

**Abstract**

Renovation of Sengulam Pump house at Pallivasal – Contract with M/s. SSIPL-FML Consortium - Extension of period of completion of contract up to 30-11-2020 - excess quantity/ extra items - Sanctioned - Orders issued.

**Corporate Office (SBU-G/E)**

B.O. (FTD)No. 561 /2020 (D(GE)/G2/Ren-Seng/2020-21) Thiruvananthapuram. Dated: 04 - 09 - 2020

- Read:-
1. B.O(FB)No.1473/2013 (M(T&GO)/G3/Ren-Seng/2013-14) dated 06-07-2013.
  2. B.O (DB) No. 1149/2016(D(GE)/G2/Ren-Seng/2016-17) dated 15-04-2016.
  3. B.O (CMD) No. 1150/2016(D(GE)/G2/Ren-Seng/2016-17) dated 15-04-2016.
  4. B.O (FTD)No. 750/2018 (D(GE)/G2/ Ren-Seng/2017-18) dated 21-03-2018.
  5. B.O. (FTD)No. 1790 /2018 (D(GE)/G2/ Ren-Seng/2018-19) dated 19-09-2018.
  6. B.O. (FTD)No. 82 /2019 (D(GE)/G2/ Ren-Seng/2018-19) dated 30-01-2019.
  7. B.O. (FTD)No.659 /2019 (D(GE)/G2/ Ren-Seng /2019-20) dated: 02 - 09 - 2019.
  8. B.O. (FTD)No. 662 /2019 (D(GE)/G2/ Ren-Seng /2019-20) dated: 02 - 09 - 2019.
  9. Letter No. 197/AE6/2013/CE(PED)/459 dated 17-07-2020 and No. 565 dated 18-08-2020 of the Chief Engineer (Generation &PED).
  10. Note No. FA/Tender-1/43/2020 dated 17-08-2020 of the Financial Adviser.
  11. Note No. D(GE)/G2/Ren-Seng /2020-21 dated 18-08-2020 of the Director (GE&SCM) to the Full Time Directors (Agenda No.45/8/20).

**ORDER**

The Administrative Sanction for the renovation works of Sengulam Pump house was accorded vide B.O read as 1<sup>st</sup> above, at an estimated cost of Rs.15.85 Crore. The contract for the renovation works was awarded to M/s. SSIPL-FML Consortium as per B.O read as 2<sup>nd</sup> above at an amount of Rs. 20,38,98,642/- (Supply Order - Rs. 14,39,72,409/- Work Order for E&M equipment & Penstock - Rs. 99,10,496/- and Work Order for Civil works of Pump house building & Penstock - Rs. 5,00,15,737/-). The scope of the work includes construction of a new pump house, supply and erection of Pumps (3 Nos.) and associated penstock works. The agreement was executed by the Chief Engineer (Projects - Electrical Designs) and the period of contract was 20 months which expired on 27-01-2018. Consequent to the introduction of GST, amendment was issued to the schedule of prices for supply and works of E&M equipment and penstock incorporating GST and thus the total contract amount comes to Rs. 22,66,41,505.23.

The work could not be completed during the original execution period and considering the geological variations found in the work site and prolonged and unexpected rain, the period of contract was initially extended up to 31-08-2018 as per B.O read as 4<sup>th</sup> above. But the work was delayed due to special climatic conditions in the site, landslides, unexpected repeated natural calamities at the site, non availability of hard strata in the foundation area and consequent delay in finalization of design and drawings etc. and the period of contract was further extended up to 31-07-2019 as per B.O read as 5<sup>th</sup> above, without imposing any liquidated damages on the contractor. Further it was extended up to 31-03-2020 as per B.O read as 7<sup>th</sup> above as the quantity given in the agreement was increased considerably due to non-availability of rock or hard strata at the estimated depth and extra excavation had to be done to obtain hard strata. Due to this, the design also had to be changed and the concrete quantities were increased accordingly, especially in the intake area. Moreover, since this work is being executed in an area where the elevation is about 8 m below the fore bay water level of the existing Pump House, even during light rains, the excavated area gets filled

with water and mud which had to be removed every time before continuing the work.

Moreover, additional works were necessitated due to design constraints, repeated landslides, natural calamity etc., which was sanctioned as per B.O. read as 6<sup>th</sup> above with an additional financial commitment of Rs. 1,76,47,763/-, which is 7.79 % of the contract amount of Rs. 22,66,41,505.23 (incl.GST). In addition to this, some excess quantity/extra work were necessitated due to the site conditions and circumstances occurred during the course of work viz; rock was found only at +826.00 level which was far below the expected level and hence the excavated quantity has increased from the agreement provision, increase in many items such as RCC, Steel etc. than the estimated quantity as per the site condition and an extra item i.e, backfilling with available excavated earth around the building, etc. Accordingly, as per B.O. read as 8<sup>th</sup> above, sanction was accorded for the above works with an additional financial commitment of Rs.1,92,81,000/-, which is 8.51% of the contract amount of Rs. 22,66,41,505.23(incl.GST).

The Chief Engineer (Gen.&PED) as per letter read as 9<sup>th</sup> above reported that M/s SSIPL-FML consortium had submitted their request again for time extension for completing the work up to 31.03.2021, since the sanctioned date of completion of the work was up to 31.03.2020. They have mainly mentioned that the hindrance caused to the time delay in carrying out the works regarding the civil portion is due to the extra excavation work in forebay area and filling the entire area with rubble packing for strengthening the forebay/intake area base slab. This extra quantity of work and the shortage of required quantity of rubble and aggregate metals in Idukki district due to the closure of quarries in that area consumed a lot of time and affected the above mentioned work. M/s. SSIPL had further mentioned that the Pump House is located in a land filled area and hence contains unconsolidated earth that caused earth sliding multiple times and resulted in loss of time by about 3 months and also the area of excavation and quantity of concreting had increased enormously compared to that of the estimated quantity to fill up the extra excavated portions with soil which had consumed a lot of time. The additional measures required to protect the slopes of the area around the Pump House with protection arrangements to prevent damages to the structure in future. The extra works decided from time to time for the safety of work causes a delay of 3 to 4 months.

M/s SSIPL further mentioned that due to heavy rains and severe floods in Idukki District had interrupted the construction work. Due to earth sliding which prevented approaching the concreting areas and also due to the closing of the quarries which caused the non-availability of sand and aggregate, work would not be carried out. Hence it was mentioned that they were unable to complete the above mentioned work in time due to the execution of these additional items/quantities of work and the concreting for the penstock line and Anchors demanded more working days to complete the same. In addition to this at present man and materials are affected due to lockdown declared by the Government of India in the wake of Covid-19 Pandemic.

Due to the exigency for completion of the work the contractor was requested to compress micro schedule of work and M/s. SSIPL had submitted a compressed micro schedule including extra Civil and E&M works up to December 31<sup>st</sup> 2020. During the subsequent meetings, the exigency for the completion of the project by November 30<sup>th</sup> 2020 was emphasized and accordingly M/s. SSIPL had submitted a new compressed micro schedule with completion date of 30<sup>th</sup> November 2020, for approval.

It was also reported that in addition to the additional works sanctioned earlier as per B.O read 6<sup>th</sup> and 8<sup>th</sup> above, the following extra works/excess quantity are required for Pump House Building and Intake works, for the smooth completion of the project.

- I. For concreting of roof slab and crane girders, steel girders viz ISMB500, ISMB 450, ISMC 175 are to be laid. But no item is available in the agreed schedule for these steel works. The approximate quantity, rate, amount etc. are furnished separately as extra item No.1. This item includes hand railing with mild steel, mild steel works for ladder grills to cover drains and

cable trench etc. This also includes crane girders work and the primary and secondary beams of roof.

- II. Providing PVC water stops in the rear walls of pump house around the openings. The water stoppers conforming to IS: 12200 were already fixed as per the design drawing and this has to be treated as an extra item and hence proposed as extra item No.2.
- III. The work of demolishing the existing side wall of the canal to connect it to the intake pool is an essential item of work. But the items for demolishing the concrete and masonry structures are not available in the agreed schedule, hence, may be treated as extra item and are included as item nos. 3 and 4.
- IV. Though the work of providing water proofing for the terrace with weather proofing admixture is not shown in the civil drawings, considering the long life of the building, it is advisable to do this work. Hence it is proposed as extra item No.5.
- V. The item of providing Conbextra (GP2) concreting for pump base is treated as extra item No.6.

The items for radiography of shop welding and field welding are included in the agreed schedule. Hence there was no need of extra item, but excess quantity of 400 m shop welding is required for proper completion of the work and also remarked that in the case of field welds, the agreement provision of 500m is sufficient.

The estimate comes to Rs. 44,52,471.43/- which is 1.96% of the contract amount (incl GST). It is also reported that the total provision of various item of works as per BOQ in agreement together with provisions as per two supplemental agreements and the proposed 6 numbers of extra items/excess quantity are sufficient to complete the project as far as the available design drawings and information are considered.

Considering all above, the Chief Engineer (Gen.&PED) has recommended for the time extension up to 30.11.2020 without any additional financial commitment to KSEBL and to sanction the inevitable excess quantity and extra items with an additional financial commitment of Rs. 44,52,471/-. The total additional amount for excess quantity /additional items including previously sanctioned amount of Rs. 1,76,47,763/- and Rs.1,92,81,000/- comes to 18.26 % of the contract amount of Rs. 22,66,41,505.23 (incl GST) and 26.12% of the PAC of Rs. 15.85 Crore.

Having considered the matter in detail as per Note read as 9<sup>th</sup> above, the Full Time Directors in the meeting held on 26-08-2020, resolved to accord sanction to extend the period of completion of contract for renovation works of Sengulam Pump House awarded to M/s. SSIPL-FML Consortium up to 30-11-2020, without any additional financial commitment to KSEBL for which an undertaking shall be obtained from the contractor.

Further resolved that Hindrance Register shall be updated with due attestation.

Further resolved to accord sanction for carrying out the excess quantity and extra items of works in connection with the renovation works of Sengulam Pump house awarded to M/s. SSIPL-FML Consortium as detailed in Annexure, with an additional financial commitment of Rs.44,52,471/- (Rupees Forty four lakh fifty two thousand four hundred and seventy one only).

Orders are issued accordingly.

By Order of the Full Time Directors,

Sd/-

Lekha G

Company Secretary (In charge)

To

The Chief Engineer (Generation & PED), Moolamattom.  
The Deputy Chief Engineer (Projects-Electrical Designs).

Copy to:

The Financial Advisor/ The Chief Internal Auditor/The Company Secretary.  
The Deputy Chief Engineer (IT)/ The RCAO/The RAO.  
The TA to Chairman & MD/ Director (GE&SCM)/ Director(GC)/ Director  
(Trans.& SO )/ Director (D,IT&HRM) /Director (Planning &Safety).  
The PA to Director (Finance).

Forwarded / By Order

*Sunil Kumar*  
Asst. Exe. Engineer

DESPATCHED

NO. 136

DATE 07.09.20

**Renovation of Sengulam Pump house at Pallivasal**

**Annexure to B.O (FTD) No. 561 /2020 (D(GE)/G2/Ren-Seng/2020-21) dated 04 - 09 - 2020**

<b>A- ABSTRACT- Extra Items</b>						
Sl. No.	Code No.	Quantity	Description	Unit	Rate	Amount
1.	KSEB DATA XVIII/17	33500.00 kg	Fabricating supplying and installing miscellaneous metal works for various works or any other steel items specified in drawing such as hatch cover, frames, gratings, chequered plates rails embedded parts angle post of chain link fencing, spider supports etc. at all elevations including cost of all materials, fabrication, welding and fixing charges applying one coat primer etc. complete.	kg	88.75	29,73,125.00
2.	KSEB DATA XVIII/5	40.00 m	Providing and placing in position suitable PVC water stops conforming to IS:12200 for construction/expansion joints between two RCC members and fixed to the reinforcement with binding wire before expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete Serrated with central bulb (225 mm wide, 8-11 mm thick).	m	627.50	25,100.00
3.	KSEB Data II/1	24.00 m <sup>3</sup>	Dismantling, clearing away and carefully stacking materials useful for reuse for any thickness of walls of brick, laterite or rubble in cement mortar/lime Surkhi mortar including disposal of debris within a distance of 150m.	m <sup>3</sup>	832.40	19,977.60
4.	KSEB Data II/3	24.00 m <sup>3</sup>	Demolishing R.C.C work including separately removing and stacking available reinforcement and clearing away the debris within a distance of 150m.	m <sup>3</sup>	1710.80	41,059.20
5.	DSR 22.22A	500.00 m <sup>2</sup>	Providing and applying fibre reinforced elastomeric liquid water proofing membrane with resilient acrylic polymers having Sun reflectivity Index (SRI) of 105 on top of concrete roof in three coats @10.76 litre/10sqm. One coat of self priming of elastomeric waterproofing liquid (dilution • with water in the ratio of 3:1) and two coats of undiluted elastomeric waterproofing	m <sup>2</sup>	347.30	1,73,650.00

			liquid (dry film thickness of complete application/system not less than 500 microns). The operation shall be carried out after scrapping and properly cleaning the surface to remove loose particles with wire brushes, complete in all respect as per the direction of Engineer-in-charge.			
6.	OD	2.00 m <sup>2</sup>	Concreting with Fosroc Conbextra GP2 with 9mm & 6mm MSA graded broken stone for grouting pump bolt holes including charges for mixing, laying, consolidating, curing etc. complete including cost of all materials with all lead and lifts as per standard specification	m <sup>2</sup>	70488.20	1,40,976.40
7.			Total			33,73,888.20
			Add tender excess 15%			5,06,083.23
			TOTAL of A			38,79,971.43
			<b>B- Excess quantity</b>			
1.	Item. No. 14 of W.O No. 1B/2016-17-Part B	400.00m	Radiographic inspection of welds at shop as per standard specification and as per the directions of the Engineer in charge	m	1431.25	5,72,500.00
<b>Grand Total (A+B)</b>						<b>44,52,471.43</b>
Rupees Forty four lakh fifty two thousand four hundred and seventy one only.						

Sd/-  
Director (GE&SCM)