

CHAPTER II

REVIEW RELATING TO STATUTORY CORPORATION

2.1 HIMACHAL PRADESH STATE ELECTRICITY BOARD

REVIEW ON THE IMPLEMENTATION OF LARJI HYDEL PROJECT

HIGHLIGHTS

Larji Hydel Project with an installed capacity of 126 mega watt (MW), three units of 42 MW each, was proposed (June 1984) to be constructed on river Beas as a power development scheme and to exploit the vast hydel potential available in the State. The Government of India (Planning Commission) approved (March 1987) the project at an estimated cost of Rs. 168.85 crore. According to construction schedule, the project was to be commissioned within five years i.e. by April 1992. The project has now been rescheduled to be completed by April 2005 at an estimated cost of Rs. 875.70 crore.

(Paragraph 2.1.1)

During execution of civil works, extra/overpayments of Rs. 13.32 crore were made to the contractors due to incorrect analysis, payment of higher rates for deviated/extra/substituted/additional items.

(Paragraphs 2.1.11 to 2.1.16)

The Board extended undue favour of Rs. 9.66 crore to the contractors by payment of inadmissible compensation, inadmissible payments, releasing interest free advance, execution of work on behalf of the contractors at its cost and non-recovery of dumping charges.

(Paragraphs 2.1.17 to 2.1.22)

The Board did not recover interest of Rs. 4.18 crore on advances given to a contractor against preliminary works and machinery in contravention of provisions of the contract agreement.

(Paragraph 2.1.23)

Failure of the Board to levy compensation for non-achievement of targeted milestones of civil works resulted in undue favour of Rs. 18.35 crore to the contractors besides interest loss of Rs. 3.65 crore.

(Paragraph 2.1.24)

Introduction

2.1.1 Larji Hydel Project with an installed capacity of 126 mega watt (MW), three units of 42 MW each, was proposed (June 1984) to be constructed on river Beas as a power development scheme and to exploit the vast hydel potential available in the State. The project was to earn a steady rate of return of 11.98 *per cent* and 15.07 *per cent* during 90 *per cent* dependable year* and 50 *per cent* mean year* respectively. The techno-economic clearance of the project was given by the Central Electricity Authority in August 1986. The Government of India (Planning Commission) approved (March 1987) the project at an estimated cost of Rs. 168.85 crore. According to construction schedule, the project was to be commissioned within five years i.e. by April 1992. The project has now been rescheduled to be completed by April 2005 at an estimated cost of Rs. 875.70 crore.

Organisational set-up

2.1.2 The execution of civil and electro-mechanical works of the project is under the over all control of the Chief Engineer (Larji Project) and the Chief Engineer (Generation) respectively.

Scope of audit

2.1.3 The present review conducted from November 2003 to February 2004 covers the implementation of the project since inception.

Audit findings, as a result of test check of the implementation of Larji Hydel Project, were reported to the Government/Board in May 2004 with a specific request for attending the meeting of Audit Review Committee for State Public Sector Enterprises (ARCPSE), so that view point of Government/Board was taken into account before finalising the review. The meeting of ARCPSE was held on 15 June 2004.

The audit findings are discussed in succeeding paragraphs.

Conceptualisation and firming up of the project

2.1.4 The Planning Commission, Government of India cleared (March 1987) the project at an estimated cost of Rs. 168.85 crore at the price level of June 1984. The project with generating capacity of 126 MW was designed to operate as a peaking station to generate 572 million units (MUs) and 688 MUs of energy in a 90 *per cent* dependable year and 50 *per cent* mean year at a

* *For Mean and Dependable years, the run off of the river data collected for any number of years is arranged in descending order. Mean year is the middle year. 90% Dependable year is the 90/100th year of total years for which data is collected*

generation cost of 29.46 paise per unit and 24.47 paise per unit respectively. The Board took up the project for execution during 1990-91.

The construction of major components (i.e. traffic tunnel, Adits*, approach roads, diversion tunnel, etc.) commenced during May 1997. The final project outlay and location of main components like intake, surge shaft, powerhouse, etc. was, however, finalised in December 1998. The project is now targeted to be completed in April 2005 at an estimated revised cost of Rs. 875.70 crore. The revised average cost of generation per kwh has now been worked out at 240 paise on generation of 584 MUs in 90 per cent dependable/75 per cent mean year.

Cost overrun

Delay in completion of project resulted in cost overrun of Rs. 706.85 crore.

2.1.5 The project estimated to cost Rs.168.85 crore initially is now anticipated to be completed at a cost of Rs. 875.70 crore in April 2005 involving cost overrun of Rs. 706.85 crore. Increase of 419 per cent in the project cost was mainly due to time overrun and inclusion of some additional items in the revised cost estimate (August 2001) and award of work at higher rates (discussed in the succeeding paragraphs). This resulted in investment of Rs. 6.95 crore against Rs. 1.34 crore per MW envisaged in the Detailed Project Report.

As against the anticipated cost of generation of 29.46 paise per kwh initially, the revised cost per kwh has been anticipated at 240 paise. This cost is high compared to the average realisation of 216 paise per kwh during 2002-03.

2.1.6 The table below indicates the broad components with substantial cost overrun and percentage increase in cost:

Sr. No.	Component	As per original estimate	As per revised cost estimate	Cost overrun	Percentage increase
(Rupees in crore)					
1.	Land and Buildings	7.59	24.90	17.31	228
2.	Diversion barrage, intake and desanding arrangements	31.26	174.24	142.98	457
3.	Head race tunnel (up to 3500 m)	18.47	95.13	76.66	415
4.	Surge shaft, pressure shaft and power house complex	15.45	97.43	81.98	531
	Total	72.77	391.70	318.93	

* Shortest approach tunnel for disposal of excavated material and to carry out the execution of work of main tunnel at different faces

An analysis of increase in the cost revealed the following:

- Estimate of quantities of works to be executed at site was unrealistic resulting in deviation and award of higher/market rates (paragraphs 2.1.10 to 2.1.16 *infra*).
- Inadequate geological exploration to determine the strata of rock resulted in execution of additional items of Rs. 59.34 crore (paragraph 2.1.17 *infra*).
- Extra expenditure of Rs. 1.36 crore was incurred due to design deficiencies in construction drawings (paragraph 2.1.18 *infra*).

Time overrun and monitoring

Time overrun

2.1.7 The following table indicates the date of award of work, due date of completion, present status and delay/time overrun under each component as on 31 March 2004.

Detail of work	Date of award	Due date of completion	Present status	Time overrun (in months)
		Original/Revised		With reference to date of completion given in award of work (up to March 2004)
Construction of diversion barrage, intake and desanding arrangement (Package I)	April 2000	November 2002/March 2004	Work-in-progress	8
Construction of head race tunnel (Package II)	April 1999	July 2001/July 2003	Completed in July 2003	16
Construction of powerhouse complex (Package III)	April 2000	October 2002/August 2004	Work-in-progress	8
Supply and erection of electro-mechanical equipment	February 2001	March 2004	Work-in-progress	-

Analysis of delay revealed that:

- the construction works of barrage, powerhouse complex and head race tunnel were awarded after 35 months and 23 months respectively from the commencement of execution of project (May 1997) resulting in time overrun;

- the Board took 15 months to finalise the tenders for the execution of works covered under Packages I and III;
- the delay in civil works delayed the subsequent erection and execution of electro-mechanical works; and
- delay was also attributed to execution of extra/deviated items due to poor geological conditions and over topping of coffer dam, change in methodology/specification and detachment of rock mass in powerhouse cavern.

Monitoring

2.1.8 In techno economic clearance, the Central Electricity Authority had laid down a condition that the Board would maintain a record of the geological surprises,* if encountered and request the State Government to constitute an expert committee consisting of representatives of the State Government, Central Water Commission, Geological Survey of India and Central Electricity Authority. The Board would submit the proposal for the enhanced cost to the expert committee for examination and recommendation of the cost. The Board took no action to constitute the said committee. Consequently, when during the execution of head race tunnel, adverse geological conditions were encountered, the guidance of the Committee was not available to the Board. The Board incurred an extra expenditure of Rs. 53.38 crore on its completion.

Lack of monitoring was also noticed in the following:

- Electro-mechanical equipment valuing Rs. 26.75 crore, received as per schedule between December 2002 and July 2003, remained unutilised so far (July 2004) due to non-completion of civil works in scheduled time.
- An amount of Rs. 3.96 crore incurred on the fabrication and erection of pen stock was blocked due to non-synchronisation of the different components.

Execution of civil works

2.1.9 For execution of civil works, the following contract agreements were entered into with various firms:

- Construction of diversion barrage, intake and desanding arrangements entered into (May 2000) with Satayam Shankaranarayana, Joint venture at Rs. 116.54 crore (Package I);
- Construction of head race tunnel RD 0 to 3500 metre entered into (May 1999) with Satyam Shankaranarayana, Joint venture at Rs. 51.36 crore (Package II);

* *Unexpected geological conditions such as cavities, poor rock strata, excessive seepage of water, etc.*

- Construction of pressure shaft, surge shaft and powerhouse entered into (May 2000) with Continental Construction Limited at Rs. 94.81 crore (Package III).

Works under Packages I & III are yet (June 2004) to be completed and in respect of Package II, works relating to plugging of Adit* is to be done on completion of power house/desanding arrangement works.

Under estimation/exclusion of quantities

2.1.10 As per Document (V), Part C of contract agreement (Package I), underground excavation of desanding basin, feeder tunnels, connecting tunnels, flushing conduits and gate operating galleries in any type of rocks to the line and grade including drilling and blasting was to be carried out as per specification provided in the agreement. Audit observed that though under item No. 1 of Part C, the component of gate operating galleries was taken in the scope and description of work, the quantity involved in excavation of these items was excluded from the total quantity put to tender. Consequently, the Board as per the terms of the agreement had to pay market rate for the excavated quantity of 11,420 cubic metre. This resulted in extra expenditure of Rs. 1.43 crore.

Similarly, the excavation of vertical shaft, which was also not included in the scope of work, was subsequently carried out at market rates. This resulted in extra expenditure of Rs. 48.93 lakh.

Award of work at higher rates

The Board made extra/overpayment of Rs. 13.32 crore for civil works due to incorrect analysis and payment of higher rates.

During execution of civil works, the Board made extra/overpayment of Rs. 13.32 crore to the contractors due to incorrect analysis, payment of higher rates for deviated/extra/substituted/additional items as discussed in the succeeding paragraphs.

2.1.11 The Chief Engineer (Design) decided (August 2001) to change the methodology for excavation and lining to Reinforcement Cement Concrete (RCC) lining (M-25) in desanding chambers (Package I) as the performance of Steel Fibre Reinforced Shotcrete (SFRS) lining was stated to be not encouraging. Accordingly, concrete lining of dome and side walls of desanding chambers was to be commenced only after excavating the desanding basin at least up to Elevation Level (EL) 937 metre and then back filling up to EL 940.65 metre in order to save it from damage while excavating benches in stages below it. Approval of whole time members of the Board for this changed methodology was not obtained. On this issue, the Chief Engineer (P & M) of the Board also advised (April 2002) the project authorities to ensure that the contractor did not claim subsequently for the proposed changed

* *Shortest approach tunnel for disposal of excavated material and to carry out the execution of work of main tunnel at different faces*

methodology of excavating and back filling. The Chief Engineer, Larji was also directed to attend the observations before the case was put up to whole time members of the Board. Audit observed (January 2004) that the Chief Engineer, Larji approved (December 2002) rate for this extra item and Rs. 1.20 crore were paid to the contractor for executing 22,131.47 cubic metre quantity without the approval of the competent authority.

The Government stated (July 2004) that the stipulation of the Chief Engineer (P&M) of the Board for not paying additional payment was not accepted by the Chief Engineer executing the Larji project. The reply is not tenable because the decision of Chief Engineer, Larji to carry out the work with changed methodology without the approval of the Board, involving a huge expenditure, was not in the interest of the Board. Further, for demucking work, the contractor was paid Rs. 94.73 lakh additional which further increased the expenditure.

2.1.12 Estimated quantities of 300 MT of steel reinforcement at the rate of Rs. 22,558 per MT and 11,600 cubic metre of RCC lining (M-25) at the rate of Rs. 8,212 per cubic metre respectively were approved (July 2002) for execution (Package I). The rate of Rs. 8,212 per cubic metre was arrived at after adding Rs. 4,242 per cubic metre* for recovering the cost of gantries. The actual quantity of RCC lining executed was 25,345 cubic metre i.e 118 *per cent* more than the estimated quantity. The inordinate variation in estimated and actual quantities was due to over-breaks (15,777 cubic metre) which was not considered while analysing the rates. Audit observed that the Board continued to make reimbursement of cost of gantries even after the same was fully reimbursed to the contractor up to the execution of 11,600 cubic metre RCC lining. This resulted in overpayment of Rs. 5.83 crore.

The Government stated (July 2004) that it was very difficult to assess the quantity of over-break in advance due to geological reasons. The reply is not tenable as the full cost of gantry had been recovered on execution of 11,600 cubic metre lining.

2.1.13 As per clause 12 of the contract agreement (Package I), additional/altered/substituted items, if not specifically quoted in the agreement/contract, would be executed at the rates quoted for analogous item in the contract {Clause 12 (ii)}.

As per schedule of quantities (Vol.V-Part-B-Intake structure) appended to the agreement, the contractor was to execute 15,092 cubic metre concreting of M-20 with 400 kg of cement mix at agreed rate of Rs. 2,399.61 per cubic metre. This item was subsequently (October 2002) substituted with M-25 with 417 Kg of cement mix. For this, the field unit/ Engineer-in-charge derived the rate of Rs. 2,499 per cubic metre quoted for analogous item in terms of Clause 12 (ii). The contractor requested (January/March 2003) to consider the

* arrived at by dividing net cost of gantries (Rs. 3.93 crore) by the quantity of RCC lining expected to be executed (11,600 cubic metre)

above substituted item as extra item and derive the rate on present market prices (under Clause 12 (iii) of the contract agreement) as the rate of Rs. 2,499 per cubic metre was low and unworkable. The Engineer-in-charge accordingly derived (April 2003) the rate of Rs. 3,850 per cubic metre, based on prevailing market rates for similar item in Part-A i.e. diversion barrage of the agreement.

The decision of Engineer-in-charge to pay the substituted item at market rate (Rs. 3,850 per cubic metre) instead of derived rate (Rs. 2,499 per cubic metre) of analogous item was not justified and in violation of clause 12 (ii) of the contract. This resulted in extra expenditure of Rs. 2.22 crore.

2.1.14 The Chief Engineer, Larji approved (May 2002) a rate of Rs. 1,684 per cubic metre for extra item {providing and laying of matrix (Package I)}. Audit observed that in the analysis, charges on account of filling of uneven excavated surface were added even after getting the surface compacted. This resulted in extra payment of Rs. 32.39 lakh.

The Government stated (July 2004) that charges for filling of uneven surface due to removal of boulders and compaction charges for two layers were added in the rates. The reply is not tenable as after completion of compaction, payment of filling of uneven surface was not justified.

2.1.15 As per schedule of quantities (Item No. 8) appended to the agreement (Package II), the work of providing and laying RCC lining (M-20 with 400 Kg cement mix per cubic metre) was substituted with RCC lining of M-25 with 417 Kg of cement mix per cubic metre. The contractor accepted (August 2002) the rate of Rs. 3,778 per cubic metre for the substituted item of work. Analysis of rate (Rs. 3,778 per cubic metre) revealed that it was derived from the Board's analysed rate of Rs. 2,488 per cubic metre for M-25 with 550 Kg cement mix indicated in the Detailed Project Report-1999. Audit observed that the rate approved by the Board was not correct since:

- the credit for the difference between the distance as indicated in Detailed Project Report (DPR)-1999 and the actual distance covered in lifting the cement was not given;
- the credit for the differential cost of cement (550 Kg – 417 Kg) was given after allowing premium of 66.90 *per cent* on approved rate of DPR-1999

This resulted in overpayment of Rs. 1.91 crore to the contractor on execution of 50,687.310 cubic metre quantity of substituted item of work.

Similarly, in the work of diversion barrage, intake and desanding arrangements, where the concrete lining M-20 with 400 Kg cement mix was substituted with M-25 with 456/417 Kg cement mix, an overpayment of Rs. 35.54 lakh was made to the contractor.

2.1.16 Condition 12 A (i) of contract agreement (Package II) provided that the quantity of contracted or substituted items, if individually exceed the quantity stipulated in the contract by more than 30 *per cent*, the rates should be determined on the basis of actual analysed cost. The Chief Engineer, Larji approved (September 2002 and April 2003) rates for substituted and deviated quantity for M-15 and M-25 at Rs. 3,960 and Rs. 4,725 per cubic metre respectively on the basis of labour rates supplied by the contractor. Though the labour rates were inclusive of allowances and were higher than the Government rates {as stipulated under clause 10 (c) (i)}, the Board further added the hidden cost component (to cover the allowances) in the analysis of rates. This resulted in extra payment of Rs. 53.33 lakh to the contractor.

The Government stated (July 2004) that the actual wages paid by the contractor were taken into account for analysis. The reply is not tenable as the allowances for which the component of hidden cost was included in the analysis were already included in the labour rates quoted by the contractor.

Undue favour to the contractors

The Board extended undue favour of Rs. 9.66 crore to the contractors in contravention of provisions of contract agreements.

The Board extended undue favour of Rs. 9.66 crore to the contractors by payment of inadmissible compensation, inadmissible payments, releasing interest free advance, execution of work on behalf of the contractors at its cost and non-recovery of dumping charges as discussed in the succeeding paragraphs.

2.1.17 As per condition I of additional conditions of contract (Chapter-8) read with Para 15 of Chapter-3 of Document-II and Clause 5.04 of the Technical specifications (Document-III, Package I) the contractor was to make his own assessment about the value and magnitude of work. No distinct rates for strata being wet or for other reasons whatsoever was to be allowed/entertained after acceptance of tendered rates. During actual excavation of the head race tunnel, the contractor encountered totally different geological conditions. As a result of this, the contractor executed extra/additional/deviated/substituted items of work of Rs. 59.34 crore (i.e. 115.03 *per cent* excess) against the aggregate tendered value of Rs. 51.59 crore. The contractor represented (April 2001 and September 2002) for revision of his tendered rates on the grounds that he had to work for longer duration (double the stipulated period), put in additional inputs (machinery etc.) and his inputs also remained idle for the said extended/longer period.

The Board approved (November 2002) compensation of Rs. 3.71 crore to the contractor due to deployment of increased inputs for longer duration against which Rs. 3.63 crore was paid. The decision of the Board to pay additional compensation was not justified since the contractor was adequately compensated for longer duration, additional inputs etc. in the shape of payment for extra/substituted/additional/deviated work which *inter alia* included element of escalation also.

The Government stated (July 2004) that the contractor was compensated for idling of costly equipment and use of additional input during construction period of tunnel due to poor geological strata encountered during course of excavation. No extra works amounting to Rs. 59.34 crore were executed by the contractor. The reply is not tenable since the machinery and manpower of the contractor did not remain idle as the contractor had executed extra/deviated/substituted/additional works of Rs. 59.34 crore over and above the awarded quantities up to 53rd running bill.

2.1.18 Clause 4.15 of contract agreement (Package I) provided that the contractor would construct upstream and downstream coffer dams and would be responsible for the maintenance and safety of dam and other structures. He would repair or replace any damage to the structure caused by the failure of the coffer dams in the event of over topping during flood. Clause 4.15 (iv) of contract agreement *inter-alia*, stated that even the approval given by the Engineer-in-charge to the proposal of the contractor would not relieve the contractor of being fully responsible for design, construction, maintenance and safety of the works constructed and keeping working area dry. He would also be fully liable for any damages or delays caused by his failure.

During first working season (April 2001), upstream coffer dam constructed for the diversion of river Beas was over topped and breached due to substantial flow of water resulting in damage to structures and deposit of overburden in working area. In July 2001, the Engineer-in-charge held the contractor responsible for the losses sustained by the Board. The Board, however, against the spirit of these provisions, paid Rs. 42.28 lakh and Rs. 94.03 lakh for dismantling/re-fixing of steel and removal of overburden respectively to the contractor, resulting in extra expenditure of Rs. 1.36 crore.

2.1.19 Additional condition No. 16 (B) of Document-II of contract agreement (Package I) provided for granting machinery advance at simple interest rate of 16 *per cent per annum* to the contractor to the extent of 90 *per cent* of purchase value, subject to a maximum of 10 *per cent* of the value of contract price, on the cost of new machinery/equipment acquired for *bona fide* use on the work. There was no provision in the contract agreement *ibid* to grant special interest free advance for any purpose. The Board sanctioned (July 2002) an interest free advance of Rs. 3.35 crore as a special case to the contractor (Satayam Shankaranarayana, Joint Venture) for arranging four shuttering gantries and paid it in two installments of equal amount in September 2002 and January 2003. This resulted in extending undue favour to the contractor and loss of Rs. 32.43 lakh on account of the interest (at the rate of 14 *per cent*, being the rate of interest paid by the Board on borrowed funds).

The Government stated (July 2004) that it was not possible for the contractor to arrange amount for the additional work not envisaged in the contract agreement. The reply is not tenable because advance should have been interest bearing as provided in the agreement.

2.1.20 Clause 10 D (1) (a) of contract agreement (Packages I & II) envisaged that the cement for RCC works would be provided by the Board in standard jute/paper bags of 50 Kg each. The Board arrived at consumption of cement with a provision of five *per cent* wastage, the cost of which was included in the approved rates. Provision for payment on actual wastage basis when the actual wastage was less than the given five *per cent* was not made in the agreement. During execution of work at head race tunnel (1,00,712.82 cubic metre) and barrage site (59,228.543 cubic metre), the actual wastage was 10,905 bags (1.28 *per cent*) and 15,630 bags (3.16 *per cent*) only against which the Board made payment for the quantity of cement consumed after adding wastage at five *per cent*. By not restricting the wastage to actual wastage, the Board made an overpayment of Rs. 59.43 lakh.

The Government stated (July 2004) that instructions to provide for the wastage of cement on lower side were being issued for future compliance. No action has, however, been taken to recover the cost of cement, which was not actually utilised on works and paid for in the instant case.

2.1.21 Additional condition (iv) of the contract agreement (Packages I, II & III), entered into on *'as is where is'* basis envisaged that the contractors would protect the adjoining site against structural, decorative and other damages that could be caused by the execution of work. It further stipulated that the contractor would, at his cost and with the consent of the Engineer-in-charge, construct and maintain the access and approach roads at site as he might consider necessary. The agreement did not provide for construction of any additional road or protection work by the Board. Audit observed that the Board provided additional roads and protection work at site by incurring an expenditure of Rs. 2.22 crore during the period April 2001 to March 2003, which as per contract agreements, were required to be carried out by the contractors.

2.1.22 The Board allowed the contractors (Packages I, II & III) to dump 4.23 lakh cubic metre of muck (excavated material) at undesignated sites in violation of clause 5.26 of the contract agreement. Even the decision taken in the joint meeting (February 2002) of the Board and the contractors for removal of muck from undesignated site at the risk and cost of the contractors was not implemented. Forest Department imposed (November 2003) penalty of Rs. 1.54 crore on the Board for dumping muck at undesignated places. The Board has not recovered this amount from the contractor so far (June 2004). In one case, for 23,000 cubic metre muck dumped at undesignated area, the Executive Engineer had ordered (January 2003) recovery from the running bill. The same Executive Engineer, however, released the payment without recovering Rs. 23 lakh from the bill.

Non-recovery of interest on advances

The Board did not recover interest of Rs. 4.18 crore from the contractor on advances in terms of provisions of agreement.

2.1.23 In pursuance of clause 16 of the additional conditions of the contracts (Packages I & II), the Board paid an advance of Rs. 24.31 crore (Rs. 8.39 crore for preliminary and enabling works and Rs. 15.92 crore for machinery) to the contractor between June 1999 and April 2001 at 16 *per cent* interest *per annum*. According to clause 16 A (iii) and 16 (vii) of contract, recovery of principal and interest on advance was to start after 20 *per cent* of the value of contract work was done and paid for and would be effected on *pro rata* basis in such a way that the full advance and interest thereon were recovered by the time 80 *per cent* of the contract work was billed by the contractor. Accordingly, recovery of principal and interest was to be deferred but the interest was to be charged from the date of advance. But the Board did not charge the interest of Rs. 4.18 crore from the date of advance till the completion of 20 *per cent* of work, which was against the provision of the agreement.

Non-recovery of compensation

The Board failed to recover compensation of Rs. 18.35 crore from the contractors in terms of agreements.

2.1.24 Clause 2 of the contract agreements (Document-II) of Packages I, II and III provided for achieving the indicated milestones within stipulated period failing which the contractors would pay to the Board an agreed compensation. In case the contractors completed the entire work within the stipulated period, the amount of compensation so recovered on account of delay in achieving the individual milestone was to be refunded to the contractors. The contractors could neither achieve the individual milestone nor complete the entire works within the specified period as indicated in the agreements. The Engineer-in-charge did not recover the agreed compensation for delay in achieving the respective milestones as and when due. Finance wing of the Board also noted (July/September 2003) that the non-recovery of compensation was in breach of contract for which responsibility was required to be fixed. Non-invoking of clause 2 *ibid* resulted in non-recovery of compensation of Rs. 18.35 crore (Continental Construction Limited: Rs. 6.64 crore and Satayam Shankaranarayana, Joint Venture: Rs. 7.86 crore and Rs. 3.85 crore) besides interest loss of Rs. 3.65 crore (at 14 *per cent per annum*).

Execution of electro-mechanical works

Undue favour to supplier

2.1.25 The Board placed (February 2001) an order on Bharat Heavy Electrical Limited (BHEL) for the supply and erection of electromechanical equipments. In accordance with clause 14 of General Conditions of contract, 10 *per cent* of the total CIF value was to be paid as an interest free advance. Ten *per cent* progressive payment of the total CIF value was to be released on expiry of twelve months reckoned from the date of release of initial advance, on receipt

of certificate from the BHEL duly verified by the Board that the milestone specified in clause 6 of the contract had been achieved. This clause 6 *inter-alia* provided for (i) witnessing of model test, (ii) ordering of major raw material for turbine and generator and (iii) ordering of gas insulated switch gear and turbine runners. Balance payment of 80 *per cent* was to be released after receipt of material (70 *per cent*), commissioning (5 *per cent*), and operational testing (5 *per cent*).

The Board released (March 2002) 10 *per cent* progressive payment of Rs. 7.63 crore on the basis of certificate issued (21 March 2002) by BHEL and model test (February/March 2002) without confirming the placement of purchase orders. Audit observed that the supply of embedded parts and runners was received after 2 to 6 months from the stipulated period and in one case, where the invoices of sub-supplier were received, orders were placed in October 2002. Evidently, BHEL had not achieved the milestone specified for first twelve months. Thus, by releasing progressive payment of Rs. 7.63 crore, without fulfilling the conditions laid down under clause 6, the Board extended undue favour to BHEL resulting in interest loss of Rs. 53.42 lakh.

Internal Audit

2.1.26 The Board created (January 1999) a Pre-Audit Office consisting of an Accounts Officer, an Assistant Accounts Officer, a Superintendent, a Senior Assistant and a Clerk under the administrative control of the Chief Accounts Officer at the project Headquarter office (Bhunter-Kullu). The Pre-Audit Office has been *inter alia* entrusted with the function of scrutinising all proposals, notice inviting tenders, agreements, contracts, etc. in connection with the implementation of the project including pre-audit of all vouchers for payments to contractors, suppliers, staff, etc.

During review on implementation of the project, Audit *inter alia* observed the following deficiencies, which remained unnoticed by the Pre-Audit Office:

Sr. No.	Deficiencies pointed out by Audit	Amount (Rupees in crore)	Para No. of Review
1.	Extra expenditure due to non-inclusion of estimated quantities in the tender	1.92	2.1.10
2.	Extra/overpayment to contractors for deviated/extra/ substituted/additional items	13.32	2.1.11 to 2.1.16
3.	Undue favour to contractors	9.66	2.1.17 to 2.1.22
4.	Non-recovery of interest on advances	4.18	2.1.23
5.	Non recovery of compensation from the contractors	18.35	2.1.24

After being pointed out (November 2003 to February 2004) by Audit, the Board has recovered Rs. 53.82 lakh. The Board has also assured to take action/look into the matter involving extra/overpayment of Rs. 2.19 crore. Thus, the formation of Pre-Audit Office at the project Headquarters has not served the desired purpose.

Conclusion

There was inordinate delay in taking up the project in right earnest due to non-finalisation of funding pattern by the Government/Board. This deprived the State from the potential energy generation of 572 million units per annum for five years. Delay also resulted in the increase in cost of project by 419 per cent. The revised cost per kwh is expected to be 240 paise as against 29.46 paise envisaged initially. The Board paid compensation to the contractors on unfounded grounds, allowed them interest free advances out of borrowed funds and made overpayments of huge sums in contravention of terms and conditions of contract agreements.

The Board needs to complete the project as per revised time schedule by April 2005 to avoid further rise in the cost of project. Deviation and execution of extra item should be allowed only after proper investigation.