CHAPTER-II

PERFORMANCE AUDIT RELATING TO POWER SECTOR UNDERTAKINGS

Performance Audit on Execution of Sainj Hydro Electric Project

The Himachal Pradesh Power Corporation Limited (Company)[1] implemented Sainj Hydro Electric Project (Project) having installed capacity of 100 MW. The Project with estimated cost of ₹ 676.29 crore was scheduled to be completed by March 2015, but the same was commissioned after a delay of 29 months in September 2017 at a cost of ₹ 1,319.33 crore. As a result, the generation cost had increased from ₹ 3.74 to ₹ 6.23 per unit against the prevailing average sale rate of ₹ 4.30 per unit thereby rendering the Project commercially unrewarding. The Performance Audit of the Project covered Planning, Execution, Project Management, Financial Management and Monitoring.

Highlights

The Asian Development Bank (ADB) loan received through Government of India in the shape of 90 *per cent* grant (₹ 659 crore) and 10 *per cent* loan (₹ 73.22 crore) was extended as 100 *per cent* loan by Government of Himachal Pradesh, placing extra burden of ₹ 931.80 crore including interest of ₹ 272.80 crore on the project cost and increasing the generation cost by ₹ 4.40 per unit.

Against the DPR cost of ₹ 676.29 crore the Project was completed at a cost of ₹ 1,319.33 crore. Consequently, keeping in view current sale rate of power the project cost is anticipated to be recovered in nine and half years instead of five years, had there been no cost overrun. Thus, there would be delay of four and half years in recovery of project cost directly impacting the commercial viability of the Project.

Time overrun of 29 months was attributable to delay by the Company in providing access to the sites to the Contractor, stoppage of work by local people, change in location and design of Gas Insulated Switchgear (GIS) & Pot head yard. Project was completed with cost overrun of ₹ 643.04 crore. Consequently, per unit generation cost had increased from ₹ 3.74 to ₹ 6.23 per unit against the prevailing average sale rate of ₹ 4.30 per unit.

(Paragraph 2.7.1)

We also noticed following:

Overpayment of price escalation ₹ 13.60 crore.

(Paragraph 2.12.3)

[1] The Company has two completed (Sainj and Kashang-I) and three ongoing (Kashang-II & III, Sawra Kuddu and Shongtong) Hydro Electric Power (HEP) Projects.

Non-safeguarding the interests of the Company by inserting suitable clauses overburdened the Project by ₹ 18.82 crore.

(Paragraph 2.13)

2.1 Introduction

The Government of Himachal Pradesh (GoHP) has identified Hydel potential of 4,590 MW on the Beas basin, out of which 2,500 MW had already been harnessed. Sainj Hydro-Electric Project 100MW (Project) was conceived as a run of the river project on Sainj Khad (a tributary of Beas River) in Kullu district of Himachal Pradesh. Techno Economic Clearance (TEC) for the project (100 MW) was accorded (December 2010) by the Central Electricity Authority (CEA) for ₹ 676.29 crore[2] inclusive of Interest During Construction (IDC)[3] of ₹ 96.77 crore. The cost overrun was mainly due to time overrun, undue favour to the Contractor, extra expenditure, currency fluctuation, change in design and excess deployment of staff. The main objective of the project was to generate clean power at affordable rates. The financial arrangements were envisaged with loan of ₹ 473.40 crore and Company's equity of ₹ 202.89 crore in the ratio of 70:30. The project is designed to generate 322.23 Million Units (MUs) per annum during 90 *per cent* dependable year[4]. The project was to be executed through Engineering, Procurement and Construction (EPC) mode and the work was divided in two packages i.e. Civil & Hydro-mechanical works and Electro-mechanical works. As per approved Detailed Project Report (DPR) the Project was to be completed within four years from the date of Techno Economic Clearance (TEC) i.e. by December 2014. As per award of works the scheduled completion period was March 2015. However, the Project was commissioned during September 2017, at a cost of ₹ 1,319.33 crore, after a total delay of 29 months.

2.2 Organisational set up

The Company was created by the GoHP for execution of Hydro Electric Projects in the State. The Management of the Company is vested with a Board of Directors (BoDs). Managing Director heads the BoD and there are four other Directors for supervising the business of the Company. The execution of Sainj project was under the overall control of the General Manager, Sainj HEP, who was assisted by three Engineers-in-charge:- Civil, Mechanical and Electrical, along with other supporting staff.

2.3 Audit objectives

The objectives of the performance audit were to assess whether:

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2 At June 2009, price level.

3 Interest on borrowed funds accrued during construction and capitalised.

4 90 *per cent* dependable year is the year in which the annual generation has the probability of being equal to or exceed 90 *per cent* of the time on annual basis during the expected period of operation of the scheme.

- The Project was commercially viable i.e. the market price at which power will be sold would cover the cost of generation;
- the terms & conditions of the Contract were, enforced during execution of the Project;
- the Project was executed in economic, efficient and effective manner;
- there was a monitoring and evaluation system in place to review performance of Project, take corrective measures to overcome deficiencies identified and respond promptly; and
- necessary steps for pollution control and afforestation were initiated to comply with the environment/forest law/guidelines.

2.4 Scope and Methodology of Audit

The present Performance Audit was conducted between February 2018 and May 2018 to cover the activities of planning, award & execution of Civil and Electro-Mechanical (E&M) works of the Project from its inception to March 2018. Audit examination involved scrutiny of records in Corporate Office at Shimla, Office of General Manager (Design) at Sundernagar, district Mandi and Project Offices at Sarabai and Larji in Kullu district relating to planning, design and execution of the Project.

The entry conference for the Performance Audit was held in February 2018 to explain audit objectives to the Company and Government of Himachal Pradesh (GoHP). The audit findings were discussed in the exit conference held on 17 December 2018 with Government / Management of the Company. The replies of the Management/Government, have been incorporated in the Performance Audit.

2.5 Audit Criteria

The audit criteria adopted for assessing the achievement of the audit objectives were sourced from the following:

- Norms/ guidelines of Central Electricity Authority (CEA), regarding planning of the projects;
- guidelines / instructions / directions of Central Water Commission (CWC);
- DPR, Contract Agreements, and quality control;
- construction schedule and methodology submitted by the Contractor for the execution of project; and
- environment Impact Assessment, Environment Management Plan, Regulations issued by State Regulatory Commission/ instructions/directions of State government.

2.6 Audit Findings

Audit findings arising from Performance Audit are discussed in succeeding paragraphs:

2.7 Financial Management

Financial management relating to execution of project involves arranging funds at low cost, timely and promptly recovering the dues from the contractor, deploying only required staff and avoid unnecessary financial booking to the project cost.

The financial management of the Company was not efficient and effective as the Company failed to, safeguard its financial interest as advances from the contractor were not recovered in time bound manner, excess staff was deployed resulting in booking of avoidable cost to the project. The deficiencies noticed in Financial Management have been discussed in the succeeding paragraphs:

2.7.1 Financial viability of the Project

The DPR was sanctioned for an amount of ₹ 676.29 crore assuming 70 *per cent* loan component and 30 *per cent* equity with average generation cost of ₹ 3.74 per unit. The scheduled completion time was 48 months. The project was not able to recover the average cost of generation (₹ 6.23 per unit) after its completion, the reasons for which are discussed below:

- The DPR considered the financial viability of the Project on the basis of projected severe power deficit in northern region. The projected shortage of energy availability during 2011-12 was 19.05 *per cent*. However, there was no further year-wise projections of power demand and supply analysis in DPR. By the time the Project was commissioned during September 2017, demand and supply scenario of power had changed drastically in the northern region. Load generation balance report of CEA for the year 2017-18 (May 2017), showed only 1.8 *per cent* anticipated deficit of power availability in northern region during 2016-17 which was turning to anticipated 9.8 *per cent* surplus power in 2017-18.

Table: 2.1 Time & cost overrun as on 31 March 2018

(₹ in crore)

Name of work/ Package	Estimated cost	Due date of completion as per award	Actual date of completion	Actual expenditure	Cost overrun	Time over run (in month)
Civil works (inclusive of IDC)	542.56	August 2014	June 2017	1,106.13	563.57	35
Electro-Mechanical works	133.73	March 2015	July 2017[5]	213.20	79.47	28
Total	**676.29**			**1,319.33**	**643.04**	

5 Completion certificate to Contractor was issued in July 2017 whereas, the Project was commissioned during September 2017.

- Against the estimated project cost of ₹ 676.29 crore in the DPR, an expenditure of ₹ 1,319.33 crore has been booked to the Project (March 2018). Consequently, keeping in view of current sale rate (₹ 4.30 per unit) of power, project cost is anticipated to be recovered in nine and half years[6] assuming the demand scenario does not change. Whereas, had the Project been completed in time at DPR cost, the cost could have been recovered in five years. Hence, there would be delay of four and half years in recovery of project cost, which will directly impact the commercial viability of the Project. Out of ₹ 643.04 crore (₹ 1,319.33 crore - ₹ 676.29 crore) expended more than estimated cost, an amount of ₹ 250.88 crore was on account of expenses which were controllable and could have been avoided had there been no time over-run. The controllable factors are:

  (i) IDC: ₹ 193.15 crore, (ii) price escalation: ₹ 53.48 crore and (iii) warranty extension and overrun charges: ₹ 4.25 crore which are discussed in **Paragraph 2.11**.

- Against sanctioned loan of ₹ 577.00 crore (January 2011) from ADB carrying interest at the rate of 0.20 *per cent* above LIBOR[7] rate, the GoI transferred funds of ₹ 732.22 crore[8] up to March 2018 as of 90 *per cent* grant and 10 *per cent* loan at an interest rate of nine *per cent per annum* through GoHP. The GoHP, however, had converted the grant into loan while releasing to the Company with an interest rate of 10 *per cent* per annum. The conversion of grant of ₹ 659.00 crore into loan resulted in total extra burden of ₹ 931.80 crore including interest of ₹ 272.80 crore[9] up to March 2018 on the Project cost thereby, increasing the cost of generation by ₹ 4.40 per unit[10] and impacting the very purpose of grant released by GoI for providing clean energy at affordable rates. Had this grant not been converted into loan the generation cost would have been ₹ 1.83 per unit. By converting grant into loan the State government has gained ₹ 834.03 crore[11] (up to March 2018).

The DPR was approved by considering viability at generation cost of ₹ 3.74 per unit with 70 *per cent* loan and release of grant by the GoI was a subsequent development. The viability of the project would have remained intact as envisaged in two situations *viz.*, (i) had it been completed at DPR cost and time, or (ii) ₹ 659 crore grant from GoI would have not been converted

6 ₹ 1,319.33 crore / ₹ 138. 56 crore annual revenue (322.23 MU x ₹ 4.30 (average sale rate till May 2018)) = 9.5 years.

7 London Interbank Offered Rate.

8 Including price escalation and variation in awarded works.

9 ₹ 303.11 crore (Total interest accrued till March 2018) x 90 per cent (portion of grant in the total loan released to the Company) = ₹ 272.80 crore.

10 ₹ 6.23 (per unit generation cost worked out by the Company)/ ₹ 1,319.33 crore (project cost) X ₹ 931.80 crore = ₹ 4.40 per unit.

11 GoHP's gain = {liability of the Company ₹ 931.80 crore (₹ 732.22 crore loan amount + ₹ 272.80 crore interest accrued @ 10 *per cent* up to March 2018) minus liability of the GoHP ₹ 97.77 crore (₹ 73.22 crore loan amount +₹ 24.55 crore interest accrued thereon @ 9 *per cent*)}.

into loan by the State government. Non-attainment of either of the situations during execution had impacted its viability.

The Debt Equity Ratio till March 2018 was 55:45 against the prescribed norms of 70:30 by the Central Electricity Regulatory Commission (CERC) for tariff determination.

The Government stated (December 2018) that the actual power generated is more than that envisaged in DPR and cost will be recovered in shorter period than anticipated by the audit. The reply does not take into account the fact that energy market is volatile and recovery of cost in shorter period is not assured.

2.7.2 Sale of power below the levelised tariff [12]

The Company entered into an agreement (3 May 2017) with Tata Power Trading Company Ltd (TPTCL) for selling power through Indian Energy Exchange (IEX). As per the agreement, settlement of sale transaction was to be done as per the actual price and volume discovered on power exchange. Sale rate was to vary on daily basis and was dependent on market forces.

As per the levelised tariff (calculated by the Company) per unit cost works out to ₹ 6.23 on the basis of project cost of ₹ 1,319.33 crore against the DPR cost of ₹ 3.74 per unit. From sale of power the Company could realise the average revenue of ₹ 4.30 per unit (excluding GoHP share) against the levelised tariff of ₹ 6.23 per unit. This has resulted in revenue deficit of ₹ 28.15 crore on sale of 145.88 MUs generated during the period from September 2017 to May 2018 to the Company.

2.7.3 Non Availing Carbon Credits

Clean Development Mechanism (CDM) allows emission-reduction projects in developing countries to earn Certified Emission Reduction (CER) credits, each equivalent to one tonne of Carbon Dioxide (generated during industrial production). These CERs can be traded and sold, and used by industrialised countries to meet a part of their emission reduction targets under the Kyoto Protocol.

Environment Management Plan (EMP) included in the Detailed Project Report (DPR) of the Sainj Hydro Electric Project was prepared to mitigate the environmental loss during construction of the project. In DPR/EMP, the Company had not considered possibility of reduction in cost of project by trading of CERs through CDM. Company in its 38th Board of Director's meeting (January 2013) had discussed that it is not eligible for availing the carbon credit benefits under normal CDM process as the same was not considered in the initial stage of finalisation of project. Hence, there is no scope for trading of CERs retrospectively under CDM. It was, therefore, decided that company would trade Voluntary Emission Reduction (VER) under voluntary carbon offset scheme by getting the project registered for the same. However, the company had not initiated any action in the matter so far (September 2019).

[12] The minimum price at which energy must be sold for an energy project to break even.

Company had sold 1,45,881 MWh (up to May 2018) energy generated from the Project which was equal to 1,32,416[13] CERs. Due to not considering the option of availing carbon credits in the DPR and not initiating action for trading the VER's, the Company lost the opportunity of availing these benefits. The Company should consider registering for VERs for availing the benefits available.

2.8 *Planning for execution of the Project*

Planning for execution of the Project involves conceptualisation, preparation of DPR, to assess the commercial viability of the project, detailed designing, anticipating obstructions, local requirements and plan for coordinated approach to complete the Project economically in a time bound manner.

Knowing the nature and scope of work, the structure of the Contract should be prepared considering the measures to anticipate, identify and address the obstructions, statutory obligations, elements of environment management, price escalation, recovery of dues and fluctuation in currency exchange rates etc. Suitable measures and control mechanism should have been in place. There was shortfall in Anticipating obstructions, Coordinated approach and suitable control mechanism was not in place in principle and practice as noticed during test check and discussed in the succeeding paragraphs:

As per guidelines of CEA for "formulation of DPRs for Hydro Electric Project" DPRs should be prepared within 30 months after allotment of project/ signing of MOU by the State government which may be extended by six months for reasons beyond the control of developer.

Feasibility study of Sainj HEP was initiated (1998-99) by Himachal Pradesh State Electricity Board (HPSEB now HPSEB Limited), however, the DPR could be finally got approved during December 2010. The sequence of events is given below:

1998-99
Feasibility Study of Sainj HEP initiated by HPSEB

June 2002
MoU signed between GoHP and M/s Jindal Hydro Electric Company Ltd. for execution of project including preparation of DPR. The MoU was cancelled in June 2004 due to non-submission of DPR in prescribed time limit of 18 months. Reasons for work not being executed bv HPSEB was not available in record.

June 2004
Project again allotted to HPSEB. The DPR was prepared by SPV of HPSEB {Kinner Kailash Power Corporation Limited (KKPCL)} and submitted in October 2007

October 2007
KKPCL was merged with HPPCL and the DPR was resubmitted by HPPCL. However, the DPR submitted did not have adequate geological investigation.

September 2009
After making necessary compliance, Company resubmitted the DPR for approval which was approved in December 2010.

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13 1,45,881 MWh (generation up to May 2018) x 0.9077 (emission factor of the grid) = 1,32,416

Due to wavering approach of the State government in deciding the developers, it took 129 months (January 1999 to September 2009), with a delay of almost eight years in comparison to timeline of 36 months prescribed by CEA, to submit the DPR.

The Government in its reply (December 2018) has stated that the time taken after allotment of the project to the Company was within the prescribed limit. The reply does not address the issue of impact of overall delay due to defective planning process at State level.

2.8.1 Non-insertion of appropriate clause in the bidding document

Common contractual and financial prudence demands that recoveries of interest free advances made to the contractors out of borrowed funds should be made promptly so as to avoid any extra financial burden of interest to the Company. To regulate such recoveries, the Central Vigilance Commission (CVC) had also issued guidelines (April 2007) which stipulates that the Commission does not encourage interest free mobilisation advance.

The Company had provided for charging of interest on mobilisation advance in the contract of balance works of HRT of its Sawra-Kuddu HEP. Further, Satluj Jal Vidyut Nigam Limited (Joint venture of GoI and GoHP) was releasing interest bearing advances only.

Charging of interest assumes significance as the Company had borrowed funds for the execution of the project carrying interest rate of 10 *per cent* per annum.

The Company while preparing the bidding documents for construction of Sainj project, stipulated interest free advance instead of interest bearing advance and linked the recovery of advance with the progress of work.

As per provisions contained in contract agreements, contractors were eligible for interest free mobilisation advance. The following interest free mobilisation advances were allowed to the contractors:

- ₹ 43.10 crore to the civil Contractor (Contractor-I) in three installments between August 2010 and March 2011, with recovery commencing after 30 *per cent* progress of the work.

- ₹ 8.26 crore, EURO 3,30,442/- and USD 8,31,978/- to E&M Contractor (Contractor-II) between September 2011 and June 2012.

The requisite 30 *per cent* progress in Civil contract was achieved after 916 days from release of advance during which the Company incurred interest liability of ₹ 9.67 crore[14]. The recovery was completed in another 1,129 days (April 2016), increasing the liability of interest by ₹ 5.68 crore.

[14] At the rate of 10 *per cent* per annum (rate of interest borne by the company).

Similarly, in case of E&M Contractor advance against supply of material remained unadjusted for 210 days (INR), 472 days (EURO) and 1,130 days (USD) during which the company had incurred interest liability of ₹ 4.71 crore.

Thus, due to release of interest free advance, the Company had to bear interest liability of ₹ 20.06 crore (₹ 15.35 crore for civil Contractor and ₹ 4.71 crore for E&M Contractor).

The Government stated (December 2018) that the recovery of advance payment was kept linked with the progress of work to draw parity with other ADB funded contract packages. The reply is not tenable as the Company had made provision for time bound recovery in its other project (Sawra Kuddu HEP).

Release of interest free advance burdened the project with cost escalation. Resultantly, Project initially anticipated to recover the cost in five years is now anticipated to recover the cost in nine and half years, directly impacting its commercial viability.

2.9 Time and Cost over run

There was time and cost overrun in execution of the Project as shown in **table 2.1**.

An expenditure of ₹ 1,106.13 crore had been incurred on civil works with cost overrun of ₹ 563.57 crore. The time overrun of 35 months in civil works was mainly attributable to delay by the Company in providing access to the sites to the Contractor, stoppage of work by local people, change in location and design of Gas Insulated Switchgear (GIS) & Pot head yard.

The cost overrun in civil works occurred due to time overrun, difference in awarded and estimated cost (₹ 170.64 crore), price escalation (₹ 124.59 crore) extra expenditure (₹ 21.08 crore), undue favour to the Contractor (₹ 17.90 crore) and changes in design (₹ 7.42 crore) etc.

In case of E&M package there was cost over-run of ₹ 79.47 crore and time over run of 28 months. Time over run was mainly due to delay in completion of civil package leading to delay in availability of working front. Cost over-run occurred mainly due to price escalation (₹ 23.34 crore), currency fluctuation (₹ 23.47 crore), change in design (₹ 10.29 crore), difference in awarded and estimated cost (₹ 12.67 crore) and extra expenditure (₹ 5.49 crore), etc.

Consequent to increase in project cost, the Company had incurred liability of ₹ 8.91 crore towards Local Area Development Fund (1.5 *per cent* of differential cost) as discussed in **Paragraph 2.19.3**.

The total delay of 29 months (March 2015 to September 2017) in commissioning of the Project had not only resulted in increase in cost but, also resulted in potential generation loss of 778.72 MUs valued at ₹ 291.24 crore[15], including free power share of ₹ 34.95 crore[16] to the State government as royalty. Besides, non-achievement of social objective of providing one *per cent* free power to the local area residents.

Time Overrun

2.9.1 Factors contributing to delay / time overrun

During execution of the civil works the following factors contributed towards delay:

- There was delay of 22 months due to deciding the final location of Gas Insulated Switchgear (GIS), its orientation and redesigning of GIS superstructure including delay in shifting feeder line of another project (Jiwa Hydel Power Project) passing through the Pot Head Yard (PHY).
- The company could not provide access roads to the civil contractor for project site (sites for surge shaft and adit-II) in time delaying the works by 17 months,
- Stoppage of work in various time intervals by local people delayed the execution of project by 2 months.

Time overrun in E&M works was mainly due to delay in handing over of civil fronts to the E&M contractor.

2.9.2 Delay in submission of design by the Contractor and further delay in approval thereof by the Company

As per the contract-agreement of E&M package the Contractor had to submit the drawings to the project manager for its approval. Approval or disapproval alongwith reasons required, was to be intimated by Project Manager within 14 days after receipt, otherwise document to be deemed approved.

There was delay of 43 to 769 days, from the agreed schedule, by the Contractor in submission of drawings for material to be supplied. Further, the Company also took time ranging between 12 and 284 days, for approving the drawings, in excess of prescribed 14 days.

2.10 Cost overrun

After completion of preliminary works in order to facilitate the execution of the Project, works had been broadly divided into two packages and awarded through global tenders to two different contractors. Civil and Hydro

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15 322.23 MUs per year / 12 x 29 months = 778.72 MUs x ₹ 3.74 DPR rate.

16 Calculated at the rate of 12 *per cent* of ₹ 291.24 crore.

Mechanical work was awarded during June 2010 to M/s Hindustan Construction Company Ltd. (Contractor-I) for ₹ 431.00 crore. The work was to be completed by August 2014, however, the Contractor completed the work only by June 2017 i.e. after a delay of 35 months. Electro Mechanical work was awarded during August 2011 to M/s Voith Hydro Private Ltd. (Contractor-II) in two parts i.e. Supply for ₹ 73.64 crore, Euro 33,04,219 and USD 83,19,779 and Service for ₹ 14.32 crore. The work was to be completed by the Contractor by March 2015. However, the project was commissioned in September 2017. The factors contributing towards Cost Overrun were : (i) Time Overrun , (ii) Deficient Contract Management and (iii) Other miscellaneous reasons.

2.11 Cost Overrun due to time overrun

2.11.1 Interest during Construction

Interest accrued on the amount of loan during construction period is capitalised. As per contracts awarded for execution, the project was scheduled for commissioning during March 2015. The project could not be completed on time and due to delayed commissioning (September 2017) ₹ 193.15 crore interest was capitalised after the scheduled commissioning, overburdening the project to the same extent.

2.11.2 Price Escalation[17]

Company also had to pay price escalation of ₹ 53.48 crore to the civil and E&M contractors for the period after scheduled completion period. This was controllable by getting the project commissioned in time through anticipating the bottlenecks and taking pro-active actions to overcome them.

2.11.3 Overrun and Warranty extension charges

E&M works were delayed due to delay in handing the civil fronts by the civil contractor to the E&M contractor. Hence, completion period was extended up to October 2016. As the delay was not attributable to the E&M contractor, Company had to bear overrun charges[18] of ₹ 87.40 lakh.

Similarly for the delay not attributable to the E&M contractor Company had to release warranty extension charges of ₹ 3.38 crore for the equipments to the contractor, for the period of delay in commissioning of the project as discussed in **Paragraph 2.14**.

Based on test check of contract agreement and records relating to execution of works cases of extra expenditure, over payment / short-recovery / undue favour

[17] Price escalation is adjustment in prices on account of fluctuation of costs.

[18] Compensation for maintenance of establishment by Contractor at site for extended period.

to the Contractor, extra payment / avoidable extra expenditure were noticed as discussed in succeeding paras:

2.12 Contract Management

2.12.1 Payment of escalation on advance

Contract for Electro-Mechanical package provides for an advance payment of 10 *per cent* against total contract price of supply and installation. Further, Appendix-2 (volume1-A) contained provisions for payment of price adjustment. The fixed portion was kept as 15 *per cent* of awarded amount and variable portion was kept 85 *per cent* in the contract for the purpose of calculating price escalation.

The Company did not insert suitable provision in contract for excluding the 10 *per cent* advance paid to the contractor, from the variable cost for working out price escalation payable. It is relevant to point out here that in case of price adjustment provision provided in contract for erection portion and in civil contract 10 *per cent* advance was reduced from the value of work done, while calculating price adjustment thereon. Only in case of supply contract of E&M works this clause was not inserted. This has resulted in avoidable payment of ₹ 1.81 crore to the Contractor.

The Government stated (December 2018) that being a ADB funded project, the bidding documents were approved by the ADB. The reply is not tenable as the similar condition was got approved from the ADB in case of civil contract of this project.

2.12.2 Extra expenditure / payment due to fluctuation in exchange rates

As per para 2.29 read with para 2.33 of the “procurement guidelines (2015)” issued by ADB, if the bid price is required to be stated in the local currency, but the bidder has requested for payment in foreign currencies. The exchange rate to be used for purpose of payments shall be those specified by the bidder in the bid, to ensure that the value of the foreign currency portion of the bid is maintained without any loss or gain.

Audit noticed that Contractor had submitted its price bid in three currencies viz INR, USD and EURO. The Company failed to insert suitable clause, in the bid for fixing the exchange rate for making future payments, in terms of ADB guidelines. However, tender evaluation was done by adopting exchange rates of 28 September 2010. Contractor in its price bid, has quoted plant, mandatory spare parts and O&M tools in EURO 3,53,308/-, however, material was quoted to be supplied from India. Despite goods proposed to be supplied from India, Company awarded the work in EURO. Subsequently in absence of suitable clause, stage wise payments were released to the Contractor during September 2013 to May 2015, based on prevailing exchange rates ranging between ₹ 66.68 and ₹ 86.25 per EURO against tender evaluation rate of

₹ 61.82. Thus, the Company had to bear extra burden of ₹ 59.47 lakh due to fluctuation in exchange rates.

The Government stated (December 2018) that the contractor has quoted the price in EURO and not in local currency. Therefore, ADB guidelines were not applicable. The reply is not tenable as the guidelines were applicable for the portion of material, to be supplied by the Contractor from within India, and price of which are quoted in foreign currency.

2.12.3 Over payment of price escalation

As per clause 13 of General Conditions of Contract (GCC) of civil contract, if the contract price is to be adjusted for variation in cost, the same shall be calculated as per Particular Conditions of Contract (PCC). Sub clause 13.8 of PCC, (document – II of IV) provided that, no price adjustment shall be made for the advance payment made to the contractor.

However, Company allowed escalation on the mobilisation advance paid to the Contractor while making payment for the price escalation in contravention of the provisions of the contract. This has resulted in undue favour of ₹ 13.60 crore to the Contractor.

The Management assured in the exit conference (December 2018) that appropriate action shall be taken after scrutiny of the matter.

2.12.4 Injudicious fixation of rates, irregular payment of price escalation

(A) The specification and location of Pot Head Yard (PHY) and GIS hall had to be changed which resulted in significant change in quantity of Gas Insulated Bus Duct (GIB) from 54 mtr. to 349 mtr. (finally executed 343.5 mtr.). The Contractor submitted (24.07.2014) his quotation for supply of additional GIB at the rate of USD 4,674 per mtr. Thereafter, negotiation was held between the Company and the Contractor on 25 November 2014 and price of USD 3,850 per mtr. was approved by the Company.

The Contractor supplied the deviated quantity purchased at the rate USD 1,760[19] per mtr. from its sub-vendor. Even after allowing 20 *per cent* profit on additional costs, claimed by the Contractor-II, extra avoidable expenditure works out to ₹ 1.71 crore. This was indicative of the fact that the company while approving the rates did not carry out adequate due diligence to arrive at the final rates, as the rates were not readily available for negotiation. The Company should incorporate suitable clause in the contract for determining price of additional items/changes on the basis of actual cost plus contractor's profit and overheads.

In reply, Government stated (December 2018) that GIB is not standard equipment but tailor made as per the specific site requirement and price quoted

[19] {CHF 5,11,860 x 0.9955 (USD conversion rate on 17-3-2015) /289.5 mtr.}.

by the firm against GIS was on lump sum basis. The reply is not tenable, because the rates approved by the Company was more than twice the supply rate of the sub-contractor.

(B) The Contractor-II agreed (May 2015) for not claiming price escalation on deviated quantity of GIB. However, GM, Sainj HEP made (May 2016) the payment of price escalation of ₹ 0.71 crore.

Government has accepted (December 2018) the point.

2.13 Non-insertion of suitable clause

The Company did not insert suitable clauses for excluding, bought out items, advance payment released to contractor and calculation of price escalation as discussed below:

(A) It was seen that the E&M contractor bought material of ₹ 51.91 crore and supplied the same to the Company at contract price of ₹ 67.83 crore and had earned 31 *per cent* profit of ₹ 15.92 crore. Item wise profit was as high as 1,154 *per cent* in few items. Further, the Company had also paid price variation of ₹ 11.48 crore on these items. The payment of price variation, could have been avoided if the appropriate clause, regarding exclusion of bought out items from the ambit of price variation clause, had been incorporated in the contract.

The Government stated (December 2018) that being a ADB funded project, the bidding documents were approved by the ADB. The reply is not tenable as the Company had not sent the same clause for approval to the ADB.

(B) The Company while inviting bids specified in the Price Variation Clause that 'No price adjustment shall be made for an amount of 15 *per cent* of the Contract Price which shall be fixed element representing overhead charges and profit.'

Against the bid invitation for "EPC Contract for 100 MW Sainj Hydro Electric Project", four bids were received in which, two bidders quoted 25 *per cent* as overhead and profits, one bidder quoted profit as 10 *per cent* but did not quote overheads separately, and the fourth bidder quoted 20 *per cent* as overhead and profit.

The fourth bidder was the lowest and accordingly was awarded the work although the overhead and profit of 20 *per cent* (fixed element) quoted by him was above the 15 *per cent* fixed element stipulated as per the bid document. While concluding the contract, in price variation clause, overhead charges and profit was considered at 15 *per cent* and 85 *per cent* of contract price was considered for calculation of price adjustment whereas, 80 *per cent* should have been considered keeping in view 20 *per cent* profit and overhead charges quoted by the Contractor. This resulted in extra expenditure / payment of ₹ 7.34 crore out of total price variation of ₹ 124.59 crore paid to the Contractor.

The Government stated (December 2018) that the provision of 15 *per cent* contractor's profit and overheads is in line with HPPWD Schedule of Rates. The reply is not tenable as the Company should have considered only 80 *per cent* of the contract price for calculation of price adjustment based on 20 *per cent* rates of overhead charges and profit quoted by the contractor in response to the bid issued in accordance with HPPWD Schedule of Rates.

Non-safeguarding the interests of the Company by inserting suitable clauses overburdened the Project by ₹18.82 crore.

2.14 Avoidable expenditure

(A) As per contract for the E&M package, work was scheduled to be completed by March 2015. In terms of commercial amendment (19 September 2010) the Contractor quoted the overrun charges (on delays not attributable to contractor) on per month basis for a period of 24 months.

Commissioning of the Project was delayed due to delay in providing civil fronts to E&M Contractor, which was mainly due to non-availability of access roads to the civil contractor as discussed in **Paragraph 2.9.1**.

Accordingly, completion period was extended by the company up to 31 October 2016. Finally, the Project was commissioned in September 2017 after a delay of 29 months from scheduled completion period.

Thus, due to delay not attributable to E&M Contractor, Company had to bear avoidable over run charges of ₹ 87.40 lakh for the 19 months, which may increase further on grant of final extension by the Company.

Had the access roads and encumbrance free sites been provided to civil Contractor in time, the delay in civil as well as E&M works could have been avoided.

The Government has accepted (December 2018) the point.

(B) As per contract agreement of the E&M package, the defect liability period of 540 days was available from the date of completion or one year from the date of operational acceptance. Due to delay in completion of the Project not attributable to the contractor, date for completion was extended up to 31 October 2016. Contractor claimed warranty charges for the intervening period till actual completion of facilities. In view of above the Company approved (March 2018) warranty extension charges of ₹ 2.37 crore, EURO 60,716 and USD 79,284 (upto October 2016) @ 2 *per cent* per annum of composite price. The total warranty charges worked out to ₹ 3.38 crore[20]. The Project was, however, commissioned during September 2017 and the amount of warranty charges would increase (₹ 1.86 crore) further on grant of final extension of time to the Contractor.

[20] As per USD rate 67 per INR and EURO 79 per INR on 8 June 2018.

It was also observed that the Contractor supplied 117 items in advance to the Master Time Schedule (MTS) resulting in extension of warranty period. Therefore, warranty charges payable due to delay in completion got enhanced by ₹ 29.54 lakh. Had such material been dispatched as per the agreed schedule, on the one end warranty charges could have been reduced and on the other end interest burden of ₹ 0.47 crore on release of 55 *per cent* payment (₹ 19.99 crore as per contract conditions[21]) ahead of the schedule could have been avoided.

The Government stated (December 2018) that it was done as per site requirement. Reply is not tenable as material was supplied ahead of the agreed MTS.

Company should insert a suitable clause in future contracts, to follow the MTS strictly and no payment should be released resulting from non-adherence of MTS.

Non-synchronising the Electro-Mechanical works with progress of civil works and control failure increased the project cost by ₹ 4.72 crore.

2.15 Undue favour to the Contractor

During execution of work undue favour amounting ₹ 4.37 crore was extended to the Contractor-I due to non-compliance of various contractual provisions etc. as discussed in the following paragraphs:

2.15.1 Wrong calculation resulting in extra payment to the Contractor

For calculation of price escalation on cement, steel and all commodities except fuel and lubricants, the Company entered into a supplementary agreement with Contractor-I during February 2012. The supplementary agreement[22] provided for conversion of new series (Base year 2004-05) of Wholesale Price Index (WPI) to old series (Base year 1993-94), using linking factor of 1.873 published by the Economic Advisor, Ministry of Commerce & Industry, GoI w.e.f. September 2010.

The Contractor started submitting price escalation bills from May 2011. The Project authorities, while releasing the payment of price escalation on "All commodities", converted the index of new WPI series, for current months, to old series (since base month was September 2009) by applying linking factor of 1.873 but, the index of the base month was considered from the old series, instead of converting it from the new series. This had resulted in undue favour of ₹ 92.27 lakh to the Contractor-I.

The Government stated (December 2018) that the linking factor has been used for conversion of new series to old series where index numbers in old series are

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[21] Appendix 1A of (volume 1A) provided for 55 *per cent* payment against dispatch documents.

[22] Clause (d) of Section 1 of supplementary agreement.

not available. The reply is not tenable as the price index of the base month was also required to be converted from new series so as to make it comparable with current month's index.

2.15.2 Approval of design below the standards of Bureau of Indian Standards

Code[23] of practice for 'design in tunnels conveying water' issued by Bureau of Indian Standards (BIS) for a reinforced structure concrete lining, recommends a minimum thickness of 300 mm.

In few reaches/stretches (415.4 meter) of Head Race Tunnel (HRT), reinforcement was done by the Contractor-I with concrete lining thickness of 250 mm against the minimum thickness of 300 mm recommended by the BIS, *ibid*. This has resulted in execution and acceptance of works below BIS standard. Besides, being EPC contract, reduced thickness had resulted in less execution 535 M^3 of M-25 concrete and extension of undue benefit of ₹ 42.92 lakh[24] to the Contractor-I. It is worth mentioning here that in similar case, in Kashang HEP, the Company approved drawings of concrete lining of 300 mm thickness.

The Government stated (December 2018) that the design was satisfying all the criteria and was found suitable for normal and extreme load conditions. The reply did not address the issue of non-following the BIS standard and not proportionately deducting the cost of less execution of concrete by ₹ 42.92 lakh.

2.15.3 Non-levy of interest on payment released against incomplete work.

Provision of the contract[25] of civil package provided for payments in five stages in respect of underground power house and allied work thereto. Payments were to be made after completion of each specific milestone. Payment for 10 *per cent* final stage[26] was to be made on "providing and laying relevant architectural finishing in various floors of the power house complex".

The Contractor-I submitted (February 2015) an Interim Payment Application (IPA) amounting to ₹ 4.61 crore for different works against the milestone, without completing the work. Flooring work in unit bay, service bay and architectural finishing works in Switch Gear room were incomplete, cost of which was worked out to ₹ 1.20 crore. Part payment of ₹ 3.41 crore was released by the company during March 2015. Balance work of ₹ 1.20 crore was completed after 24 months, during March 2017.

23 Section 7.2 of IS 4880 (Part IV).
24 $535M^3$ x ₹ 8,023 = ₹ 42.92 lakh.
25 Sub clause 14.4 (schedule of payments, Document II of IV).
26 Sr. No. 1.7.5.

In another similar case of the same contract {Supplementary Agreement (SA-8)}, where payment against the incomplete work was made to Contractor, the Company levied interest at the rate of 14.60 *per cent* per annum on the progressive payment till actual completion of payment milestone. However, in the instant case, the Company extended undue favour to the Contractor-I by not levying interest, and had forgone interest of ₹ 1.00 crore[27] for the period from March 2015 to March 2017.

The Government stated (December 2018) that the work in unit bay and service bay could not be completed due to the ongoing E&M activities. The reply of the Government did not address the issue of non-levy of interest.

2.15.4 Non-handing over of Diesel Generating sets by the Contractor

The civil contract[28], provides that the Contractor shall arrange DG sets to ensure the safety and progress of the works in case of power failure. The same shall be handed over completely overhauled to the Company after completion of all works.

The Contractor-I arranged power supply by installing DG sets of various ratings for emergency backup during execution of works. The works were completed and Commercial Operation Date of the Project was achieved in September 2017, but 13 DG sets valuing ₹ 2.02 crore as per *ibid* clause were neither handed over by the Contractor nor the Company demanded the same from the Contractor.

The Government stated (December 2018) that the Contractor has been requested to handover the DG sets.

Undue favour to contractor was a result of control failure, over burdening the project by ₹4.37 crore consequently increasing the generation cost.

2.16 Monitoring and Internal Control

The Monitoring of progress of works of the Project was not effective as the Company approved deficient design, used sub-standard coarse aggregate, made excess payment of Net Present Value for diversion of forest land and short claimed loss of generation caused by locals.

Through internal control Company / organisation gains reasonable assurance for efficient and effective operations, reliability of financial reporting, compliance of applicable rules, regulations and ensuring statutory obligations. Issues relating to monitoring and Company's internal control failure in availing exemption of Excise Duty, payment of excess Central Sales Tax, reimbursement of inadmissible Entry Tax to the Contractor and ensuring its statutory obligations has been discussed below:

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27 Calculated at the rate of 14.60 *per cent* per annum.
28 (Chapter 2 of Document IV).

2.16.1 Deficiency in design of Tail Race Tunnel

During joint site visit (22 February 2018) of Civil, E&M contractors and Director (Electrical) of the Company, it was observed that considerable amount of water was filling up in runner removal area during operation of units at 110 MW (maximum permissible limit).

Hence, it was decided to modify the Tail Race Tunnel (TRT) junction, to obtain smooth flow condition in TRT junction area. Design wing of the Company recommended cutting of 19.59 M^3 area and concreting with M-20 grade concrete at TRT junction. Civil contractor refused (March 2018) to execute the job taking the plea that original work was done as per approved drawings and insisted that the same may be treated as extra item.

The work for cutting/breaking of RCC (19.59 M^3) and steel ribs for the widening of TRT junction was executed through another Contractor at a cost of ₹ 22.68 lakh (completed during April 2018).

In reply, Government stated (December 2018) that the work has now been completed. The reply is silent about extra expenditure.

2.16.2 Non-adherence of gradation of coarse aggregate to the acceptable standards

Contract[29] provides that grading of the coarse aggregate shall be such that when the coarse aggregate is combined with the approved fine aggregate and cement, it shall produce a workable concrete of maximum density. It further provided that gradation of coarse aggregate shall be within grading limits as specified in the relevant codes.

In 23 cases out of 47 cases test checked, results of aggregate used, were not as specified in standard (IS)-383. Limit of five *per cent* for 2.36 mm sieve was exceeded 17 times. In case of 4.75 mm sieve 20 *per cent* limit was exceeded 13 times. For 10 mm sieve, two times the sample was below the minimum prescribed limit of 85 *per cent* and in 12.5 mm sieves the 100 *per cent* material was required to pass through but, it failed four times.

Each time, the gradation analysis report was prepared, instructions were issued to the Contractor to improve the gradation, however, the Contractor did not heed to the instructions and no corrective measures were taken by the Contractor as is evident from the fact that fault in gradation continued right from January 2012 till February 2016. This was indicative of weak quality control, besides, no penal clause was incorporated in the contract to guard against sub-standard work / use of rejected material by the contractor.

In reply, Government stated (December 2018) that rejected material was used in allied miscellaneous works. The reply is not tenable as there was no mechanism in place to ensure that the sub-standard material is not used in main works.

[29] Clause 1.2.2.6 of chapter 07 read with Clause 7.4.1.

2.16.3 Worker's Welfare Cess

GoI notified (November 2008) the "Building and Other Construction Workers' Welfare Cess Act, 1996" with a view to augment the resources for the building and other construction workers' welfare.

- As per clause 9 of E&M contract, the Contractor was liable to deposit the Worker's Welfare Cess and claim reimbursement from the Company. Worker's Welfare Cess of ₹ 1.53 crore was due, on the gross payment of ₹ 152.66 crore made to the Contractor, which was not deposited to the concerned authority either by the Contractor or by the Company. Non-deposit of Cess may attract penalty of 100 *per cent* besides payment of Cess.
- The civil contractor claimed the increase of taxes and royalties amounting ₹ 11.45 crore which was paid by the Company. However, Company had not recovered the workers welfare cess of ₹ 11.45 lakh from the claims of the Contractor.

The Government stated (December 2018) that the reimbursement to the E&M contractor was made on actual basis against documentary proof. For civil contract, matter has been taken up with the contractor.

2.16.4 Excess payment of NPV and non-refund of Tax Collected at Source

GoI, Ministry of Environment and Forest (MoE&F) accorded approval (14 September 2009) for diversion of forest land (48 hectare) in favour of the Company for construction of the Project, for which the Company deposited (September 2009) ₹ 4.30 crore for diversion of 47.993 hectare land.

There were 2,344 trees existing on the forest land diverted for the Project constituting density of 9.90 *per cent.* Forest department made the rounding of figure on higher side i.e. to 10 *per cent.* The rates of Net Present Value (NPV) on diversion of forest land for non-forestry use, for density of forest of 10 *per cent* and above, were higher as compared to rates for forest density below 10 *per cent*. The Company did not object to the rounding of figure of density of forest on higher side, resulting in overpayment of ₹ 95.03 lakh towards NPV and consequential interest loss of ₹ 0.79 crore for the period from November 2009 to March 2018.

Besides, the Company paid ₹ 19.20 lakh towards Tax Collected at Source (TCS) to forest department in November 2009, which was not applicable to the Company under provisions of Income Tax Act[30], being a Public Sector Company. The Company could not claim refund of TCS from the Income Tax department as neither it had TCS certificate from forest department nor the forest department had filed income tax return for that year. This has also resulted in interest loss of ₹ 17.12 lakh on payment of non-applicable TCS for the period from November 2009 to March 2018.

[30] Section 206.

The Government stated (December 2018) that the matter has been taken up with forest department.

2.16.5 Short-claim of compensation for delays due to stoppage of work by local people

As per revised guidelines (October 2011) for management of Local Area Development Fund in respect of HEPs, the developer was entitled to claim compensation for the delays in commissioning of the Project due to work stoppage on account of agitation by local people during construction of the Project. The loss on this account was to be deducted / adjusted from the revenue to be contributed towards LADF in shape of one *per cent* free power to be made available to local population.

The Directorate of Energy clarified (July 2017) that the loss should be calculated at present per unit sale rate of power. However, Company claimed (December 2017) generation loss for 64 days at ten months average rate of Indian Energy Exchange of ₹ 3.02 per unit instead of its own current (November 2017) average sale rate of ₹ 3.59 per unit. This has resulted in short claim of loss of ₹ 3.24 crore.

The Government stated (December 2018) that the necessary action taken in the matter will be intimated.

2.16.6 Non-ensuring black start capabilities[31]

The Indian Electricity Grid Code (IEGC) Regulations, 2010 provides that in case of grid failure, HEP should have black start capabilities which should be tested every six months to ensure their functionality.

It was observed that DPR of the Project have the provisions for black start capabilities, it was not included in the scope of the work of the Contractor and is still pending. In the absence of black start capabilities, the Project will not be able to start generation immediately in case of grid failure and will have to wait for initial current for start from the HPSEBL.

The reply of the Government (December 2018) is silent about required changes.

Monitoring and internal control mechanism of the Company was not functioning properly and failed to safe guard its interests ultimately impacting the cost of project and generation.

[31] Process of restoring electric power station to operation without relying on external electric power. Station service power is provided by drawing power from the grid. However, during wide area outage, off-site power from the grid is not available. In such cases black start is performed to bootstrap the grid into operation.

2.17 Other Topics of interest

Other topics of interest resulting in increase in project cost are discussed below:

2.18 Taxes not due, paid to the contractor

The Company also failed to regulate the legitimate exemptions /taxes/ regulations as detailed in ***Appendix 2.1***. Few cases are discussed below

2.18.1 Inadmissible payment of entry tax

Section 3 of Himachal Pradesh Tax on Entry of Goods into Local Area Act, 2010 provides that a registered dealer (registered under HPVAT Act, 2005) who brings goods into local area is not liable to pay entry tax.

The contractor executing civil works being a registered dealer was not liable to pay entry tax. However, no suitable clause addressing the same was incorporated in the contract. The contractor deposited and claimed reimbursement of ₹ 5.44 crore on entry tax paid between September 2010 and December 2016. The entire claim was reimbursed. The contractor not only had the claim reimbursed but also availed input tax credit on VAT which was accorded by the Assessing Authority. The engineer-in-charge, internal auditors, statuary auditors and Management failed to point the inadmissible reimbursement made to the Contractor. This resulted in extra burden of ₹ 5.44 crore on the project.

The Government did not offer any reply on the above observation.

2.18.2 Non-availing exemption of Excise Duty

As per notification issued by the GoI in August 1995, all ADB funded Projects are exempted from payment of Excise and Custom duties.

Test check of records relating to E&M works showed that neither the Contractor demanded Project Authority Certificate (PAC), nor the Company issued the same. The Contractor deposited the Excise Duty (ED) of ₹ 6.09 crore which was reimbursed by the Company. After being pointed out in audit (June 2015), the recovery process was initiated (October 2016) by the Company. A sum of ₹ 3.06 crore still remained to be recovered.

Failure to claim ED exemption also resulted in avoidable payment of CST of ₹ 12.18 lakh[32].

The Government stated (December 2018) that the balance amount will be recovered from the Contractor.

[32] ED ₹ 6.09 crore X 2 *per cent* CST.

2.18.3 Deployment of staff in excess of sanctioned strength

Scrutiny of sanctioned strength of different categories of staff vis a vis actual manpower deployed there against showed that the Company had deployed staff in excess of sanctioned strength during the period from April 2008 to March 2017. This had resulted in avoidable increase in project cost by ₹ 6.74 crore on account of pay and allowances paid to the staff deployed in excess of the sanctioned strength during the same period.

The Government stated (December 2018) that the overall sanctioned strength of the Company had not exceeded at any point of time. The reply did not address the posting of staff in excess of sanctioned strength in the Project.

2.18.4 Deployment of staff without any requirement

The Company had deployed various field staff such as, Ferro printer, rock driller carpenter, wireless operator, air compressor operator, *etc*., at project site, though all the works were executed through EPC mode. Thus, deployment of such staff at the project was avoidable. The Company had incurred avoidable expenditure of ₹ 1.73 crore on their pay and allowance during the period from April 2008 to March 2018.

In reply, Government stated (December 2018) that excess staff was due to transfer of staff of HPSEBL at the disposal of the Company at the time of transfer of execution of project to the Company.

2.18.5 Transmission works - Extra burden on the Project

The project being ADB funded was eligible for exemption from excise duty

The Company decided to assign the execution of transmission work, for evacuation of power generated from the Project, to Himachal Pradesh Power Transmission Corporation Limited (HPPTCL), for which the ADB had refused to finance due to the reason that the work was being executed as deposit work from other agency. The Company deposited ₹ 5.00 crore[33] with HPPTCL for execution of works. The line was energised in May 2017.

The decision of assigning the work to the HPPTCL had resulted in avoidable payment of service and departmental charges of ₹ 0.97 crore to HPPTCL, non-availing benefit of ₹ 35.72 lakh towards exemption on account of excise duty and other levies thereon, putting extra financial burden of ₹ 1.33 crore on the Project.

The Government stated (December 2018) that the work was assigned to HPPTCL, as it involved the revision of overall forest clearance, if the work was executed by the Company itself. The reply is not tenable as the Company itself should have got the revised forest clearance to avoid extra financial burden of ₹ 1.33 crore on the Project and avail financial assistance of ₹ 5.00 crore from ADB.

[33] ₹ 1.00 crore in March 2016 and ₹ 4.00 crore in March 2017.

Overall planning and control mechanism in execution of the project was missing and Company failed to control the cost through optimised utilisation of its staff and avail benefits by getting the transmission works done by itself.

2.19 Environment and public health

On the basis of Environment Impact Assessment (EIA) studies, the Company prepared Environment Management Plan (EMP) and the Ministry of Environment and Forests, GoI (ME&F GoI) accorded (May 2009) environment clearance for the construction of Sainj HEP.

Sainj Valley Conservation Cell (SVCC) was created as per direction of the ME&F GoI under the aegis of GHNP. In this regard, a monitoring committee was required to be notified in which project authority was required to be included as one of the member, however, project authority had not been the part of monitoring committee. Resultantly the Company could not properly monitor the following environmental aspects relating to the project:

- No proposal was sent by Principal Chief Conservator of Forest (Wild Life) department of the GoHP (May 2018) to avail financial assistance of ₹ 30.00 lakh, provided in the EMP.

- It could not be ensured that an expenditure of ₹ 51.69 lakh reimbursed to GHNP for deployment of forest guards, ₹ 30.76 lakh for running of hired vehicle to ensure regulatory provisions for the protection of the existing biodiversity including doing anti-poaching measures at three check posts were actually used for the intended purpose or not.

- For treatment of catchment area of the project, funds of ₹ 10.40 crore against the provision of ₹ 11.15 crore was provided to the Forest Department of the GoHP between April 2010 and March 2017 for execution of various works. The work executing agency reported that ending March 2015 an expenditure of ₹ 2.37 crore was incurred, representing only 22.79 *per cent*. As such, adverse impact due to sedimentation in the barrage site caused by soil erosion will ultimately reduce the capacity of the barrage.

- Under the component, public health and delivery system, provision of establishment of the dispensary was made to serve the labour as well as local population. The Company established dispensary in the GM, Office Complex – Sarabai (Kullu) which is about 50 kms away from the construction site, and incurred ₹ 1.12 crore towards salary of the staff and purchase of medicines. This deprived the public of affected area from intended benefits besides, overburdening of project.

The Company should have made sincere efforts for constitution of monitoring committee to effectively monitor the environmental aspects relating to the project.

2.19.1 Non-protection of dumping sites

The Company provided seven dumping site to the Contractor in different areas having capacity of 11,61,084 M^3 (10.729 hectare) in which the Contractor had dumped 2,00,179 M^3 muck (September 2016), however, as per provisions of the contract[34], the Contractor had not executed the works of reclamation even after the commercial operation of the project.

The Company had also not taken any corrective steps for doing reclamation works on the risk and cost of the Contractor by providing earth cushion and jute matting over the dumped muck to avoid the soil erosion as well as possibility of roll down of the muck into the river and get washed.

The Government stated (December 2018) that the Contractor has been asked to do the needful.

2.19.2 Extra expenditure on local area development activities

As per the provisions of State Hydro Power Policy of 2006, an expenditure of 1.5 *per cent* of project cost has to be deposited towards Local Area Development Fund (LADF). The funds were to be utilised by Local Area Development Committee (LADC) on local area development. Company executed certain works on behalf of LADC by incurring an expenditure of ₹ 5.20 crore upto March 2018.

Company had not charged departmental charges at the rate of 11 *per cent* and service tax thereon amounting ₹ 0.64 crore on the works executed under local area development scheme resulting in short adjustment towards LADF and putting extra burden on project cost to the above extent.

The Government while admitting the point stated (December 2018) that the short adjustment will be recovered against future payments.

2.19.3 Additional liability towards Local Area Development Activities due to increased project cost.

Based on the project cost of ₹ 725.24 crore of Sainj HEP, ₹ 10.87 crore toward LADF was deposited by the Company with concerned authority. However, now the project cost has increased to ₹ 1,319.33 crore (excluding LADF expenditure), which resulted in further liability of ₹ 8.91crore towards LADF.

[34] Clause 4.18 of GCC read with sub clause 4.18.

The Government stated (December 2018) that although the expenditure have exceeded from the TEC cost however, the revised project cost is yet to be approved by the CEA.

Conclusion

The main objective for execution of the project was to generate clean power at affordable rates, which could have been achieved through anticipation, coordinated approach, efficient contract management and suitable control mechanism to address the obstructions. The GoI transferred funds of ₹ 732.22 crore in the shape of 90 *per cent* grant and 10 *per cent* loan at an interest rate of nine *per cent* per annum through State government (GoHP). The same were transferred by GoHP to the Company at an interest rate of 10 *per cent* per annum, increasing the generation cost by ₹ 4.40 per unit. The Project was commissioned during September 2017 with time overrun of 29 months and cost overrun of ₹ 643.04 crore. The time and cost overrun was a result of ill planning and control failure, *etc.*, over burdening the project. Monitoring and internal control mechanism of the Company was not functioning properly and failed to safeguard its interests through timely handing over the sites, constructively structuring the agreements, synchronising the Electro-Mechanical and civil works, controlling the expenditure and availing exemptions, *etc.* Internal control was deficient in ensuring statutory obligations. The Company failed to monitor the implementation of environment management plan. Overall planning and control mechanism in execution of the project was missing, leading to higher project cost and increasing the generation cost. Consequently, the per unit generation cost of power had increased from ₹ 3.74 to ₹ 6.23 against prevailing average sale rate of ₹ 4.30 per unit. Resultantly, the project, which was anticipated to recover the cost in five years would now be able to recover it in nine and half years i.e. delay of four and half years in recovery of project cost, which will directly impact the commercial viability of the Project.

Recommendations

The Company may consider to ensure the following for its ongoing/future projects:-

- Timely handing over the sites and proper monitoring the progress of works;
- structure provisions of agreement duly guarding interests of the Company and work;
- coordinated efforts of civil and electrical wings to ensure timely completion of its future projects;

- effective control mechanism in all activities vis., claims, Administration of project, Contract Management, Financial Management and Project Management; and

The State government may consider;-

- transfer of grant received from GoI direct to the Company to avoid increase in the cost of Project.