101.75*	*101.35*
Profit per MT	**4836.22**	**8541.73**	**20367.89**	**-2685.06**	**-1983.98**
% to sales	*5.63*	*8.54*	*13.02*	*-1.75*	*-1.35*

Annexure 9

(Referred to in Paragraph 2.1.26)

Details of extra expenditure due to non inclusion of price reduction clause-Travancore Titanium Products Limited

Sl No.	PO No and date for additional quantity	Name of supplier	Additional quantity procured (in MT)	Existing price per MT		Price/date of subsequent tender (₹)	Extra cost (₹ in lakh)	Remarks
				PO No.	Rate (₹)			
1	No.2935/10.12.2011	MSC	500	No.2919/ 13.10.11	17500	16250/ 07.12.2011	12.62	Price reduction clause not included for belated supply and additional quantity of 1009.4MT
	No.2940/2.1.2012	MSC	500					
2	Amendment order No.3890/30.07.12	MSC	510	No.3890/ 02.06.12	21000	19463 / 07.08.2012	23.21	Price reduction clause not included in amendment/additional order
	Amendment order No.3891/30.07.12	TDC	1000	No.3891/ 06.06.12				
3	Amendment order 4387/11.12.12	MSC	1000	No.4387/ 29.09.12	19463.5	17981/ 07.12.2012	28.00	Delivery period extended from 30.11.2012 to 31.12.2012 and order quantity of MSC increased by 1000 MT. Despite decreasing market, price reduction clause effected from 01.01.2013 only instead of from 01.12.2012.MSC and TDC supplied 1299.65 MT and 589.46 MT at higher rate during December 2012
	Amendment order 4390/11.12.12	TDC	0	No.4390/ 09.10.12				
4	No.7204/26.11.13	MSC	0	No.7204/ 26.11.13	15169	13020	41.46	The delivery schedule of three months specified in tender was revised to six months while issuing purchase order in order to accommodate increased offer from IRE. However, in purchase order the price reduction was made applicable from the extended period of three months and not from the date of price reduction by IRE.
	No.7205/06.12.13	TDC	0	No.7205/ 06.12.13				
Total							**105.20**	

(Referred to in Paragraph 2.1.5.)

Statement showing excess consumption of raw materials in Travancore Titanium Products Limited

Year	Production	Raw material	Consumption (MT)	Ideal consumption /MT	Actual consumption/ MT	Excess consumption/MT	Total excess consumption	Rate/MT ₹	Value/MT ₹
2009-10	15273	Ilmenite	32589.90	2.134	2.134	0	0	0	0
		Sulphuric acid	64839.36	4.245	4.245	0	0	0	0
		Scrap iron	3747.49	0.218	0.245	0.027	412.989	19245.83	7948310.194
2010-11	15749	Ilmenite	33890.19	2.134	2.152	0.018	283.468	6625.00	1877976.374
		Sulphuric acid	67053.70	4.245	4.258	0.013	204.720	4511.00	923492.2802
		Scrap iron	3782.15	0.218	0.240	0.022	346.697	25791.67	8941896.763
2011-12	12701	Ilmenite	28152.60	2.134	2.217	0.083	1053.976	11613.00	12239828.57
		Sulphuric acid	55404.72	4.245	4.362	0.117	1486.096	4474.00	6648795.03
		Scrap iron	3072.35	0.218	0.242	0.024	304.696	27904.17	8502285.293
2012-13	11550	Ilmenite	26391.80	2.134	2.285	0.151	1744.053	18184.00	31713865.28
		Sulphuric acid	53564.23	4.245	4.638	0.393	4538.754	5424.00	24618203.26
		Scrap iron	2634.10	0.218	0.228	0.01	115.531	29525.00	3411043.969
2013-14	10817	Ilmenite	24709.70	2.134	2.284	0.15	1622.791	13990.00	22702848.27
		Sulphuric acid	48056.97	4.245	4.443	0.198	2141.634	3903.00	8358797.676
		Scrap iron	2362.40	0.218	0.218	0	0.000	0	0
Total	66090	Ilmenite	145734.19	-	-	-	-		68534518.50
		Sulphuric acid	288918.98	-	-	-	-		40549288.25
		Scrap iron	15598.49	-	-	-	-		28803536.22

Annexure 11

(Referred to in Paragraph 2.1.37)

Statement showing higher discount allowed during March 2013 due to non-telescopic quantity discount scheme

Sl No.	Name of Stockist	Actual Off take (MT)	Rate of discount (₹)	Discount for actual quantity (₹)	Maximum quantity of preceding slab (MT)	Rate of discount (₹)	Discount for maximum quantity of preceding slab (₹)	Additional Quantity (MT)	Additional Discount (₹)
		1	2	3	4	5	6	7 (1-4)	8 (3-6)
1	Bharath Enterprises	102	6500	663000	99	5500	544500	3	118500
2	Chemical De Enterprises	10	1500	15000	8	0	0	2	15000
3	Kemco	54	5500	297000	53	4500	238500	1	58500
4	Miracle Sands	101	6500	656500	99	5500	544500	2	112000
5	Popawala	27	3000	81000	26	2500	65000	1	16000
6	R.S.Chemical	100	6520	652000	99	5500	544500	1	107500
7	Ramfesh Brothers	10	1500	15000	8	0	0	2	15000
8	Ramniklal	27	3000	81000	26	2500	65000	1	16000
9	Sree Narayana Agencies, Coimbatore.	101	6500	656500	99	5500	544500	2	112000
10	Sri Kartikeya	18	2500	45000	17	1500	25500	1	19500
11	Tradex Marketing	10	1500	15000	8	0	0	2	15000
12	Victor Corporation	10	1500	15000	8	0	0	2	15000
13	Vyas Rasayan	10	1500	15000	8	0	0	2	15000
							TOTAL	22	635000

Annexure 12

(Referred to in Paragraph 2.1.42)

Statement showing interest loss on funds blocked in debtors in Travancore Titanium Products Limited

(Figures in ₹)

Particulars	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
e Debtors (CB)	66286566	137528069	1318220244	239358046	356371418	309429246
		1328855373	1618261858	1845940832	1684531758	1590826883	
ge Debtors		101907318	134674157	185589145	297864732	332900332
tors Turnover ratio		13.04	12.02	9.95	5.66	4.78
rage Collection od (Days)		27.99	30.38	36.70	64.54	76.38
n credit period wed over 30 days				6.70	34.54	46.38
est on working tal blocked on ors for extra period %				2,89,430	23,95,932	35,95,659
			TOTAL		62,81,021	

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