Chapter-II

Performance Audit

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PERFORMANCE AUDIT

Himachal Pradesh Power Corporation Limited

Integrated Kashang Hydro Electric Project

The Himachal Pradesh Power Corporation Limited (Company) is implementing Integrated Kashang Hydro Electric Project (HEP) that will have installed capacity of 195 MW (Stage-I, 65 MW and Stage-II & III, 130 MW). The estimated cost was ₹ 966.21 crore and the project was to be completed by November 2015. As of November 2017 only Stage I of the project has been commissioned (September 2016) and Stage II & III were under execution. An expenditure of ₹ 1,169.75 crore has been incurred so far, a cost overrun of ₹ 203.54 crore. The complete project is anticipated to be commissioned in January 2021. The Performance Audit of the Project covered planning, construction and operational activities of Stage I and planning and construction activities of Stages II & III. We noticed deficiencies in conception and preparation of Detailed Project Report, time & cost overrun due to delay in getting clearances and cases of avoidable / extra payments to the contractor and booking of extra cost to the Project. As a result, the generation cost at the completion of Stage I had increased from ₹ 2.85 to ₹ 4.78 per unit against the prevailing sale rate of ₹ 2.20 per unit thereby rendering the Project commercially unviable.

Highlights

The Asian Development Bank loan received through Government of India in the shape of 90 *per cent* grant (₹ 498.99 crore) and 10 *per cent* loan (₹ 55.44 crore) was extended as 100 *per cent* loan by Government of Himachal Pradesh, placing extra burden of ₹ 651.82 crore including interest of ₹ 152.83 crore on the project cost.

(Paragraph 2.7.2)

Time overrun of 30 months in Stage-I was attributable to non-availability of encumbrance free sites, stoppage of work by local people, blockade of project roads, extra time required for the backfill in the over-break due to contractor's fault and damage to the machine prior to commissioning. Stage-I of the project was completed with cost overrun of ₹ 311.82 crore. Consequently, per unit generation cost, up to the completion of Stage-I, had increased from ₹ 2.85 to ₹ 4.78 per unit against prevailing sale[1] rate of ₹ 2.20 per unit.

(Paragraph 2.8)

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1 Rate at which energy being sold to HPSEBL.

We also noticed the following:

- Extra expenditure of ₹ 8.30 crore, extra payment of ₹ 1.99 crore, non / short recovery of ₹ 6.77 crore, besides favour of ₹ 27.72 crore to the Contractor due to non-compliance of various contractual provisions *etc*. in Stage-I.
- Extra payment / avoidable extra expenditure of ₹ 17.61 crore in electro-mechanical works.
- Besides, there was loss of interest, extra / avoidable expenditure of ₹ 9.32 crore in Stage-II & III.

(Paragraph 2.10, 2.17 & 2.21)

2.1 Introduction

The Integrated Kashang Hydro Electric Project (Project) was conceived as a run of river development on Kashang *Khad* (a tributary of Satluj River) in Kinnaur district of Himachal Pradesh. A special purpose vehicle (SPV) named as Jal Vidyut Vikas Nigam (JVVN) was created (March 2003) for execution of Hydro Electric Projects in Beas and Satluj river valleys which was subsequently merged with Himachal Pradesh Power Corporation Ltd (Company) in August 2007. The project was part of two[2] projects to be executed in the Satluj river valley. The techno-economic clearance for the project with installed capacity of 195 MW (Stage-I, 65 MW and Stage-II & III, 130 MW) was accorded by Himachal Pradesh State Electricity Board in two parts *i.e.* Stage-I (July 2008) for ₹ 478.02 crore and Stage II & III (September 2009) for ₹ 488.19 crore. The financial arrangements were envisaged with Debt Equity Ratio of 70:30 (Debt ₹ 676.35 crore and equity ₹ 289.86 crore). The Project was designed to generate 238.62 Million Units (MUs) with one unit during first two years and 713 MUs thereafter. The construction work of both Stages of the Project was scheduled for completion between January 2014 and November 2015[3]. The construction work started during April 2009 and was envisaged to be completed within 48 months but first unit of the Project could only be commissioned in September 2016.

2.2 Organisational set up

The Company was created by the State government for execution of Hydro Electric projects in the State. The management of the Company is vested with a Board of Directors (BoD). The BoD is headed by Managing Director and there are other four Directors for supervising the business of the Company. The execution of Civil and Electro-Mechanical Works of the Project is under the overall control of a General Manager, who is assisted by three Assistant General Managers, Civil, Mechanical and Electrical.

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[2] (i) Kashang HEP& (ii) Shongtong-Karchham HEP (work in progress).

[3] Including Electro-Mechanical Works.

2.3 Audit objectives

The objectives of the performance audit were to assess whether:

- Detailed Project Report (DPR) was prepared by incorporating appropriate quantities of items to be executed;
- The terms & conditions of the contract were strictly enforced during execution of the Project;
- The Project was executed in economic, efficient and effective manner;
- There was a monitoring system in place to review performance of Project, take corrective measures to overcome deficiencies identified and respond promptly; and
- The Project was economically viable *i.e.* the market price at which power will be sold would cover the cost of generation.

2.4 Scope and Methodology of Audit

The present performance audit was conducted to cover the activities of planning, award & execution and operational activities of Stage I and planning and award & execution activities of Stage II & III of the project since inception to 2016-17. Audit examination involved scrutiny of records in Corporate Office and at Project Office at Reckong Peo relating to design and construction of the Project.

The entry conference for the performance audit was held in April 2017 to explain audit objectives to the Company and Government of Himachal Pradesh. The audit findings were reported (July 2017) to the Government of Himachal Pradesh and Company / Management, however, their response is awaited. The audit findings were discussed (August 2017) in the exit conference held with Additional Chief Secretary (MPP & Power) / Management of the Company. The replies of the Management, wherever received, 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; Reports of Geologist for exploration for Project and quality control;

- Standard procedures for award of contracts with reference to principles of economy, efficiency and effectiveness and guidelines issued by the Asian Development Bank (ADB); and
- Construction schedule and methodology submitted by the contractor for the execution of Project.

2.6 Audit Findings

The execution of Project was divided in two parts *i.e.* Stage-I and Stage-II & III. Accordingly, audit findings have also been broadly divided in two parts *viz.* for Stage-I and Stage-II & III.

2.7 Financial Management

2.7.1 Funding

A loan of ₹ 200 crore carrying interest rate of 11 *per cent* per *annum* was sanctioned (February 2003) by the Power Finance Corporation (PFC) for the Project. Against the sanctioned loan of ₹ 200 crore only ₹ 30.00 crore was availed by the Himachal Pradesh State Electricity Board Limited (HPSEBL) for infrastructure development works executed prior to handing over the construction of the project to the Company. Further, a loan of ₹ 708.16 crore (contract value of Civil and Electro Mechanical Works) was taken from Asian Development Bank (ADB) through Government of India (GoI) under Himachal Pradesh Clean Energy Development Program (November 2008) for the execution of the project. An expenditure of ₹ 1,169.75 crore has been incurred by the Company on the Project till March 2017 with Debt Equity Ratio of 51:49[4] against the prescribed norms of 70:30 by Central Electricity Regulatory Commission (CERC) for tariff determination.

2.7.2 Charging of Interest on grant

Against sanctioned loan of ₹ 708.16 crore from ADB carrying interest at the rate of 0.20 *per cent* above LIBOR rate, the GoI transferred funds of ₹ 554.44 crore upto March 2017 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). However, GoHP had diverted the grant and treated the grant amount as loan to the Company at an interest rate of 10 *per cent per annum.* The conversion of grant of ₹ 498.99 crore into loan resulted in total extra burden of ₹ 651.82 crore including interest of ₹ 152.83 crore upto August 2016 on the Project cost thereby, increasing the cost of generation and defeating the very purpose of grant released by GoI for providing clean energy at affordable rates.

2.8 Time and Cost over run

Techno-Economic Clearance (TEC) for the Project with installed capacity of 195 MW was accorded in two parts *i.e.* Stage-I (July 2008) for ₹ 478.02 crore

[4] Debt ₹ 596.91 crore & Equity ₹ 572.84 crore.

and Stage II & III (September 2009) for ₹ 488.19 crore. There was a time and cost overrun as shown in the table 2.1 below.

Table 2.1: Time & cost overrun as on 31st March 2017

(₹ in crore)

Name of work / Package	Estimated cost	Due date of completion as per award	Present status	Actual expenditure.	Cost overrun	Time over run in month
Work relating to Stage-I	478.02	February 2014	Completed in September 2016	789.84	311.82	30 months
Work relating to Stage-II & III	488.19	November 2014*	Work in progress	379.91	---	28 months

* Civil works only

As shown in the above table, Stage-I was completed at a cost of ₹ 789.84 crore, a cost overrun of ₹ 311.82 crore. The time overrun of 30 months was attributable to non-availability of encumbrance free sites, stoppage of work by local people, blockade of project roads, extra time required for the backfill in the over-break due to contractor's fault and damage to the machine prior to commissioning. The cost overrun occurred as a result of time overrun plus deficient management of the project which led to increase in cost mainly on account of avoidable extra expenditure, payment for works at higher rates, non / short-recovery from the contractor and short provision of quantities in the DPR.

Consequent to increase in project cost, per unit generation cost up to the completion of Stage-I had increased from ₹ 2.85 to ₹ 4.78 per unit against prevailing sale[5] rate of ₹ 2.20 per unit. Generation cost would increase further on completion of Stage II & III which will directly impact the viability of the Project.

The time & cost overrun as analysed in audit were mainly due to:

(A) Controllable: Charging of Interest on grant by GoHP, delay in handing over of sites to the contractors, extra time required for backfill in the over-break due to contractor's fault, non-availability of evacuation system for three months, damage to machine prior to commissioning, incorrect estimation of Bill of Quantities, wrong allocation of expenses and expenditure on Local Area Development Activities (LADA) over and above the norms.

5 Rate at which energy being sold to HPSEBL.

(B) Uncontrollable: Stoppage of work by local people and blockage of roads & avalanches. The impact of these factors has been discussed below.

The delay of more than two years (February 2014 to August 2016) in completion of Project (Stage I) had not only resulted in increase in cost but also resulted in potential generation loss of 616.435 MUs valued at ₹ 175.68 crore[6] including deferment of free power share of ₹ 21.08 crore (@ 12 *per cent*) to Government of Himachal Pradesh (GoHP). Besides, there is delay in achievement of social objective of providing additional one *per cent* free power to the local area residents.

2.9 Stage-I- Planning

2.9.1 Formulation of Detailed Project Report and Cost estimates

The DPR provides the basis for authorisation of the Project for construction. The capital cost of a Project includes all costs associated with investigation, design, construction and maintenance during construction period. Deviation in cost without any change in the scope of work and non-provision of major items in the Bill of Quantities (BOQ) can be termed as deficiencies in planning and estimation. Audit observed that cost of the project was kept below ₹ 500 crore in the DPR by providing inadequate / non-providing some essential items presumably to avoid concurrence of the Central Electricity Authority. Due to inadequate / non-provision of items in BOQ of Stage-I, payments of ₹ 65.46 crore have been made on the extra, deviated and analogous items paid on current market / awarded rates against total contract payment of ₹ 250.45 crore (excluding cost escalation) which worked out to 26.13 *per cent* of contract payments. Thus, the very purpose of preparation of estimates was defeated to that extent.

2.9.2 Unfruitful expenditure on purchase of land

The Company incurred avoidable expenditure / extra expenditure of ₹ 18.09 crore on construction of buildings and purchase of land as discussed below.

(i) The Company acquired 2.00.70 Hectare private land at a cost of ₹ 4.30 crore between September 2006 and January 2008 at Pangi for the construction of residential colony. Audit noticed that no survey was done prior to construction of buildings at a cost of ₹ 2.80 crore which were badly damaged due to landslides in June 2013 and are lying unutilised. The survey was got carried out subsequently from the Geologist of the Company in November 2013, which showed that area was covered with thick layer of overburden / Glacial Fluvial Deposit and was not fit for construction of the buildings. Had the survey of site was done before construction of buildings, an unfruitful expenditure of ₹ 2.80 crore could have been avoided.

[6] 616.435 MUs x ₹ 2.85 per unit (DPR rate) = ₹ 175.68 crore.

The General Manager (Project) stated that Geological Survey of India during site visit (August 2016) pointed out that the problem appears to be due to placement of structure on loosely compacted material & rock and lack of proper drainage arrangement. This clearly indicates that the site for construction of colony was not selected after proper geological survey.

(ii) Against the payment of ₹ 1.42 crore made for the diversion of 18.71.42 hectare of forest land, the Company actually got possession of only 13.07.21 hectare of land. The possession of remaining 5.64.21 hectare land could not be taken as the same was stated to be under encroachment. Further 3.25.28 hectare and 3.734 hectare of land got diverted for quarry sites at intake of Project and Akpa village respectively without taking into cognizance of the fact that the stones excavated could be utilised for processing into aggregate and sand during construction. Tenders for civil works were invited with the condition that the contractor could utilise the excavated stone. During construction, the contractor utilised the excavated material for aggregate and sand. Resultantly land acquired for quarry sites remained unused (June 2017). These quarry sites would not be used in future also, as execution of Stage-I is complete and for the execution of work for Stage-II & III, the stone retrieved during excavation has been made available to the Contractor free of cost.

Thus, the payment of ₹ 0.96 crore made for the Net Present Value (NPV) and compensatory afforestation for the said land has been rendered unfruitful.

(iii) Similarly, private land measuring 3.49.85 hectare acquired between January 2010 and October 2010 at a cost of ₹ 10.03 crore for setting up of common township at Dakho village could not be utilised. The land was purchased within the distance of 1200 yards ignoring the Notification 125 SRO dated 22 November 2005 which provided that land lying within this distance from the periphery of Ammunition Point of defence forces in district Kinnaur may be kept free from building. This also put an extra burden of interest of ₹ 7.02 crore[7] on the Company.

2.10 Award and execution of civil works (Stage-I)

After completion of preliminary works in order to facilitate the execution of the project, works had been broadly divided into three packages and awarded to different contractors. Civil and Hydro Mechanical work for Stage-I during February 2009 for ₹ 296.91 crore, Civil and Hydro Mechanical work for Stage-II & III during October 2010 for ₹ 252.39 crore and Supply & erection

[7] Calculated at the rate of 10 *per cent per annum* being charged by Government of Himachal Pradesh on loan.

of Electro-Mechanical works during March 2010 for ₹ 120.79 crore, EURO 0.38 crore and Swiss Francs (CHF) 0.27 crore.

After following the tendering process, the Civil work was awarded (February 2009) to M/s Hindustan Construction Company Ltd. (Contractor) at a cost of ₹ 296.91 crore. The work was to be completed by January 2013, however, the contractor completed the work only by March 2016, after a delay of 38 months which was substantially attributable to the contractor. Audit scrutiny of contract agreement and record relating to execution of works showed cases of extra expenditure of ₹ 8.30 crore, extra payment of ₹ 1.99 crore, non / short recovery of ₹ 6.77 crore, besides favour of ₹ 27.72 crore to the Contractor, due to non-compliance of various contractual provisions *etc*., as discussed below.

2.10.1 Avoidable extra expenditure

(i) Central Water Commission in its guidelines for River Valley Projects (Chapter 14.11) has provided for insertion of binding clause and upper limit for payment to keep control over the payments where the quantities could not be assessed initially. However, Chapter 1 (Schedule of Price) of Contract Agreement provides that the rates for the quantities executed in excess of 125 *per cent* would be analysed on current market rates.

Audit noticed (May 2017) that grouting, shotcrete and rock bolts *etc.* were kept out of the scope of binding clause and were allowed to be paid on the contractual rates even beyond 125 *per cent*. During execution of work the quantities of rock bolt used in Pressure Shaft and grouting in Head Race Tunnel had increased by 612.98 and 151.97 *per cent* respectively, as compared to the awarded quantities. For execution of these increased quantities the Contractor was paid at contractual rate of ₹ 3,554.88 per Running Meter (Rmt) and ₹ 1,149.96 per bag of Cement against the analysed rates of ₹ 2,237 per Rmt and ₹ 638 per bag respectively, in cost estimate. Had these items been kept within the ambit of above limit of 125 *per cent*, payment of ₹ 2.94 crore on quantities executed in excess of 125 *per cent* could have been avoided.

(ii) Clause 4.44 of the Contract Agreement (Volume IV) stipulates that the measurement and payment of concrete shall be made based on actual volume of particular mix-design of concrete. Payment for backfill of concrete beyond the pay-line in geological accepted over-break in underground excavation will be made at the rates fixed for mix-design of M-10.

The Engineer-in-Charge on the instance of the contractor requested (August 2012) the Design Wing to allow use of M-25 instead of M-10 lining grade concrete for backfill as it was difficult and time consuming to use M-10, accordingly design wing, of the Company approved the lining grade (M-25) of concrete to backfill where rib supports were not required.

Audit observed (June 2017) that in Head Race Tunnel (HRT) and Balancing Reservoir (BR) backfill of 4,367.484 M³ and 4,488.113 M³, respectively was done with M-25 lining concrete, the rates for which were higher as compared to the M-10, and paid for accordingly. The deviation in approved design and methodology of concrete resulted in extra expenditure of ₹ 4.19 crore.

2.10.2 Payment for works at higher rates

During execution of civil works the Company made extra / over payment of ₹ 1.99 crore to the Contractor due to non-exclusion of excise duty & custom duty (exempted) elements from the rates of input items, non-exclusion of entry tax (being paid separately), incorrect analysis, payment of higher rates for the deviated / extra / additional items as detailed in ***Appendix-2.1.***

2.10.3 Non / Short recovery of stone used at work

Clause 5 of Section 6 of the Contract Agreement stipulates that the Contractor can use stone retrieved from the underground excavation for crushing of aggregate after payment of cost. Audit noticed that the Company while working out the recovery of stone used by the Contractor had not taken into account the entire quantity of stones used for crushing of sand and aggregate required to execute the quantities of concrete, shotcrete and grouting and had not included the entire quantity of stones used by the Contractor resulting in short recovery of ₹ 6.77 crore as discussed below.

(i) The Contractor had used 1,21,268.41 M³ of aggregate stone and sand for concrete, grouting and shotcrete works, out of which 9,974 M³ was purchased from the open market. Evidently, 1,11,294.41 M³ sand and aggregate was crushed from the stone retrieved from excavation. After taking into account the wastage of 38 *per cent* for the quantities used by the Contractor, total quantity of required stones worked out to 1,79,507.11 M³ against which recovery was made for only 70,957.646 M³ resulting in short recovery of ₹ 3.26 crore.

(ii) In addition the Contractor had backfilled the over-breaks of 26,186.10 M³ (with sand and aggregate crushed from 58,285.190 M³ stone), over and above the approved quantity at his own cost and erected 13,476.156 M³ wire crates with 52,637.865 M³ stones at dumping sites besides developing bench (6,118.130 M³ stones) for working facility. The quantity of stone required for execution of above works worked out to 1,17,041.185 M³, even after excluding the wastage. The cost of stones valuing ₹ 3.51 crore was not recovered.

2.11 Extension of undue benefit to the contractor

Audit noticed that during execution of work the Contractor was extended undue financial benefit to the extent of ₹ 27.72 crore as discussed in the following paragraphs:

2.11.1 Non-recovery of insurance charges

Condition 18.2 of General Conditions of Contract (GCC) stipulates that Contractor shall insure the works, plant and material against loss or damage as the awarded rates were inclusive of insurance charges and further insurance cover shall be maintained till the expiry of defect liability period. Audit noticed that the Civil Works were taken over by the Company on 31 March 2016 with some left out works. The Performance Guarantee and defect liability period was extended upto 31st March 2018, however, the Contractor had not taken insurance cover from April 2016 onwards, for which the cost of insurance charges to the extent of ₹ 2.54 crore (upto October 2017) included in the awarded rates had not been recovered. The Company may consider recovering the insurance cost from the contractor in term of terms and conditions of the contract. The Project remained without insurance cover from April 2016 to October 2017.

2.11.2 Non cancellation of Project Authority Certificate

The Company issued Project Authority Certificate (PAC) for 2,969.426 MT steel plates to the Contractor for availing exemption of Custom Duty (CD) and Excise Duty (ED) thereon. Audit noticed (June 2017) that against the PAC quantity of 2,969.426 MT, the actual utilisation of plates at Project site was 2,762.699 MT only. The Contractor had availed benefit of exemption of CD and ED to the extent of ₹ 0.47 crore on the unutilised quantity of 206.727 MT plates. Though the Project works had been taken over by the Company in March 2016, but no action to cancel the PAC for unutilised quantity of steel plates has been initiated so far (June 2017).

2.11.3 Non compliance of contractual provisions

Contract Agreement executed with the contractor stipulates that the contractor shall make arrangements for required power by installing Diesel Generating (D.G.) Sets at his own cost. Audit noticed (June 2017) that the Contractor had completed the entire construction work by utilising the power connection of the Company through the supply system of the Company. By utilising the power connection and supply system of the Company the Contractor had avoided the payment of Infrastructure Development Charges of ₹ 0.87 crore to HPSEBL and the same had to be borne by the Company being the original consumer of the HPSEBL for the electricity connection.

2.11.4 Unjustified extension of time

Civil component of the Project was taken over by the Company on 31 March 2016 with some left out works. The case for final extension upto 31 March 2016 with delay of 28 days attributable to the Contractor was recommended (October 2016) by the GM, Project. The maximum delay in completion of work was in the component of Pressure Shaft, where additional concrete work of 5,211.03 M^3 was executed, a time period of 8.81 months has been considered for delay besides other factors. Audit noticed that to work out the actual delay on the part of Contractor for levy of Liquidated Damages (LD), General Manager (GM), Project while recommending the extension of time had not accounted for the time spent to complete the additional / extra works required to be executed due to Contractor's fault as detailed below.

a) Time period of 19.89 months required for the backfill of over breaks of 11,765.763 M^3 due to the Contractor's fault.

b) Non-execution of work during night shift due to shortage of diesel.

c) Delay in commissioning of machines due to depression in the floor level of Gas-Insulated Switchgear (GIS).

d) Over breaks of 14,420.337 M^3 in other component at Contractor's fault and design of under capacity Penstock.

From the above it could be seen that by not accounting for the time spent on these issues attributable to the contractor, favour has been extended to the contractor by limiting delay to 28 days / LD charges to two *per cent* instead of 10 *per cent*. This has resulted in favour of ₹ 23.75[8] crore extended to the Contractor.

2.12 Extra / unfruitful expenditure on Geo-Technical Instrumentation

(i) The Company awarded (January 2011) complete package for supply and installation of Geo-Technical Instruments (GTI) at various Project sites to M/s Progressive Machine Tools (GTI contractor) for ₹ 2.94 crore with scheduled completion period of 30 months (August 2013). These instruments were to be operated and maintained by the Contractor during construction phase and for an additional six months post construction. Audit noticed (June 2017) that the Company incurred an extra expenditure of ₹ 1.17 crore on maintenance, monitoring and analysis work through these instruments due to non-completion of Civil Works by the Contractor within the stipulated period. As a result the execution period for GTI had to be extended upto January 2017 resulting in extra payment of ₹ 1.17 crore.

[8] 8 *per cent* (10 *per cent* – two *per cent* already charged) of contract value of ₹ 296.90 crore.

(ii) Besides, 67 Geo-Technical Instruments installed, between April 2011 and August 2015, for recording and analysis of data during construction and six months post construction of the project, stopped working even before operationalisation of all the generating units, rendering the expenditure of ₹ 0.71 crore incurred for installation of these instruments unfruitful. Moreover, the purpose of installing these instruments - monitoring the behaviour of the water conductor system during flow of water - was defeated.

(iii) Clause 17.1(b) of GCC of Contract of civil works provides that contractor shall indemnify the employer against all damages to any property, which arises in the course of execution of works by the contractor. It was observed that 14 instruments valuing ₹ 0.09 crore were damaged by the civil contractor in power house complex between April 2011 and February 2014 but, cost thereof was not recovered by the company.

2.13 Extra expenditure due to designing of under capacity Penstock

The pressure rise limit due to back pressure of water at the time of closure of machines for Electro-Mechanical Equipment was 25 *per cent* as intimated (June 2009) by the Electro Mechanical Wing to the Civil / Mechanical Wing. Ignoring this aspect the fabrication drawings for Penstock were approved (July 2010) with a pressure limit of 10.6 *per cent.* This discrepancy was noticed after completion of fabrication of Penstock and had to be rectified by providing Thrust Collars, procuring additional quantity of plates, dismantling of already erected Ferrule and concrete by incurring extra expenditure of ₹ 0.20 crore.

2.14 Extra payment due to deviation in quantities

Out of total approved quantity of 8,295.999 M^3 over break in HRT, 355.832 M^3 was left without back fill and 622.248 M^3 was covered with shotcrete, which was paid separately. Thus, net area of back fill was 7,317.919 M^3 in the over break against which the company had paid for 8,765.559 M^3 concrete. This resulted in extra payment of ₹ 0.69 crore[9]. Similarly, in case of Balancing-Reservoir against the approved over-breaks quantity of 4,918.169 M^3, payments for 5,013.047 M^3 concrete and 778.36 M^3 shotcrete have been made. This resulted in extra payment for 872.238 M^3 valued at ₹ 0.36 crore[10].

2.15 Other factors contributing increase in Project cost

2.15.1 Excess expenditure on local area development activities

As per provisions of Hydro Power Policy, 2006 issued by GoHP, the Company had to pay Local Area Development Fund (LADF) at the rate of

9 1447.64 M^3 X ₹ 4738 (difference of rate of M25 and M10 in HRT) = ₹ 68,58,918.

10 872.238 M^3 X ₹ 4082 (difference of rate of M25 and M10 in BR) = ₹ 35,60,475.

1.5 *per cent* of the project cost. The Company, accordingly, paid ₹ 7.06 crore towards LADF against Stage-I. In addition the Company had also incurred an expenditure of ₹ 3.51 crore under LADF without any demand from the local panchayats, which was a pre-requisite for admissibility of expenditure under LADF. The Company requested (March 2012) the Director, Energy to adjust the expenditure against LADF but the same remained un-adjusted due to incurring of expenditure without any demand from locals.

The GM, Project stated (June 2017) that matter to include the works of ₹ 3.51 crore executed under LADF has been taken up with the appropriate authority.

2.15.2 Extra expenditure due to deviation from personnel policy

As per notification issued (July 2007) by the GoHP, the Company had to follow Personnel Policies as were in force in Satluj Jal Vidyut Nigam Ltd (SJVNL). Audit observed that the Company paid Special Project Site Allowance (SPSA) to all its employees posted on project site, on percentage basis on basic pay plus DA, whereas, the SJVNL was paying the SPSA based on slabs at fixed rates. This had resulted in extra expenditure of ₹ 1.48 crore (on DA portion only) during the period from July 2010 to March 2017.

2.16 Monitoring and Quality control

2.16.1 As per revised guidelines (October 2011) for management of Local Area Development Fund in respect of Hydro Electric Projects, 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. For this purpose, details of stoppage of work by the locals were to be got approved from the State Level Committee (SLC). The loss on this account was to be deducted / adjusted from the revenue which was to accrue from one *per cent* free power to be made available to local population.

Audit noticed (May 2017) that delay in commissioning for 74 days was caused by agitation by local public leading to generation loss of ₹ 14.55 crore. Stage-I of the Project has been commissioned on 1st September 2016 but the Company did not report (June 2017) the matter to the SLC due to which the Company could not recover the generation loss since the commissioning of Project *i.e.* September 2016.

The GM, Project stated (June 2017) that delay of 52 days has been intimated to the Corporate Office of the Company in May 2017. The reply is not tenable as the SLC is yet (June 2017) to be intimated for obtaining the requisite approval.

2.16.2 Non-recovery of Compensation

Clause 17.1(b) (Section-7, Vol II) of Contract-Agreement stipulate that Contractor shall indemnify the employer against all claims, damages, losses to any property, by reasons of contractor's design (if any) during the execution and completion of works.

Based on the joint inspection report submitted by LADC and company engineers, the company had to pay compensation of ₹ 1.05 crore for damages in structures of 534 houses of Pangi village. As the Contractor had to indemnify the Company against such losses during construction the same should have been recovered from the Contractor. Thus the Company extended favour to the Contractor by not recovering the amount of compensation paid to villagers as per the terms and conditions of the Contract Agreement.

2.16.3 Quality Control

Durability and operational efficiency of any Project, primarily depends on the execution of its entire components consistent with design specifications and laid down standards. To ensure these aspects, regular quality control, testing of the material used, supervision of all quality aspects should have been established by the Company within the Project area. However, one of the two quality control laboratories is situated at Sundernagar *i.e.* about 250 km from the Project area making it time consuming to carry out requisite testing through this laboratory.

(i) During erection of Electro-Mechanical Equipment, a depression of about 160 mm in the floor elevation of GIS was observed due to mistake on the part of civil Contractor. This led to delay in commissioning of machines by 14 days besides, extra expenditure of ₹ 8.61 lakh on rectification of Sole Plates erected by the Electro-Mechanical Contractor for which no recovery was made from the civil Contractor.

(ii) Few samples of crushed aggregate and sand tested from time to time were found unsuitable for concrete work. The company had not put any mechanism in place to ensure non-utilisation of crushed material found unsuitable for concrete.

2.16.4 Risk to the safety of the project

(i) In the Head Race Tunnel (HRT), 355.832 M^3 of over-break was left without backfill, which is against the best construction practices and is therefore vulnerable to blast / cave in due to reverse pressure.

(ii) Technical Specification under clause 4.27 of Contract Agreement envisaged that the concrete which is not placed and compacted in accordance with the specification and found to have lower strength density as determined from test samples shall be removed and replaced by the Contractor at his cost. Test results of 28 days of casted cubes of concrete mix design M-25 showed that 385.25 M³ concrete costing ₹ 0.34 crore used in various components was below the required strength. The test reports were received after a delay of one to three months and no action to replace the substandard concrete was initiated.

The GM Project stated that for the concrete, payment had been made to the Contractor on the basis of report of seven days strength, however, no laid down procedure had been received from the Quality Control Wing to deal with such cases. This indicated that the Company compromised with the quality of work. Audit is of the view that payment of ₹ 0.34 crore made to the contractor for below strength concrete was not admissible.

(iii) During December 2014 and January 2015, 578.248 M³ of concrete (M-20) was poured by the Contractor at Pressure Shaft without obtaining Ok Card, casting cubes and despite some deficiencies pointed out by the quality control engineer in concrete mixing equipment used, payment of ₹ 0.40 crore being the value of concrete was duly made to the Contractor. This also indicates the ineffective internal as well as poor quality control of the Company during execution of work.

(iv) Pull test on Anchor Bars and Bolts according to Indian Standard 11309-1985 envisages that diameter of bore hole should be at least double the dia of Anchor Bar. In case of application of load, pressure should be applied with central hole jack of 50 Tonne capacity with uniform slow rate of 250 kg per minute to avoid jerk, until total extraction greater than 40 mm is reached or bolt yields or fracture, whichever is early. Audit noticed (June 2017) that above Standards were not followed while preparing the specifications for placing Anchor Bars / Bolts. Audit observed 29 reports which showed that the bolts failed the tests, however, no case of replacement of the defective bolts was present on record. It was also observed that in 10 cases the bolts should have been reported as failed however, no comment was made in the test reports. Thus, due to sub-standard quality of batch of 1,950 (39 x 50) rock bolts, placed at a cost of ₹ 0.82 crore[11], the strength of reinforcement was compromised.

Further, the pull test of 23 bolts required 1,772 minutes excluding the time for shifting of testing equipment against the available time of 1,440 minutes in a day. This showed that pull test were incomplete and did not meet the quality control standards.

The GM, Project stated that the pull test have been carried out as per Manual on Quality Assurance and Quality Control with IS 11309. Further, pull out test of 23 rock bolts in a day can be possible subject to availability of additional resources. The reply is not based on the facts as the Manual on Quality Control of the Company has not been framed as per Indian Standards. In so far

[11] 39 x 50 (one out of 50 was tested) x 3.15 Rmt (min length) x ₹ 1,340.64 (awarded rate) = ₹ 82,34,881.

as availability of resources is concerned, the single team carried out the entire pull out tests in a single day.

2.17 Execution of Electro-Mechanical works

The package for Electro-Mechanical Works comprising of supply, transportation and erection of Hydro Generating equipment and allied work was awarded (March 2010) to M/s Andritz Hydro Private Ltd. (Contractor) at a cost of ₹ 120.79 crore, EURO 0.38 crore and Swiss Francs 0.27 crore. The work was to be completed by February 2014, however, was actually completed by the Contractor in September 2016. The scrutiny of records revealed cases of extra payment / avoidable extra expenditure of ₹ 17.61 crore on execution of these works as discussed below.

2.17.1 Avoidable payment of price escalation due to insertion of faulty clause

Appendix 2(A) of the Contract Agreement stipulates price adjustment with ceiling of ± 20 *per cent*. Any escalation in excess of 20 *per cent* at any stage shall be kept to the credit of the Contractor and shall be adjusted as and when the actual payment of escalation fell below 20 *per cent* of cumulative ex-works price of plant and equipment already supplied. The objective of this clause was to safeguard the financial interest of the Contractor by adjusting the credit against any decrease in the price of any items supplied during the Contract period. The contract however, clearly did not provide for excluding the bought out items to be used from the ambit of this Clause of price escalation and element of interest free advance of ₹ 13.65 crore extended to the Contractor as was provided by the Beas Valley Power Corporation in the contract agreement of Uhl-III HEP.

Audit noticed (June 2017) that due to non-insertion of an appropriate clause for excluding bought out items procured from the Sub-Vendors, items worth ₹ 14.82 crore bought by the Contractor were supplied to the Company for ₹ 23.72 crore (a negative price variation of ₹ 8.90 crore *i.e.* 37.52 *per cent)*. Against this the Company had paid cost escalation of ₹ 1.55 crore. Further, in the price adjustment formula, component of interest free advance extended to the Contractor was also not excluded, resulting in avoidable extra payment of escalation of ₹ 2.32 crore[12].

The GM, Project stated that price variation is being given to the Contractor on 85 *per cent* of ex-works price and not on 100 *per cent* value of contract price as such no price adjustment is allowed on advance payment. The reply is not tenable as the Contractor in their bid had clearly given the break-up of fixed and variable cost of material at 15 and 85 *per cent*. In case of bought out

[12] ₹ 13.65 crore (advance to contractor) x 85 *per cent* (variable cost) x 20 *per cent* price escalation = ₹ 2.32 crore.

items it was stated that while preparing bidding document in future, the same can be considered after the approval of Management and funding agency.

2.17.2 Supply of electro mechanical material ahead of agreed schedule

In order to complete the awarded work, the Contractor for electro mechanical works, based on the agreed dates of making civil fronts available to him, had submitted schedule for purchasing, manufacturing, transportation to site, handling and storage of unit-1 and unit-2. Audit observed (June 2017) that the contractor had not adhered to supply schedule and items valued at ₹ 51.15 crore were supplied ahead of agreed schedule (ranging between 94 and 491 days) for which the Company, consequently, had to release payment in advance. This resulted in extra burden of interest of ₹ 3.48 crore to the Company on ₹ 51.15 crore released ahead of the schedule, although the work was completed after considerable delay from the stipulated completion date.

The GM, Project stated that as per agreed time schedule (December 2010), the Contractor had started manufacturing and transportation of equipment after getting despatch clearance. However, programme of performance was approved in August 2012 as per actual effective date of agreement. This is indicative of flaws in implementation / execution of work which put extra interest burden on the Project cost.

2.17.3 Extension of defect liability period

As per Contract Agreement, the defect-liability period of 540 days was available from the date of completion or one year from the date of operational acceptance whichever accrues first.

Audit noticed (June 2017) that the commissioning dates were not achieved due to non-availability of civil front in time, delay in opening of Letter of Credit (LC), non-availability of space for storage of material, blockade of roads *etc.* In pursuance to sub clause 27.2 of GCC contractor proposed (October 2015) for extension of warranty at additional cost of ₹ 3.36 crore upto June 2017 which was subsequently revised to ₹ 3.98 crore upto March 2018 with the approval (September 2016) of the Company. Thus, due to delay in completion of the Project, the Company had to incur an extra expenditure of ₹ 3.98 crore on extension of defect liability period.

The GM, Project stated that extension of warranty was required to cover any of the defects due to design, engineering, material and workmanship at the contractor's cost. The reply was not acceptable as the Company had to incur this additional cost due to delay in completion of civil works.

2.17.4 Avoidable liability of penalty on Entry Tax

Clause 14 of Special Condition of Contract provides that Contract Price is exclusive of all taxes, duties and other levies and the same shall be reimbursed by the employer on actual basis. In terms of H.P. Entry Tax Act, 2010, Entry

Tax on material brought from outside the State was to be deposited by the Contractor.

Audit noticed (June 2017) that the Contractor brought certain goods from outside the State by using TIN of the Company and had not deposited the Entry Tax. On receipt of demand from the Excise and Taxation Department, the Company deposited Entry Tax amounting ₹ 5.06 crore during March and April 2014. Due to non-depositing of tax in time, the Excise and Taxation Department also imposed interest and penalty of ₹ 3.78 crore in January 2015 against which the Company had filed (January 2015) an appeal before the Excise and Taxation Commissioner and decision thereof was still (June 2017) awaited.

Audit further noticed that for the execution of civil works the Contractor had used 6,144.527 MT steel costing ₹ 35.14 crore for reinforcement and fabrication of Penstock on which no Entry Tax has been claimed by the Contractor. Hence the possibility of penalty on Entry Tax amount of ₹ 1.41 crore at later stage could also not be ruled out.

The GM, Project stated that in case the decision is pronounced against the Company, the penalty imposed by the Assessing Authority shall be recovered from the Contractor who has adopted wrong means and had not deposited Entry Tax at first instance. The reply is not tenable as it was the responsibility of Company to ensure that taxes were paid by the contractor.

2.17.5 Extra payment of Service tax

Transportation of goods by road was covered under the scope of Service Tax vide GoI Notification issued in December 2004 and January 2005. In view of the special nature of the goods transportation agency service, the GoI vide amendment issued in March 2008 provided that service tax is required to be paid on 25 *per cent* of the freight.

Audit noticed (June 2017) that the company had paid service tax on the full value of transportation charges of ₹ 4.66 crore instead of on 25 *per cent* in accordance with the provisions of *ibid* orders resulting in extra payment of ₹ 0.46 crore.

In reply (June 2017) it was stated that no guidelines were issued to the field office by the Company about the GoI's notification and its applicability on 25 *per cent* value of transportation services. The reply is not based on the facts as the Contractor in its bid has specifically given a footnote wherein the levy of service tax on 25 *per cent* value has been calculated.

2.17.6 Payment of Service tax without documentary proof

The main Contractor further awarded transportation and erection of equipment work to a Sub-Contractor. From the data submitted by the Sub-Contractor it was gathered that the Sub-Contractor had deposited the service tax on transportation and erection work against which company had reimbursed service tax to the extent of ₹ 1.55 crore to the main Contractor without obtaining required documentary proof of deposit. The actual service tax paid by the sub-contractor for the full contract value cannot be ascertained. The total reimbursement remains questionable as no documentary evidence against payment of service tax was available on record of the Company.

In reply (June 2017) it was stated that action in the matter shall be taken after taking the view of Electric Contract cell and Corporate Finance Wing of the Company.

2.17.7 Non-recovery from the contractor

Clause 13 of Contract Agreement envisaged that the value of the Letter of Credit (LC) will be as per payment schedule for each quarter and it shall be the contractor's responsibility to utilise the LC for the concerned quarter to fullest extent. The charges for the unutilised portion of LC and for the period it remained unutilised shall be borne by the contractor.

Audit noticed that the Company had not recovered LC charges of ₹ 0.49 crore being the share of the Contractor on unutilised amount of LC up to December 2016.

In reply it was stated that necessary action to recover LC charges, shall be initiated.

2.18 Damage to the machine resulting in generation loss

During the commissioning test of unit No. III on 30-6-2016, when machine was started, the Stator and Rotor got damaged. On checking, one foreign particle on the Rotor pole end connections was found. Technical Committee was constituted (August 2016) by GoHP, to establish the actual cause of damage to the machine. Committee in its report pointed out that the reason for damage was continuous operation of the machine for 45 minutes even when the earth fault was detected through Supervisory Control and Data Acquisition (SCADA) which was installed at a cost of ₹ 35.42 crore but same was bypassed. This was against the standard engineering practice.

From the above it is evident, that the cause of the damage to the unit-III was negligence / lapses in observing the various safety measures to be adopted during erection, boxing up and commissioning of the generator unit. Thus, negligence on the part of Company had resulted in generation loss of 39.77 MUs[13] as per design capacity / delay period valued at ₹ 11.61[14] crore. Further bypassing the SCADA raises the question mark on the utility of the system itself and also indicates the casual approach of the Company.

In reply it was stated that as the unit no. III was under testing and not under commercial operation, hence no generation loss has occurred to the Company. Reply of the Company was not tenable as due to negligence the commercial

[13] 238.62 MUs *per annum* / 12 months x 2 months = 39.77 MUs.

[14] 39.77 MUs * ₹ 2.92 per unit.

operation was delayed by two months resulting in revenue loss to the Company.

2.19 Non –revision of rate on equitable basis

Clause 39.2.4 of Section-7, GCC stipulates that if the prices of any change are inequitable, the parties thereto shall agree on specific rates for the valuation of the change. Item no. 1.7 of phase I of supply part consisted two sets of 11 KV Generator Circuit Breakers (GCB) and one set for 3rd unit and mandatory spare parts that were to be imported as per Contract at total price of EURO 5,45,409. Due to change in the size of Bus Duct Gallery the revised proposal of Contractor to fit the GCB of ABB make in reduced dimension of Bus Duct Gallery with complete cubicle assembled from M/s Power Gear Ltd, Banglore was accepted. As the material after change in design had to be procured within India, the Company asked the Contractor to pass on the financial benefit, arising due to saving in expenditure to the Company.

Audit noticed that the Contractor supplied the material at a cost of ₹ 4.49 crore after purchasing the same for ₹ 3.20 crore from M/s Power Gear Ltd, Banglore. However, the Contractor agreed for only one *per cent* rebate in the BOQ rates during negotiation (October 2013). Even after allowing 20 *per cent* Contractor's profit and overhead charges, extra payment to the Contractor on this account worked out to ₹ 0.65 crore out of which benefit of only ₹ 3.76 lakh (one *per cent*) was passed on to the Company. This was indicative of the fact that the Company negotiated the rates poorly and revision of rates for change was not done on equitable basis.

2.20 Stage-II & III

Planning

Award of works without obtaining required clearances

In order to implement the integrated scheme, the works for the Stage-I and for Stage-II & III were awarded in February 2009 and September 2010 with completion period of 45 and 48 months respectively. The work for the Electro-Mechanical Equipment was awarded in March 2010 with target date of commissioning of 1st unit in January 2014. The 1st unit was actually commissioned in September 2016.

Audit noticed (June 2017) that the work for Stage-II & III was awarded (September 2010) without obtaining the NOC from local Panchayat and receipt of approval for diversion of forestland. The approval for diversion of land was actually conveyed in June 2011, and possession was physically handed over by the GoHP in January 2013 for which Company had deposited ₹ 15.81 crore up to March 2017. Further, after incurring an expenditure of ₹ 146.72 crore on erection of Electro Mechanical Equipment for Stage-II & III the work has been held up due to imposition of stay by the National Green Tribunal (NGT) on the grounds that NOC has not been obtained from local

Panchayats as per prescribed procedure and the Contractor was not able to start the work relating to intake structure.

Thus, award of work before obtaining required clearances resulted in delay in completion of works due to which funds of ₹ 146.72 crore utilised for erection of Electro Mechanical Equipment for Stage-II & III remained blocked. Besides, water conductor system constructed at a cost of ₹ 255.67 crore under Stage I for operation of three units also could not be put to use at its designed capacity.

2.21 Award and execution of civil works

The civil works for Stage-II & III comprising of intake, HRT & Balancing Reservoir were awarded (6 September 2010) to M/s Patel Engineering Ltd.(Contractor) for ₹ 252.39 crore with scheduled completion by November 2014. Scrutiny of Contract Agreement and records relating to execution of various works showed cases of loss of interest, extra / avoidable expenditure of ₹ 9.32 crore besides inadequate provision of quantities valuing ₹ 62.94 crore as discussed in the succeeding paragraphs:

2.21.1 Loss of interest

The Company released (November 2010) the first installment of interest free advance of ₹ 6.30 crore to Contractor for execution of three[15] major components of the Project. For the recovery of this advance, the Company instead of setting a time bound recovery plan, ignoring its own financial interests, linked the recovery with the progress of the work (after 30 *per cent* payments of contracted sum).

Audit noticed (May 2017) that the recovery of first installment of advance could not be commenced upto October 2012 due to slow-progress (4.92 *per cent*), yet second installment of advance (₹ 3.15 crore) was released (October 2012) by the Company. Due to non-achievement of minimum financial progress as the work remained suspended by the contractor at Balancing Reservoir-III during October 2014 to October 2015, recovery of advance could not be effected till the date of audit (May 2017). Thus, imprudent decision of releasing second installment has resulted in interest loss of ₹ 1.43[16] crore.

The GM, Project stated (June 2017) that the contract provision do not empower the Company to recover the advance unilaterally in deviation to contract provisions and the Contractor has been asked (January 2017) to convey their consent to amend the relevant contract provisions to commence the recovery.

15 Upstream work of KK link tunnel: ₹ 93.38 crore, b) downstream work of KK link tunnel- ₹ 78.24 crore and c) B.R.-III – ₹ 80.77 crore.

16 ₹ 6.31 crore * 10 *per cent* *900 days / 365 days + ₹ 3.15 crore * 10 *per cent* * 1653 days / 365 days.

2.21.2 Extra payment due to inadequate provision in Bill of Quantities

Detailed Project Report for the execution of Stage-II & III was prepared based on Central Water Commission (CWC) guidelines for grouting, concreting and shotcreting as single items. However, in the cost estimate prepared for the invitation of bids, the item of admixture which was otherwise an integral part of these items has been shown as separate item. Further, the quantity of admixtures was not calculated on realistic basis / as per norms. As per BOQ for the execution of 1,13,845 M^3 concrete, 4,060 MT cement grouting and 1,03,200 M^2 shotcrete, provision for 5,990 kg of admixture has been kept against the actual requirement of 10.04 lakh kgs. It is pertinent to mention here that up to November 2016, 67,737.435 kg have been used against the overall financial progress of 21 *per cent*. The segregation of admixture from the above items was contrary to the guidelines of CWC and approved DPR. Further, due to estimation of very small quantity for tendering, the contractor quoted exorbitant rate of ₹ 550/- against the estimated cost of ₹ 52/- per kg. However, during execution of work this would put extra burden of ₹ 54.92 crore on the Project cost as the quantity of admixture is bound to increase, tremendously. The Company had already paid ₹ 3.62 crore for this deviation up to November 2016.

2.21.3 Similarly, for the construction of underground Balancing Reservoir, the provision for steel reinforcement was kept at 70 MT only. The Contractor had quoted a rate of ₹ 65,000 PMT with four *per cent* rebate.

Audit noticed (June 2017) that during execution (work yet not completed) the actual quantity of steel has gone upto 976.684 MT (deviation of 1,295 *per cent*) involving extra cost of ₹ 8.02 crore. The Company had paid for deviated quantity based on analysed rate of ₹ 90,204 PMT as compared to the awarded rates of ₹ 65,000 PMT resulting in extra payment of ₹ 2.47 crore (upto May 2017). Thus, due to incorrect estimation of BOQ the Company had to pay higher charges.

Audit further noticed that in the analysis of rates for steel and admixture, the component of Excise Duty was not excluded from the material cost and service tax has been levied on the prime cost instead of labour component only. Project Allowance, Tunnel Allowance and higher charges for Tribal Area were also added on *lump sum* provision of handling and placing charges contrary to the guidelines of CWC. Besides, in case of steel reinforcement, the inadmissible component of Tunnel Allowances has been loaded on the cost of material and labour deployed in the open workshop resulting in higher fixation of rates of steel reinforcement and admixture by ₹ 14,750.25 per MT and ₹ 73.95 per kg, respectively. Consequently, extra payment of ₹ 1.80 crore was paid to the Contractor. It is pertinent to mention here that wrong analysis of admixtures would result in total extra payment of ₹ 7.38 crore for the execution of entire awarded quantity of concrete and grouting.

The GM, Project stated (June 2017) that the action regarding excluding / recovery of ED as the case may be shall be taken. However, component of

Service Tax has been considered at the rate of 5.80 *per cent* and Hydro, Tribal and Tunnel Allowance has been charged as per GoHP notification. The reply is not based on the facts as the rates were arrived at by charging Service Tax at the rate of 15 *per cent* on prime cost instead of labour component only and other charges were levied in contravention of CWC guidelines. Moreover, the reply did not cover the aspect of incorrect estimation of BOQ**.**

2.22 Extra payment due to non availing of exemption of duties

As per notification issued by the GoI in August 1995 all Asian Development Bank funded Projects were exempted from payment of Excise and Custom duties. Guidelines issued by the ADB for preparing bid documents also provide that under work contract, bidders shall take into account all duties, taxes while preparing the bids.

Test check of records relating to civil works awarded to the Contractor showed that company had not issued Project Authority Certificate to the contractor on the pretext that as per Instructions to Bidders (Section-I), all duties, taxes and other levies payable by the Contractor are included in the awarded rates. This was indicative of the fact that the Company while evaluating bids had considered rates quoted by the Contractor inclusive of duties. Since the duties were exempt for ADB funded Project so due to award of rates inclusive of duties, the Company failed to avail the benefit of this exemption and deprived itself of the benefit of tax exemption to the extent of ₹ 11.20 crore on steel, cement and admixtures.

The GM, Project stated (June 2017) that very purpose of serving public interest envisaged in the GoI notification is deemed to have been served at the stage of bidding and the benefit of such exemption is deemed to have been automatically passed on to the Project through competitive bidding. The reply is not tenable as for availing exemption of duties the Company was required to issue PAC to the Contractor which had not been issued in this case.

2.23 Other topics of interest

2.23.1 Deviation from standard guidelines

Clause-10 (Escalation) of the standard contract for domestic bidding issued by the Ministry of Statistics & Programme Implementation, GoI in April 2005 stipulated that all short duration contracts up to 24 months be awarded on fixed price basis and would not be subject to any escalation, whatsoever.

Audit noticed (June 2017) that the Company while floating tenders for the construction of roads and buildings for the Project, did not consider above mentioned guidelines and cost escalation of ₹ 0.31 crore has been paid on short duration contracts with completion period ranging between six and 14 months. The deviation from guidelines had resulted in avoidable payment of price escalation of ₹ 0.31 crore with consequential extra burden on the Project cost.

2.23.2 Sale of power below composite cost

As per Memorandum and Articles of Association of the Company, energy generation from its Projects was to be shared between GoHP and HPSEB Ltd. In the meeting held (February 2012) to firm up the arrangement for sale of power, HPSEB Ltd. expressed its unwillingness to purchase its 40 *per cent* share due to higher levelized tariff and agreed to purchase only 12 *per cent* Govt. share of royalty at HPERC determined tariff. In view of this GoHP decided (December 2013) to sell its power to other Power Distribution Companies (Discoms) through long term Power Purchase Agreements (PPA).

Audit noticed that despite taking up the matter with other Discoms in India, no buyer came forward for purchasing power based on long term PPA. Further, due to non-finalisation of PPA, the Company could not file tariff petition with the concerned Regulator. Finally HPSEB Ltd agreed to purchase the power from company at pre-determined rate of ₹ 2.92 per unit (revised to ₹ 2.20 per unit w.e.f. May 2017) instead of the composite generation cost of ₹ 4.78 per unit (calculated by the consultant engaged by the Company).

Thus sale of power below generation cost had resulted in total revenue loss of ₹ 45.91 crore on sale of 190.55 MUs generated during the period from September 2016 to September 2017 including loss on account of deemed generation[17] of ₹ 1.36[18] crore.

2.23.3 Loss due to failure to sell Certified Emission Reductions

A Certified Emission Reduction Purchase Agreement (CERPA) was signed (May 2010) between Company and Future Carbon Fund (FCF) under trusteeship of ADB for sale of Certified Emission Reductions (CERs) valuing USD 5,945,000,at the rate of USD 7.25 per CER, to be delivered from 1 April 2015 to 1 April 2021. The release of payment as per CERPA was conditional upon accomplishment of certain Condition Precedents (CP) and milestones. *Clause 3.4 (Sunset date)* of CERPA stipulated that if any of the conditions set out in the agreement has either not been satisfied or waived off by the trustee within 12 months from date of CERPA then trustee may terminate this agreement by written notice to the Project entity. The Company was required to get the terms and conditions of World Commission on Dams validated from the Trustee, as it was one of the CP.

Audit noticed that Company initiated action regarding compliance of Project to World Commission on Dams (CP*, 3.1.4)* by appointing a Validator (M/s TUV Rheinland) during June 2012 after a delay of 13 months. The Validator submitted its report on 31 May 2013. However, Future Carbon Fund (FCF) rejected (September 2013) the validation report due to non-

17 Deemed generation is sort of compensation for run of the river projects when a power project is ready to generate power but the generation is not achieved and water is spilled due to no demand from the buyer.

18 Deemed generation = 46,68,900 units * ₹ 2.92 per unit.

inclusion of the environment issue related to Lippa village pending with NGT and inconsistency of report with documents submitted to ADB.

Upon achievement of milestones and fulfilment of CPs, the company would have received ₹ 31.50 crore[19] including reimbursement of ₹ 0.58 crore registration fee deposited with United Nations Framework Convention on Climate Change (UNFCCC) even before actual delivery of CERs or commissioning of Project. However, due to termination of CERPA, same could not be realised despite fulfilling the milestones, *ibid*.

Although the CERPA termination does not affect the registration with UNFCCC and its validity, yet the guaranteed receipt as per CERPA has been lost. Since the termination of agreement with CERPA (September 2013) market for CER has slumped (average price of CER has been ranging between 0.24 USD and 0.72 USD during August 2013 to April 2017). Hence, the Company would not be able to sell CERs at the rate of USD 7.25 per CER fixed in CERPA even if it tries to sell it to other buyers.

Conclusion

The works relating to construction of Kashang HEP were awarded at a cost of ₹ 708.16 crore between February 2009 and October 2010 with scheduled completion of November 2015. Against sanctioned loan of ₹ 708.16 crore from ADB carrying interest at the rate of 0.20 *per cent* above LIBOR rate, the GoI transferred funds of ₹ 554.44 crore upto March 2017 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 State Government in diverting the grant, treated the grant as loan at an interest rate of 10 *per cent per annum.* Even after spending ₹ 1,169.75 crore up to March 2017, the project is still incomplete and only one out of three units could be commercially operationalised). Stage-I of the project was completed for ₹ 789.84 crore against DPR cost of ₹ 478.02 crore , a cost overrun of ₹ 311.82 crore attributable to payment for works at higher rates, non / short-recovery from the contractor and short provision of quantities in the DPR and time overrun of 30 months attributable to non-availability of encumbrance free sites, agitation by local people, blockade of project roads, extra time required for the backfill in the over-break due to contractor's fault and damage to the machine prior to commissioning.

Consequently, the per unit generation cost of power, up to the completion of Stage-I, had increased from ₹ 2.85 to ₹ 4.78 against prevailing sale[20] rate of ₹ 2.20 per unit. The Stages II & III of the project are now scheduled for completion by January 2021 and on completion, the generation cost is expected to increase further.

[19] (USD 5,945,000 x ₹ 52.99 per dollar, currency conversion rate applicable on date of fee deposited with UNFCCC).

[20] Rate at which energy is being sold to HPSEBL w.e.f. April 2017.

Recommendations

The Company may consider to ensure:-

- preparation of DPR, cost estimates and designs on realistic basis for its upcoming Projects;
- award of works after obtaining all mandatory clearances;
- effective mechanism to avoid extra / avoidable payments to the Contractors;
- insertion of suitable clause in the agreement regarding payment of taxes by the contractor to avoid penalty; and
- completion of work of Stages II & III at the earliest to avoid further cost overrun.

The State government may consider:-

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