Part-I

Chapter II

Compliance audit observations relating to Power sector Undertakings

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Important audit findings that emerged from the test check of transactions of the Power sector Undertakings of Government of Gujarat are included in this Chapter.

Gujarat State Electricity Corporation Limited

Coal and Inventory management

2.1 Gujarat State Electricity Corporation Limited[1] (the Company), a subsidiary of Gujarat Urja Vikas Nigam Limited, is responsible for generation of power. As on 31 March 2019, the Company has total installed generating capacity of 6,041.067 Mega Watt (MW) that *inter alia* included four coal based thermal power stations (TPSs).

The Company procures domestic and imported Coal required for its Coal-based TPS. The Company entered[2] into Coal Supply Agreement (CSA) with South Eastern Coalfields Limited (SECL) and Western Coalfields Limited (WCL) for supply of domestic coal for its four coal-based TPS. The Company also purchases critical and non-critical material for Operation and Maintenance (O&M) for its TPSs.

The Company purchased coal worth ₹ 25,603.98 crore and materials worth ₹ 1,201.65 crore during 2014-19. Out of the total material purchased, the material worth ₹ 955.08 crore was purchased for the four coal-based TPS's, which formed 79.48 *per cent* of the total purchase of material during 2014-19. The Company has installed *e-Urja* system for monitoring the purchases and its store management across the Power Stations and Corporate Office (CO) of the Company.

Audit reviewed the coal supply and inventory management in the Coal based TPSs *i.e.,* Ukai, Gandhinagar, Wanakbori and Sikka of the Company for the period from April 2014 to March 2019. The observations in the coal and inventory management are discussed in the succeeding paragraphs.

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1 The Company was incorporated in August 1993 as a wholly owned subsidiary of the erstwhile Gujarat Electricity Board to enhance its generation capacity by resource mobilisation from the market. Post-unbundling (April 2005) of the Gujarat Electricity Board into seven companies *viz.*, Gujarat State Electricity Corporation Limited, Gujarat Energy Transmission Corporation Limited, Uttar Gujarat Vij Company Limited, Dakshin Gujarat Vij Company Limited, Madhya Gujarat Vij Company Limited, Paschim Gujarat Vij Company Limited and Gujarat Urja Vikas Nigam Limited were formed.

2 South Eastern Coalfields Limited (SECL) on 7 July 2009 and from Western Coalfields Limited (WCL) on 15 October 2009.

Coal

2.2 The Company entered into a Coal Supply Agreement (CSA) with SECL (July 2009) and WCL (October 2009) for supply of domestic coal. The SECL supplied coal to all the four TPSs whereas WCL supplied coal to Ukai TPS only. Audit reviewed the execution of CSA entered with SECL and WCL and observed the following:

Monitoring of coal supply agreements

2.2.1 The terms of CSA *inter alia* included TPS wise Annual Contracted Quantity (ACQ) agreed to be purchased by the Company and to review the CSA on completion of every five years. The terms of ACQ stipulated for payment of incentive and penalty for lifting the quantity of coal in excess and short of 90 *per cent* of ACQ respectively. The Company was therefore required to constantly monitor the quantity of coal lifted for each TPS against the ACQ considering the Power Load Factor (PLF), generation planned, coal stock position, coal consumption and lead time for supply of coal to TPS.

Ukai TPS received coal with total ACQ of 41.70 Lakh Metric Tonne[3] (LMT), which includes 32.40 LMT from SECL and 9.30 LMT from WCL. The Company paid incentive of ₹ 21.68 crore in 2014-15 and ₹ 4.12 crore in 2015-16 for lifting of quantity in excess of ACQ to SECL and WCL. During 2016-17 the Company paid incentive of ₹ 14.87 crore to SECL due to lifting of quantity in excess of ACQ, On the other hand, it paid penalty of ₹ 8.41 crore to WCL due to short lifting of coal quantity against ACQ. Audit observed that out of the above, incentive/ penalty of ₹ 10.37 crore[4] for 2016-17 was avoidable. Besides it also resulted in consequential payment of ₹ 10.56 crore[5] being differential freight charges for lifting excess coal quantity from SECL instead of WCL.

Audit observed that though the Company has requisite information about coal consumption, stock position, *etc.,* it did not simultaneously monitor the coal supplied to Ukai TPS against the ACQ of two CSAs. This could have mitigated the penalty/ incentive payment. Thus, due to non-monitoring of the coal supply under two CSAs simultaneously, it had to incur avoidable expenditure of ₹ 20.93 crore in 2016-17.

The Government replied (June 2020) that demand of power and availability of coal are considered for scheduling the supply of coal. The Government further stated that excess quantity was lifted from SECL because the quality of coal received from WCL was very poor as compared to coal received from SECL and had lumps/ mud in it. The Company was technically advised to use SECL

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3 32.40 LMT from South Eastern Coal Fields Limited and 9.30 LMT from Western Coalfields Limited.

4 Incentive of ₹ 1.96 crore to SECL on lifting excess quantity of 2.04 LMT and ₹ 8.41 crore penalty was payable for short lifting of 2.04 LMT coal quantity to WCL.

5 Excess quantity lifted from SECL: 2.04 LMT × difference in freight charges ₹ 517.75 *per* MT (being the difference of lowest freight charges paid during 2016-17 for lifting the coal from SECL and WCL) Average freight (approx.) = ₹ 10.56 crore (approx.).

coal having better quality to avoid any damage and wear & tear to the plant. The reply is not acceptable, as the Company has been receiving coal from WCL in the past years (since 2009) but it has never raised any complaints with WCL regarding the quality of coal. The penalty/ incentive paid has increased the cost of coal lifted from SECL that was avoidable by proper monitoring.

Payment of demurrage charges

2.2.2 The coal required for TPSs of the Company are transported through Rail wagons. The Company has installed Coal Handling Plant comprising of Wagon tippler, stacker re-claimer, *etc*., for mechanised unloading of coal wagons. Railways levy demurrage for detention of rake of coal wagons beyond free time of seven hours allowed for unloading the coal by mechanised system. Audit observed that the Company paid ₹ 14.38 crore towards demurrage charges during the period from 2014-15 to 2018-19 as given in **Table 2.1** below.

Table 2.1: Payment of Demurrage charges due to delayed unloading during 2014-19

Sl. No.	Name of TPS, Unit No.	Reason	Audit Observation
1	Ukai, 500 MW Unit 6 commissioned in June 2013	Wagon tippler associated with Unit 6 commissioned with defect in March 2018.	There was delay in the commissioning Wagon tippler 4 and 5 and only one Stacker-cum-Reclaimer was available for feeding coal to mill bunker for Unit 6. Besides, frequent tripping in Side Arm Charge of newly commissioned Wagon tippler delayed unloading that resulted in payment of demurrage charges of ₹ 5.63 crore.
2	Sikka, 2 × 200 MW Unit 3 and 4 commissioned in September 2015	Associated CHP not commissioned (May 2019) that led to utilising vintage CHP of Unit-1&2 of lower capacity.	Coal unloading for Unit-3&4 is done by old vintage CHP of Unit-1&2 that does not run to full capacity, which delayed unloading of rakes. This resulted in payment of demurrage charges of ₹ 1.41 crore.
3	Wanakbori TPS	Delayed unloading from Coal Rake.	Coal for the TPS was not unloaded within the free time due to insufficient space for stacking of coal which led to payment of demurrage charges of ₹ 7.08 crore. Further, no action has been taken to make additional space for stacking of coal.

Source: Information extracted from records of the Company.

Thus, delayed commissioning of coal handling plant and insufficient space for stacking the coal resulted in avoidable payment of demurrage charges of ₹ 14.12 crore.

The Government stated (June 2020) that wagon tippler of Ukai Unit 6 had some defects initially which was later attended. It assured that there would not be demurrage charges due to wagon tippler henceforth. Regarding Sikka (Unit 3 and 4), it stated that the wagon tippler has been commissioned in February 2020 and so there would not be demurrage charges now. In respect of Wanakbori, it was informed that insufficient space is not a usual phenomenon and assured to take corrective action to avoid demurrage charges. The fact remains that delayed corrective action of the Company resulted in avoidable payment of demurrage charges.

Ash Utilisation

2.2.3 Ash is generated from combustion of coal at TPS. The ash collected by Electrostatic Precipitator (ESP) is called fly ash and the ash collected at the bottom of the boiler is called bottom ash. Pond ash is the mixture of ESP fly ash and bottom ash. The ash has some economic value at it is sold to third parties for various uses like in road laying, cement factory, block and brick industry, *etc*. Ash management assumes significance as it is a threat to the environment and therefore, has to be disposed-off without letting it into atmosphere.

As per Ministry of Environment, Forest and Climate Change (MoEF&CC) notification (November 2009), existing TPSs in operation were required to complete utilisation of ash generated by October 2014 which was subsequently (January 2016) extended up to 31 December 2017. Audit observed that during 2014-18 only Gandhinagar and Sikka TPS maintained 100 *per cent* ash utilisation level while Wanakbori TPS achieved 100 *per cent* utilisation level only in 2016-17. The Ukai TPS could not achieve complete ash utilisation in any of the year during 2014-18. This non-achievement made the Company liable for damages of ₹ 10 crore for environment restoration as per directives (20 November 2018) of National Green Tribunal[6].

MoEF&CC also stipulated that the amount recovered from sale of ash and ash-based product should be kept in a separate account head and utilised for specified purpose[7] based on the level of utilisation. It was observed that the Company did not maintain separate account head until 2016-17. The Ukai TPS collected ₹ 69.02 crore between 2014-18 from sale of ash and ash-based products. Against this, it utilised ₹ 1.01 crore during 2017-18 for repairs and maintenance of ash handling equipment and ₹ 1.69 crore for payment of salary and wages of the personnel of ash handling plant. Thus, the Company violated the MoEF&CC guidelines by utilising ₹ 2.70 crore for other than specified purpose.

The Government stated (June 2020) that no payment has been made for environment restoration and the Joint Committee of MoEF&CC in July 2019 extended the time limit for 100 *per cent* ash utilisation. It was further stated that as per GERC Multi Year Tariff order (11 April 2011 and 31 March 2017) ash income was deducted from approved fixed cost hence no revenue from sale of ash was available for incurring expenditure. The Company has created ash fund from 2016-17 for those TPSs where 100 *per cent* ash utilisation was not achieved. The Government also added that ash handling plant and employees working for the system are directly involved in development, facilitation, maintenance, *etc.* for achieving the 100 *per cent* utilisation and hence expenditure on them cannot be considered as violation of the MoEF&CC notification. The reply is not acceptable, as the deduction of revenue from sale of ash does not exonerate the Company of its statutory

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6 NGT while deciding in Shantanu Sharma *versus* Union of India and others issued directions for all TPSs that have failed to dispose of 100 *per cent* ash up to 31 December 2017.

7 Only for development of infrastructure or facilities, promotion and facilitation activities for use of ash until 100 *per cent* ash utilisation level is achieved, thereafter as long as 100 *per cent* utilisation levels are maintained the amount could be utilised for other development programmes.

compliance for utilising the revenue from sale of ash and creating ash fund for complying with MoEF&CC guidelines.

Inventory Management

2.3 Efficient inventory control requires that inventory is effectively available without blockage of funds for continuous operation of the TPSs. The coal based TPSs account for 79.48 *per cent* of the total material procured during 2014-19. Therefore, it is imperative to have an efficient inventory management to ensure timely availability of material for smooth operations. The Company has implemented e-*Urja* an enterprise resource planning (ERP) solution supported by multiple module applications to manage its business, which includes the store management module for inventory management. Review of the inventory management revealed the following:

Incorrect reporting

2.3.1 At the time of indenting for the inventory to be purchased, the TPSs considers the inventory reported in Monthly Inventory Control Register (MICR) and the unconsumed inventory issued to the indenting department. The closing stock of four coal based TPS stores reported in MICR for the month of March during 2014-19 is given in **Table 2.2** below.

Table 2.2: Position of closing stock as on 31 March of each year

(₹ in crore)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Total inventories as per MICR as on 31 March	66.88	72.12	87.57	97.62	109.37
Inventory issued but unconsumed as at 31 March	30.26	32.74	37.48	32.75	93.78
Closing inventory as per Financial statements	97.14	104.86	125.05	130.37	203.15

Source: Information as provided by the Company.

Audit observed that the MICR does not report the value of inventory issued to indenting departments but not consumed. As a result, the overall position of the inventory including those lying unconsumed in the indenting departments is not reflected. Such unconsumed inventory increased from ₹ 30.26 crore in 2014-15 to ₹ 93.78 crore in 2018-19 indicating that funds were increasingly blocked in the inventory that was not reported in the MICR. Thus, the inventory report of MICR was not correct to that extent.

The Government accepted (June 2020) that MICR did not report the unconsumed inventory lying in sub-stores. It was further stated that such unconsumed inventory is added back in books of accounts to arrive at correct position of inventory at the year-end. The reply did not provide justification to increase in unconsumed inventory. Thus, the facts remains that the inventory report of MICR was incorrect.

Non-utilisation of store management module

2.3.2 The store management module has the provision for setting inventory level and classification of inventory in the order of their importance. Though the Company has identified critical and non-critical items, it had not classified its inventory based on the above classification in the store management module. The TPSs submits a report of fast, slow and non-moving items (FSN) at monthly interval to Corporate Office in addition to MICR. However, due to non-categorisation of inventory in the order of their importance, the FSN report does not provide information of critical and non-critical items.

The Government stated (June 2020) that though FSN report doesn't provide information of critical and non-critical stores, these records are maintained by user section manually. The fact remains that the FSN report provided deficient information.

Non-rectification of discrepancies between e-Urja and legacy system

2.3.3 Prior to introduction (2009) of e-*Urja* system, the inventory records were maintained in a legacy system. During adoption of e-*Urja* system at Ukai TPS, the unidentified items due to inappropriate description of material could not be identified during physical verification and is reported as shortage of material. On review of the physical verification report of the inventories, Audit observed that shortage of 307 items (in 2014-15) had declined to 195 items (in 2017-18). These 195 items remained unreconciled even after more than ten years and no action for its rectification was taken by the Company. Further, all the 195 items have been assigned nil value which does not reflect its correct value.

The Government stated (June 2020) that out of the 195 items, 149 items were declared scrap due to retirement of Unit 1 and 2, material description of seven items was identified and identification of remaining 39 items was under progress. The action of the Company was delayed and undertaken on being pointed out by Audit.

Disposal of scrap

2.3.4 The position of scrap as at the end of each year during 2014-19 in four coal based TPS is tabulated below:-

Table 2.3: Position of scrap disposal during 2014-19

(₹in crore)

Years	Opening balance	Addition during the year	Total scrap	Value of scrap sold	Closing balance
2014-15	8.22	10.99	19.22	11.69	7.53
2015-16	7.53	9.04	16.56	9.29	7.28
2016-17	7.28	16.09	23.36	8.56	14.80
2017-18	14.80	24.15	38.96	28.65	10.30
2018-19	10.30	6.59	16.89	12.81	4.08

Source: Information as provided by the Company.

It can be seen from the above table that the Company regularly disposed of scrap received during the year. Audit observed that at the end of 2018-19, the closing balance of scrap was worth ₹ 4.08 crore which included ₹ 3.08 crore lying in stores and remained unsold for more than five years. Delay in disposal of scrap deteriorates its quality and value. The Company may take timely action for their disposal.

The Government replied (June 2020) that scrap is sold through Metal Scrap Trade Corporation Limited by way of auction system after receiving at least 75 *per cent* of the quoted rates that is fixed based on SOR prepared by the Company. It was explained that scrap remained unsold due to non-receipt of above-mentioned desired rates. The reply is not acceptable as the scrap, which remained unsold for more than five years requires expeditious disposal to avoid further deterioration.

Recommendations

The Company may:

- ***regularly monitor the coal supply position and lift the required coal quantity in terms of annual contracted quantity.***
- ***ensure unloading of coal rakes within the prescribed time to prevent payment of demurrage charges.***
- ***rectify the gaps in the inventory management system for better reporting.***