
EXECUTIVE SUMMARY

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Introduction

Damodar Valley Corporation (Corporation) was set up in July 1948 under the Damodar Valley Corporation Act, 1948. The Participating Governments of the Corporation are the Central Government, Jharkhand Government and the Government of West Bengal. To meet the objectives of the National Electricity Policy i.e. to provide “Power for all by 2012”, the Central Electricity Authority (CEA), Government of India (GOI) set the capacity addition target of 68,869 MW in the XI Plan of which coal based thermal power project was 46635 MW. The corporation planned to add power generation capacity of 6250 MW during XI Plan period (4700 MW by the Corporation alone and 1550 MW through Joint venture). As on 31 March 2014, it had a total power generation capacity of 5857.2 MW (Thermal 5710 MW and Hydel 147.2 MW).

During the period 2007-12 the Corporation could add only 500 MW i.e. 11 percent of the target of 4700 MW (own projects) with a shortfall of 4200 MW.

[Chapter 1]

Audit coverage

This Performance Audit covered all the activities of the Corporation from conceptualization to implementation of all the power projects for adding capacity of 4700 MW (own projects) during XI Five year plan period (2007-12). Performance of two power projects of 1000 MW (4 x 250 MW) spilled over from the X five year plan was also examined in audit.

[Para 2.1]

Audit objectives

The objectives of the Performance Audit were to assess whether:

- the projects were selected considering economic viability and overall requirement of the policy of GoI;
- the projects and contracts were managed with due economy, efficiency, effectiveness and in compliance with established guidelines;
- effective monitoring mechanism was in existence; and
- the objectives set in the capacity addition programme were achieved.

[Para 2.1]

Major audit findings

X Plan spill over projects

Audit observed that in MTPS Unit # 5 & 6, DPR was prepared without adequate investigation and deficiencies were noticed after finalisation of orders which resulted in delay.

[Para 3.1.1]

Audit observed that in CTPS Unit # 7 & 8, the execution work initially suffered for 26 months due to delay in handing over the land to the contractor, non-availability of storage space for shipment of materials at site, local law and order problems, abnormal rise in price of steel and cement etc.

[Para 3.1.2]

XI Plan projects

Assessment of requirement of coal and linkage thereof

Total coal requirement for capacity addition programme was 22.63 MMTPA against which FSA was entered for only 17.33 MMTPA of coal. The Corporation could develop only one coal block out of three captive coal blocks in its possession.

[Para 3.2.1]

Due to delay in development of the captive coal blocks, the Corporation lost the opportunity to use cheaper coal. Moreover, it had to bear additional cost as PI towards procurement of coal over and above the ACQ.

[Para 3.2.1.4]

Contract Management

There were deficiencies in various stages of contract management and the objective of efficient and timely execution of the contracts remained unfulfilled.

[Para 3.2.2]

As per the manual of the Corporation, a contract should be awarded within 161 days from the date of invitation of tender. Out of 13 contracts, seven contracts were finalised with delays ranging from 12 to 117 days. Further, in respect of four contracts the delays were more than 100 days. The main reasons for delay were extension of bid submission dates and discrepancies in scope of work detected during finalisation of price bids.

[Para 3.2.2]

The awarded value in respect of four contracts was significantly lower than the estimated cost and ranged between 22.78 percent and 46.26 percent. The awarded values of four contracts were higher than the estimated cost by 18.28 to 45.50 percent. It was further, observed that in two cases the estimates were unrealistic and in the remaining two cases, management did not carry out any analysis for ascertainment of such wide variation.

[Para 3.2.2]

Audit observed that due to non-availability of the infrastructure like land, approach road, clear front and sources of water etc., coupled with poor mobilisation of material, manpower and machinery by the contractors, there were delays in execution of all 21 contracts ranging from 15 to 54 months.

[Para 3.2.2]

Project Execution

The Corporation could add only unit of 500 MW in XI Plan period against a target of 4700 MW.

[Para 3.2.3]

Mejia Thermal Power Station (Unit # 7 & 8)

Execution of Main Plant Package was delayed due to non-availability of clear work fronts, coal linkage, water and delay in completion of Coal Handling Plant.

[Para 3.2.3.1.A]

The DPR for MTPS # 7 & 8 did not adequately address the adequacy of capacity of existing ash ponds to hold the entire ash in case of low level of utilisation of dry fly ash.

[Para 3.2.3.1.B]

Durgapur Steel Thermal Power Station (2 x 500 MW)

Lagoon 2 of higher capacity was not constructed due to non-availability of land from Durgapur Steel Plant (SAIL) and the ash generated from both the units was being dumped in the existing lagoon 1 which had almost filled up. Thus, sustained generation from both the units would not be possible unless the second ash pond is constructed.

[Para 3.2.3.2]

Koderma Thermal Power Station (2 x 500 MW)

The Corporation could not construct permanent ash pond due to non-possession of a vast chunk of the required land. Further, diversion of Gramin Sadak Yojana Road passing through ash pond area was also pending. In the absence of permanent ash pond, the Corporation had to construct a temporary ash pond by incurring an extra expenditure of ₹ 36.50 crore in order to meet the exigency of COD.

[Para 3.2.3.3]

Bokaro Thermal Power Station (BTPS 'A' 1 x 500 MW)

The construction of BTPS 'A' was delayed due to delayed dismantling of old units and permanent ash pond as well as non-construction of CHP.

[Para 3.2.3.4]

Raghunathpur Thermal Power Station (RTPS 2 x 600 MW)

The construction of main plant packages, railway corridor and plant water system of RTPS Unit # 1 & 2 could not be completed mainly due to non-acquisition of entire stretch of required land.

[Para 3.2.3.5]

Monitoring Mechanism

The monitoring mechanism of the Corporation was not effective as it did not yield desired result in removing the project impediments. Even controllable factors like delay in handing over of access roads to contractors, issuance of construction drawings etc., were not addressed in time to contain project delays.

[Para 3.3]

Cost overrun

Actual cost of five completed units and one unit in advanced stage was 35 percent higher (₹ 4615 crore) than the original approved cost and the actual cost of remaining three units under execution was 42 percent higher (₹ 2696 crore) than the original approved cost.

[Para 3.4.1]

Surplus power

Audit observed that 39 percent (975 MW) of the capacity of new units commissioned and 33 percent (725 MW) of the capacity of upcoming units under XI Plan project could not be allocated to the prospective consumers resulting in surplus power.

[Para 3.4.2]

Loss of additional Return on Equity

None of power projects earmarked for execution during the XI Plan period were commissioned within the specified timeline resulting in loss of opportunity to earn additional return on equity of ₹ 1011.73 crore.

[Para 3.4.3]

Performance of the units commissioned under XI Plan

The capacity utilisation of all the five units commissioned under XI Plan was lower due to forced outage of the units caused by boiler tube leakages, problems/troubles in Turbo Generator, electrical system and Control & Instrumentation etc. As a result, the Corporation could not generate 2345.27 MU of power and suffered loss of ₹ 476.66 crore towards non-recovery of fixed cost during the period from 2011-12 to 2013-14.

[Para 3.4.4.1]

The auxiliary power consumption and oil consumption in respect of most of the new units were more than the CERC norms resulting in loss of ₹ 20.05 crore and ₹ 88.89 crore respectively.

[Para 3.4.4.2 and 3.4.4.3]

Recommendations

- 1. The Corporation may pursue with the concerned Ministry to ensure availability of coal before commissioning of the power projects.*
- 2. The Corporation may vigorously pursue with the concerned department of Government of Jharkhand to resolve the problem of acquisition of full stretch of land for ash pond of KTPS.*
- 3. The Corporation may take immediate action for installation of SR of CHP of BTPS-A to avoid any further delay.*
- 4. The Corporation may take up with the Government of West Bengal for acquisition of required land for railway infrastructure of RTPS.*
- 5. The Corporation may vigorously pursue with the concerned department of Government of West Bengal for acquisition of full stretch of land for early completion of plant water system of RTPS.*
- 6. The Corporation may pursue with the EPC contractor of RTPS for early completion of the construction of NDCT-1 to avoid any further delay in commissioning of the linked unit.*