EXECUTIVE SUMMARY

I Introduction

1. This Report includes important audit findings noticed as a result of test check of accounts and records of Central Government Companies and Corporations conducted by the officers of the Comptroller and Auditor General of India under Section 143 (6) of the Companies Act, 2013 or the statutes governing the particular Corporations.

2. The Report contains 54 individual observations relating to 37 Central Public Sector Enterprises (CPSEs) under 11 Ministries/Departments. The draft observations were forwarded to the Secretaries of the concerned Ministries/Departments under whose administrative control the CPSEs are working to give them an opportunity to furnish their replies/comments in each case within a period of six weeks. Replies to 26 observations were not received even as this Report was being finalised as indicated in para 3 below. Earlier, the draft observations were sent to the Managements of the CPSEs concerned, whose replies have been suitably incorporated in the report.

3. The paragraphs included in this Report relate to the CPSEs under the administrative control of the following Ministries/Departments of the Government of India:

Ministry/Department (CPSEs involved)		Number of paragraphs	Number of paragraphs in respect of which Ministry/ Department's reply was awaited
1.	Civil Aviation (AAI, AIATSL, AIL and Pawan Hans Limited)	9	8
2.	Coal (Coal India Limited and its Subsidiaries and NLC India Ltd.)	3	2
3.	Finance (National Insurance Company Limited, New India Assurance Company Limited, OICL and SPMCIL)	4	2
4.	Heavy Industries and Public Enterprises (BHEL)	1	0
5.	Housing and Urban Affairs (Chennai Metro Rail Limited, HUDCO)	2	1
6.	Petroleum and Natural Gas (BPCL, GAIL (India), HPCL, IOCL, Mangalore Refinery and Petrochemicals Limited,	12	1

	Numaligarh Refinery Limited, ONGC, ONGC Petro additions Ltd. And OIL)		
7.	Power (Damodar Valley Corporation, NTPC Limited, NTPC-SAIL Power Co. Pvt. Ltd., PGCIL, PFC Limited, REC Limited and THDC India Limited)	9	3
8.	Road Transport and Highways (NHAI)	3	3
9.	Shipping (Cochin Shipyard Limited and The Shipping Corporation of India Limited)	2	0
10	Steel (BSLC, OMDC, RINL and SAIL)	8	5
11	Textile (NTC Limited)	1	1
Total		**54**	**26**

4. Total financial implication of individual audit observations is ₹2507.66 crore.

5. Individual Audit observations in this Report are broadly of the following nature:

- ❖ Non-compliance with rules, directives, procedure, terms and conditions of the contract etc. involving ₹1012.14 crore in 24 audit paragraphs.
- ❖ Non-safeguarding of financial interest of organisations involving ₹95.01 crore in 12 audit paragraphs.
- ❖ Defective/deficient planning involving ₹596.15 crore in 12 audit paragraphs.
- ❖ Inadequate/deficient monitoring involving ₹804.36 crore in 6 audit paragraphs.

6. The Report contains a Chapter on "Recoveries & corrections/rectifications" by CPSEs at the instance of audit. The Chapter contains two paragraphs viz. (a) recoveries of ₹19.80 crore made by 11 CPSEs at the instance of Audit, and (b) corrections/rectifications carried out by 4 CPSEs at the instance of Audit.

II Highlights of some significant paragraphs included in the Report are given below:

Appsdaily Solutions Private Limited (Insured) offered free insurance cover for new mobile handsets, provided the customer buys their applications within 15 days of purchase of mobile handsets. New India Assurance Company Limited (NIACL) issued a Master Package Policy to the insured to cover the risk undertaken at the time of sale of mobile handsets with coverage of fire, allied perils, theft, burglary and accidental damages. NIACL neither ensured the existence of insurable interest nor got the actuarial valuation done before issuing the policy. Further, NIACL issued and renewed the policy without getting the approvals of the competent authorities. Thus, imprudent underwriting and lack of proper risk assessment, led to a loss of ₹91.32 crore on account of the settlement claims.

(Para 3.2)

Damodar Valley Corporation (DVC) decided to set up Phase-II of Raghunathpur Thermal Power Station (RTPS-II) consisting of two units of 660 MW each in Purulia district of West Bengal. The cost of RTPS-II project was estimated at ₹9,088.99 crore. The financing pattern of such project cost was considered as debt and equity proportion of 70:30. DVC arranged term loan of ₹6,362.29 crore from Rural Electrification Corporation Limited (REC) for financing the debt portion of the project. Though financial assistance from Government of India (GoI) in the form of capital/ equity contribution and recovery of dues from major consumers were the pre-requisites for implementation of RTPS-II, DVC decided to go ahead with the project without ensuring the same and drew ₹401 crore from REC. Finally, DVC abandoned the project due to inability to arrange equity fund from own sources. This led to infructuous expenditure of ₹138.92 crore towards interest and prepayment charges on above loan.

(Para 7.2)

Indian Oil Corporation Limited (IOCL) used to bring High Speed Diesel Oil (HSD) and Motor Spirit (MS) from its Barauni Refinery/Terminal to Patna Terminal through pipeline and therefrom these products were sold to the retailers/direct customers and also to OMCs. IOCL, however, did not pay the entry tax on such transfer of products which was not in conformity with the Bihar Entry Tax Rules 2006. The revenue department of Government of Bihar (GoB) raised the demand for payment of entry tax on the above transfer w.e.f. 2008-09. IOCL challenged the demand of GoB in the courts of law. The Supreme Court of India held that as per the provisions of Bihar Entry Tax Act 1993 and Bihar Value Added Tax Act, 2005, IOCL was liable to pay entry tax on the quantum of products transferred from Barauni to Patna and sold to the Oil Marketing Companies (OMCs). IOCL paid entry tax to the extent ₹528.01 crore for the period from 2008-09 to June 2014. The above entry tax could not be set off as no VAT was payable on the part of IOCL for the products sold to other OMCs. IOCL, however, decided that the above un-adjustable entry tax of ₹528.01 crore was to be recovered by the OMCs from the consumers in the state of Bihar as Additional State Specific Cost (ASSC) by including the same in the Retail Selling Price (RSP) of MS and HSD and recovered ₹187.25 crore in the form of ASSC during the period from February 2018 to September 2018 and it was expected that the entire amount of entry tax would be recovered by December 2019. Thus, the action of IOCL towards shifting the burden of avoidable expenditure of entry tax amounting to ₹528.01 crore on the consumers of Bihar was imprudent, unjustified and inequitable.

(Para 6.5)

Bongaigaon Refinery (Refinery) of IOCL commissioned a Helitower type Heat Exchanger (HE) in January 2009 at a total cost of ₹5.98 crore for revamping the capacity of its Catalytic Reformer Unit (CRU) with a view to maximise the production of Motor Spirit (MS). Since commissioning HE failed on many occasions due to chronic problem of repeated bellow failure and with replacement of the bellow did not improve the position. IOCL, however, did not take a final decision to resolve the problem with permanent solution and the operations of defective HE were allowed to continue though the equipment failed on subsequent occasions even after been pointed out by Engineers India Limited in May 2012 and by the Management. IOCL, finally, procured a new exchanger in August 2018 at ₹5.56 crore with scheduled commissioning by November 2018. Thus, running of defective HE had resulted in interruptions of sustainable operations of revamped CRU which ultimately led to lower generation of high value distillate product (MS) by the refinery with consequential loss of revenue of ₹324.90 crore.

(Para 6.6)

Coal India Limited and its Subsidiaries made irregular payment of ₹371.19 crore towards the employer's share of provident fund contribution on leave encashment with Coal Mines Provident Fund Organisation during the period from 2012-13 to 2017-18 (September 2017) in violation of the extant law.

(Para 2.1)

SAIL acquired (February 2009) the assets of erstwhile M/s Malvika Steel Limited (MSL) (closed since 1998) consisting of 739.65 acre land and plant & machineries for ₹226.67 crore. Audit observed that plant and machinery acquired for ₹44.35 crore became idle and scrap. The Management installed a TMT bar mill, Crash Barrier mill and GC mill but failed to start production from the Steel Processing unit (SPU) even after lapse of three to eight years from their installation. The TMT bar mill though completed in October 2014 was not operationalised because funds, raw materials and equipment required to start production were not provided. The Management took no steps to operationalise the Crash Barrier mill and GC mill. 739.65 acre industrial land acquired from MSL was idling with no economic/industrial activity. Failure to start production from the SPU even after lapse of three to eight years from their installation led to idle investment of ₹366 crore (plant and machinery ₹44.35 crore, land ₹182.32 crore, SPU ₹93.75 crore and expenditure of ₹45 crore on security and staff). The idle investment of ₹366 crore also resulted in annual interest cost of ₹27 crore (₹264 crore up to December 2018).

(Para 10.7)

As per the DPE guidelines (July 2012), earned leave and half-pay leave (HPL) could be considered for encashment on retirement subject to over all limit of 300 days. The cash equivalent payable for HPL would be equal to leave salary as admissible for HPL plus dearness allowance (DA). Audit observed that NTPC Limited and NTPC-SAIL Power Company Ltd (NSPCL) allowed DA at the admissible rate on full basic pay instead of half basic pay, while calculating HPL amount payable on superannuation/separation. Adoption of incorrect method for computation of HPL has resulted in excess payment of ₹74.89 crore to the employees of NTPC Limited and NSPCL.

(Para 7.5)

Bharat Petroleum Corporation Limited (BPCL) and Indian Oil Corporation Limited (IOCL) discontinued the policy of distributing gold coins to employees on completion of 15/20/25 years of service as per Ministry's direction since it was inconsistent with DPE guidelines. BPCL/ IOCL formulated a new policy in replacement of the old scheme of issue of gold coins where pre-loaded card/voucher or an item/memento/emblem (other than gold/ silver) were distributed to the employees. The new scheme which was also in contravention of DPE/ Ministry guidelines resulted in an irregular expenditure of ₹107.63 crore during January 2015 to August 2018 (BPCL) and February 2015 to August 2018 (IOCL).

(Para 6.1)

Damodar Valley Corporation entered into (October 2013) a Power Purchase Agreement (PPA) with West Bengal State Electricity Distribution Company Limited (WBSEDCL) for supply of 200 MW of power from Koderma Thermal Power Station (KTPS) for 25 years. As per the PPA, DVC was required to supply uninterrupted power to WBSEDCL from April 2014. However, sustainable operation of Unit-I was not achieved due to inadequacy of wet ash disposal area in the temporary ash ponds which were filled up with ash slurry disposed during commissioning of Unit-I and its subsequent operations. Further, the declaration of Commercial Operation Date (COD) of Unit-II was not in line with the regulation of Central Electricity Regulatory Commission (CERC) which stipulated that COD of generating unit should commence through successful trial run after seven days notice by the generating company to the beneficiaries. This condition was also incorporated in the PPA. DVC did not take timely action for evacuation of ash from the temporary ash ponds and Unit-I could not be operated for supply of power to WBSEDCL continuously during the period of three months from April 2014, resulting in default of the terms of PPA on the part of DVC. Moreover, the declaration of COD of Unit-II by DVC was not in line with the CERC guidelines and the terms of PPA. All these resulted in termination of PPA by WBSEDCL which ultimately led to avoidable loss of ₹71.25 crore to DVC due to non-recovery of fixed charges of Unit-I & II of KTPS.

(Para 7.3)

National Highway Authority of India suffered loss of ₹93.78 crore due to grant of bonus for early completion of work to the concessionaire of Jammu-Udhampur Project. Not only did, the Authority wrongfully fix the Appointed date (date of commencement of concession period as well as when the concessionaire got right to commence construction work of National Highway) after the date of Financial Close but even though the concessionaire commenced the construction work in March 2011, the appointed date was fixed after the same. This is in violation of the terms of Concession Agreement and has extended undue benefit to concessionaire.

(Para 8.1)

Undue favour to contractor and poor project management by NHAI in the construction of second office building for NHAI, right from the stage of project conception till its execution resulted in time overrun, cost overrun, blocking of funds amounting to ₹43.60 crore and avoidable payment of rent of ₹11.79 crore (April 2015 to October 2018). Though more than five years have lapsed from the scheduled date of completion and over a decade from the date of release of land, the envisaged benefits of the proposed building were yet to be reaped as the building construction work was still in progress.

(Para 8.2)

Audit reviewed revenue generation and realisation activities in Airports Authority of India (AAI) over a period from 2013-14 to 2017-18 and the following was observed:

- Audit noticed deficiencies in internal control mechanism in revenue management, viz., non-compliance of credit policy and provisions of Finance Manual, which resulted in short collection of Security Deposit of ₹152.37 crore, non-charging of interest from defaulting parties of ₹78.24 crore and non-realisation of dues of ₹11.95 crore from airlines ceased operations.
- Passenger Service Fee (Security Component) {PSF(SC)}recovery had not kept pace with the mounting expenditure as a result AAI had deficit of ₹702.88 crore for the period 2013-14 to 2017-18 which was met by AAI from its own sources of revenue. Also there was delay in recovery of PSF (SC) and User Development Fee, which collected by airlines on behalf of AAI. Non-existence of mechanism for claiming interest from defaulting airlines has resulted in loss of interest of ₹5.44 crore in case of one airline.
- Non-recovery of dues of ₹2411.73 crore from Air India Group and non-claiming of interest of ₹624.87 crore as agreed in the Memorandum of Understanding.
- Loss of revenue of ₹201.06 crore due to non-claiming of royalty bills from Air India, Air Transport Services Limited for third party ground handling, loss due to non-removal of non-entitled ground handling agencies from airports, loss on account of surrender of space for Duty Free Shop, reduction in Minimum Annual Guarantee for tender of Duty Free Shop without proper assessment and lack of control mechanism over the reporting of Gross Turnover figures.

(Para 1.1)

Audit reviewed adequacy and availability of mandatory/ recommended security infrastructure/ equipment/technology, efficiency in its utilisation and availability of trained security personnel to ensure effectiveness of security at the airports operated by Airports Authority of India (AAI). Audit examination revealed that:

- Deficiency at airside area of airport, revealed that there were shortage of watch tower at Airport-3, perimeter wall and perimeter road at Airport-5. Despite directions given by BCAS and decided by AAI, Perimeter Intrusion Detection System could not be installed at any of the selected airport. AAI also failed to install electronically/mechanically operated bird scaring devices at Airport-4 and Airport-5.

- Deficiency at landside area of airport revealed that AAI could not install Electro-Hydraulic Bollard System, Tyre Killer and Road Blocker at airports and also Biometric access control system could not be operationalised (April 2019). There were shortages of pre-embarkation security equipment (XBIS, DFMD and ETD) at airports.
- Non-availability of recording for prescribed period of 20 days, non-capturing of photographs of the driver and registration number of vehicles, shortages of cameras and non-coverage of vital installation, i.e., perimeter area, fuel installation, isolation bay, ATC at airports.
- Delay in procurement of Bomb Disposal and Detection Equipment (BDDE) and out of required 28 equipment, AAI could provide 26 equipment.
- There was short deployment of manpower and also manpower deployed was not adequately trained and screeners were not certified as per requirement of BCAS.

(Para 1.2)

Four Modules of SAP ERP, viz. Finance, Human Resources (HR), Material Management and Project System, were implemented in AAI in 2012-13 at the cost of ₹16.07 crore. Audit observed that there was inadequate market assessment and planning while implementation of SAP ERP resulting into bearing an extra cost of ₹2.58 crore and penalty waive of. Accounting policies were mapped inadequately resulting into creation of excess provision of debtors and capitalisation of assets below value of ₹5000. HR Rules were not mapped adequately, due to which application was calculating incorrect sum of leave encashments, rate of interest in case of loans and advances was fed manually for each type of loan, payment of gratuity was not made from HR module, tour advance/travelling advance could not be applied through application, performance appraisal of below executive employees was not through application. Conditions of civil projects were not mapped leading to calculation of Earnest Money deposits, Security deposits and other deductions manually. SAP ERP did not have adequate data input controls and validation checks due to which master data of employees, vendors/customers and inventory was incomplete and erroneous. Modules of SAP ERP were not utilised completely. The difference between the legacy data and the data uploaded in ERP was not reconciled. Monitoring of cost and scheduling of the project was not being done through ERP. Data Centre was not maintained as per specific Data Centre requirements and non-existence of Disaster Recovery Site poses potential threat to the DATA in AAI. AAI is largely dependent on SAP consultants for resolution of issue and in-house expertise is lacking. Thus, inadequate controls and under-utilisation of SAP ERP undermined its effectiveness.

(Para 1.3)

The Bisra Stone Lime Company Limited (BSLC) is engaged in mining and marketing of Limestone and Dolomite. It operates limestone and dolomite mine at Birmitrapur. The company suffered losses continuously since 2013-14 and the accumulated loss as on 31 March 2018 was ₹203.68 crore.

- Audit observed that due to scarcity of working capital, stoppage of mining operations and failure to de-water submerged quarries, the company produced less than one fourth of the allowed production quantity and less than half of the targeted production during 2013-14 to 2017-18 which led to loss of contribution of ₹47.91 crore. Mining operations were stopped for a total of 446 days during the period 2013-14 to 2017-18 on account of non-availability of Environmental Clearance, non-renewal of mining lease and attachment of bank account by statutory authorities. Four out of the BSLC's five quarries were submerged in water since 2013-14 which led to loss of production of 18.23 lakh tonne of dolomite and 136.06 lakh tonne of limestone as envisaged in the mining plan and consequent loss of contribution of ₹337.91 crore. Failure of BSLC to mine in five of its six blocks led to non-renewal of mining lease in these five blocks and loss of opportunity to mine 318.80 lakh tonne of limestone/dolomite from these five blocks.
- BSLC could achieve only 53 *per cent* of the targeted sales of limestone and dolomite. The company produced more than 80 *per cent* of the production through contractors due to old and worn out equipment, lack of skilled labour and absence of a centralised crushing and screening system. As a result, many employees were rendered idle. The company identified 400 idle employees who could be given Voluntary Retirement Scheme but the Voluntary Retirement was not implemented due to financial constraints. The labour productivity of BSLC was below 7 tonne/man/day as against the international benchmark of 25-30 tonne/man/day. 63.06 acre (25 *per cent* of the total freehold land) of the company land was encroached. BSLC spent ₹9.54 crore towards purchase of electricity but did not recover electricity charges from the occupants of the company quarters during 2013-18.

(Para 10.1)

Orissa Mineral Development Corporation (OMDC) operates six iron ore and manganese ore mining leases located in Barbil, Odisha with an estimated total reserve of about 206 mt of iron ore and 44 mt of manganese ore. Audit observed that in the absence of statutory clearances and non-transfer of three mining leases to OMDC, mining operations in all the six mining leases of OMDC were stopped since the last 8 to 12 years. This led to loss of production of 17.22 million tonne of iron ore and 0.22 million tonne of manganese ore valuing ₹3144.68 crore during the period 2011-18. Non-operation of the mines led to payment of ₹12.54 crore towards dead rent/surface rent during 2011-18. Delay in payment of the dead/surface rent led to avoidable extra expenditure of ₹2.35 crore as penal interest.

- Non-adherence to mining statutes led to imposition of penalty of ₹1482.94 crore on account of excess/ illegal mining in pursuance of judgement of Supreme Court of India. Out of this, ₹172.93 crore including ₹20.75 crore of penal interest was deposited by OMDC till November 2018. OMDC did not capitalise on the opportunity to discharge liability of ₹145.19 crore owing to its failure to hand over undisposed mineral stock to Government of Odisha. It also failed to claim ₹298.14 crore from its JV partner.

- In the absence of retaining barriers, iron ore stacked at the OMDC mines valuing ₹34.46 crore was washed out and 967.58 tonne of manganese ore worth ₹3.03 crore was found short during the period 2010-11 and 2017-18. The Sponge Iron Plant established at a cost of ₹13.60 crore remained idle since the last eight years and is in a dilapidated condition.
- Many operations-related employees were rendered idle and employee related expenses were met from interest earned from investment of surplus funds (bank fixed deposits). 41.766 acre of land was encroached whereas 174 quarters were occupied by OMDC's contractual employees/others by paying nominal rent. 257 quarters were under unauthorised occupation. The company did not take any action for eviction or recovery of rent. OMDC spent ₹5.61 crore towards purchase of electricity but did not recover electricity charges from the occupants of OMDC quarters during 2013-18.

(Para 10.2)

SAIL executes Addition, Modification and Replacement (AMR) projects to improve existing facilities for cost reduction, safety and pollution control and debottlenecking of production processes. Of the 1783 on-going or completed AMR projects during the period from 2013-14 to 2017-18, Audit reviewed 385 projects valuing ₹11,515 crore representing 89 *per cent* of the total project cost.

Out of the 80 projects awarded during 2013-18 and valuing more than ₹10 crore, there was large deviation between the estimate and awarded price in 27 projects due to either inaccurate assessment of items or preparation of estimates without market analysis. 57 out of 80 projects were awarded after delay of up to 12 months to 50 months. Installation of new steam pipe line from Power and Blowing station (PBS)-2 to Coke Oven Battery (COB)-8 & COB-10 of IISCO Steel Plant (ISP) was yet to be completed despite lapse of three years from the recommendation to close PBS-1. Hence, ISP continue to use PBS-1 resulting in extra expenditure of ₹94.42 crore during 2016-18.

Lapses in the tendering process in Sinter Plant-2 in Bokaro Steel Plant (BSL) resulted in repeated cancellation of tender, increase in the contract cost by ₹114.58 crore and loss of envisaged benefit of ₹118.11 crore. Out of the 92 ongoing or completed projects, 38 were delayed by up to 12 months, 16 by 13 to 24 months, 11 by 25 to 36 months and 9 by 37 to 131 months.

The work of Sinter Plant-2 of BSL was awarded to a consortium even though the main consortium member, M/s BEC Bhilai responsible for bulk of the work had no experience in construction of Sinter Plant. As a result the project was yet to be completed and there was annual loss of gross margin of ₹208.79 crore. Due to delay in handing over of site to the contractor, work of up-gradation of Blast Furnace -4 stoves at Bhilai Steel Plant (BSP) was delayed by 42 months which led to loss of intended savings of ₹70.89 crore.

Non-synchronisation of projects led to delay in completion of BF-1 stove of BSL resulting in foregoing of annual benefit of ₹30.12 crore and idling of investment of ₹162.93 crore in COB-7 project, BSL for 15 months leading to loss of gross margin of ₹52.11 crore. Coal Dust Injection system installed in Rourkela Steel Plant (RSP) and Durgapur Steel Plant did not achieve the required injection rate of 100 Kg/THM which led to extra expenditure of ₹330 crore.

(Para 10.5)

SAIL undertook Modernisation and Expansion Plan (MEP) in 2006-07 to enhance Hot Metal (HM) capacity from 13.83 million tonne per annum (mtpa) to 23.46 mtpa by 2010. ₹62,835 crore were spent till March 2018. PA covering implementation of MEP projects in SAIL was conducted in 2013-14 and the PA report was tabled in the parliament on 12 August 2015. Based on the PA recommendations, SAIL submitted (Jan 2016) an action plan to Ministry of Steel. Important actions implemented include appointment of consultants through open tender and comprehensive site and soil survey before preparation of technical specifications.

Audit observed that against targeted HM capacity of 23.46 mtpa by 2010, capacity created (March 2018) was 19.46 mtpa. HM production during 2017-18 was 15.98 mt compared to 14.6 mt in 2006-07. SAIL informed (April 2019) that the final HM capacity post MEP would be 22.37 mtpa which would be installed by 2021-2022.

The targeted coke rate in MEP was not achieved. High coke rate resulted in excess consumption of 17.84 lakh tonne Coke valuing ₹3100 crore. No plant could achieve the targeted BF productivity. Universal Rail Mill at BSP was completed in 2017 after delay of four years. In 2014-17, BSP could supply only 71 *per cent* of the indented quantity to Railways resulting in loss of contribution of ₹1,372 crore. Failure to enhance capacity of downstream facilities in RSP resulted in non-achievement of targeted production of crude steel and saleable steel. As a result, RSP sold slabs instead of plates leading to contribution loss of ₹226.89 crore during 2013-18.

Contractors were paid price variation claims for 28 contracts amounting to ₹552.54 crore on account of delay attributable to SAIL. In 10 MEP contracts, 27903 additional mandays for supervision were allowed due to delays attributable to SAIL resulting in extra expenditure of ₹168.88 crore. Guaranteed cenvat credit of ₹560 crore could not be recovered in 98 contracts.

(Para 10.6)

ERP-SAP was implemented (cost ₹204.74 crores) in four integrated steel plants and at Central Marketing Organisation (CMO) of SAIL between 2009 and 2012. Audit observed that data captured in vendor database was not complete/accurate and several generated reports included blank data in various fields. Financial Accounting and Controlling (FICO) module was not upgraded to comply with the Companies Act 2013/Ind AS. Payments amounting to ₹1222 crore (April 2017 to Oct 2018) were paid through parking mode in ERP in BSL and CMO which was prone to risks. Manufacturing Execution System (MES) was implemented in

BSP at a price of ₹29.31 crore but was not extended to all the shops as envisaged in feasibility report thereby depriving them of improvements in operational efficiency and cost control.

Thirty eight *per cent* of the SAIL's PCs were running Windows XP OS which made them vulnerable to risks. Ransomeware attacks had occurred in 16 PCs at BSL, Bokaro, CMO and Raw Materials Division. Centralised anti-virus software was subsequently installed in the systems and internet access is being regulated. DRCs were located in close proximity of the plants thus defeating the purpose of setting them up except in CMO. There were deficiencies in legacy software in SAIL like Validation controls in Human Resource Information System (HRIS), Material Management Information System(MMIS) and Hospital Management System (HMS) were weak and data not found captured in critical fields. HRIS did not validate salaries with corresponding posts. MMIS did not fix inventory levels for all items. Lack of validation controls in HMS allowed ineligible beneficiaries.

(Para 10.4)

Damodar Valley Corporation was set up in 1948 and earned revenue mainly through generation and sale of power. DVC was not able to sell its entire installed capacity through bilateral tie-ups with power distribution utilities of various states and firm sale in the valley area resulting in surplus power during the period 2013-14 to 2017-18. The marketing team formed for dealing with the surplus power could not succeed considerably to market the surplus power of DVC due to absence of road map with specific targets and lack of extensive field visits. The three avenues available to DVC for sale of power were (a) bilateral Power Purchase Agreement (PPA) for medium/ long term period; (b) firm sale in the valley area; and (c) short term sale of power through (i) power traders and (ii) power exchanges. During the reference period, DVC did not have a marketing policy for sale of power. It also did not maintain database regarding details of tenders floated by prospective power purchasers. This adversely affected its sale of power through bilateral PPA. DVC neither prepared strategy to identify the prospective firm consumers nor publicised its sale of power in the valley area to draw attention of prospective firm consumers in the valley area. It also did not approach the overdrawing firm consumers to enhance their contract demand to ensure uninterrupted power supply. Short term sale of power enabled DVC to recover its fixed cost partially through sale of surplus power. However DVC did not fully utilised this mode due to restricting its capacity for bidding on the exchange market and lack of analysis of unsuccessful short term bids. DVC incurred additional cost due to procurement of thermal power instead of generating the same at its own stations. Its power purchase cost increased due to non-availment of rebate on power bills. DVC did not collect security from all the bilateral parties as per agreement and from all the firm consumers as per regulations of respective electricity commissions. As a result DVC had huge outstanding dues from the unsecured debtors as compared to the secured ones indicating that debt securing was beneficial for DVC.

(Para 7.1)