



KERALA STATE ELECTRICITY BOARD LIMITED

(Incorporated under the Companies Act, 1956) CIN: U40100KL2011SGC027424

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Abstract

Retender of Execution of the E&M works of Peruvannamuzhy (2X3 MW) Small Hydro Electric Project - Finalisation of type of turbine, tendering methodology, revised Administrative Sanction - Accorded - Orders issued.

Corporate Office (SBU-G/E)

B.O. (DB)No. 194 /2020 (D(GE)/G2/P.Muzhy /2019-20) Thiruvananthapuram. Dated: 17- 03 - 2020

- Read :-
1. B.O(DB)No. 1223/2015 (DGC/AEE-1/PERVNMZHY/2015) dated 18-05-2015.
 2. B.O. (FTD)No. 3039/2017 (D(GE)/G2/ P.Muzhy/2017-18) dated 05-12-2017.
 3. Note No. D(GE)/G2/P.Sagar/2019-20 dated 23-10-2019 of the Chairman and Managing Director.
 4. Proceedings of the 50th meeting of the Board of Directors held on 07-11-2019 (Agenda Item No. 08- 11/2019).
 5. Note No. D(GE)/G2/P.Sagar/2019-20/ dated 24-12-2019 of Director (GE&SCM) to Full Time Directors (Agenda Item No. 86/12/2019).
 6. B.O. (FTD) No. 28 /2020 (D(GE)/G2/P.Sagar/2019-20) dated 16-01-2020.
 7. Letter No.129/AE4/2018/CE(PED)/1139 and 1169 dated 15-02-2020 and 20-02-2020 of the Chief Engineer (Gen.&PED).
 8. Note No. D(GE)/G2/P.Muzhy/2019-20 dated 25-02-2020 of Director (GE&SCM) to Full Time Directors (Agenda No. 87/2/20).
 9. Note No. D(GE)/G2/P.Muzhy/2019-20 dated 27-02-2020 of the Chairman and Managing Director to the Board of Directors.
 10. Proceedings of the 52nd Meeting of the Board of Directors held on 04-03-2020 vide Agenda No. 21-03/2020.

ORDER

As per B.O read as 1st above, revised Administrative Sanction was accorded for the implementation of Peruvannamuzhy project (Kozhikode dist.) at an estimated amount of Rs. 77.53 Crore. (Rs. 84.11 Cr including IDC) and cost including IDC with MNRE grant is Rs. 64.11 Crore. The cost of E&M work was Rs. 27.01 Crore. (Cost of E&M equipment - Rs. 22.80 Crore and Rs. 4.21 Crore for transmission part). In the original DPR type of turbine proposed was Horizontal Kaplan. Subsequently when the DPR was revised, considering the operational advantage of Francis Turbine over Kaplan and as per IS 12800 (part 3):1991, Horizontal Francis Turbine was recommended instead of Kaplan Turbine.

The first e-tender for E&M works was floated by the Chief Engineer (Projects -Electrical Designs) with PAC of Rs. 22.7957 Crore on 20-04-2017 with horizontal Francis turbine. Even after revising the bidding schedule 5 times in the hope of finding more participants only one bidder participated in the bidding. It was reported that during the tendering process, many prospective bidders had sought for a change in type of turbine and alignment citing technical reasons. Accordingly, necessary direction was sought to retender the execution of E&M works of the Peruvannamuzhy SHEP with Horizontal Full Kaplan (double regulated). As per B.O. read as 2nd above, sanction was accorded to cancel the tender floated with Horizontal Francis turbine, and to invite new tender with a revision in the type of turbine as Horizontal Full Kaplan (double regulated) instead of Horizontal Francis.

Accordingly, re-tender (second tender) was floated on 20.01.2018 with Horizontal Full Kaplan turbine. However, due to insufficient documents in cover-1 of the lone bidder, the tender was rejected and bid process terminated on 23.04.2018. Re-tender (third tender) was uploaded on 24.04.2018. However, since the lone bidder did not satisfy the requirement as per Clause 3.1.2.1, 3.1.2.2 and 3.4.1 (for SHP) of Volume I of Tender Document, which stipulates the conditions for technical capability of the bidder, sanction was accorded for retendering the subject work for ensuring more participation and better competition. Accordingly re-tendering process was initiated after modifying the conditions as ordered in B.O. (DB) No. 1580/2018 (D(GE)/G2/Genl/Tender/2018-19) dated 26.06.2018 and after modifying certain pre-qualification conditions. Re-e-tender (fourth tender) was floated on 19.07.2018. Two Bids were opened online as scheduled on 14/09/2018. The tender was cancelled as decided in the PQ meeting held on 27.11.2018 due to technical deviations by the bidder and the bids were non responsive. Subsequently as decided in the PQ meeting, the Chief Engineer (Gen. & PED) had invited responses from the prospective bidders for the low participation and many bidders had forwarded their remarks. Subsequently some modifications were incorporated in the tender conditions like resolution of disputes, interim/prepayments as per B.O (DB)No. 1999/2018 (D(GE)/G2/Genl/Tender/2018-19) dated 15-12-2018 and B.O (DB)No. 180/2019 (D(GE)/G2/Genl.Tender/2018-19) dated 01- 3 - 2019.

Again E-tender (5th tender) was floated on 07-03-2019. Three Bids were received and opened online as scheduled on 03-06-2019 in the presence of the authorized representatives of bidders. The bidders had submitted the bids with certain technical deviations like length of machine, centre line of machine and diameter of MIV etc. Though many of the deviations were withdrawn, the PQ committee held on 27-09-2019 opined that some of the deviations are still pending which is having financial implication. It was opined that conditional acceptance of tender documents will make the tender void and fails the purpose of prequalification. Hence the PQ committee decided to cancel the tender and retender after modifying the technical specifications. Subsequently, tender was cancelled on 01-10-2019.

The CMD has directed that before re-tendering, the technical specifications of tender documents are to be modified after verifying documents for SHEPs by NHPC and other Government companies. Also it is directed that before inviting new tenders for SHEPs, a meeting has to be conducted with the prospective bidders so that suitable changes can be made in the technical specifications in such a way that the conditions are vendor neutral and maximum participations can be assured. As per the direction of the CMD in the PQ committee meeting, guidelines published by AHEC for SHEPs were examined and changes were found in clauses 3.14.8.1(D), 3.1.10, 3.3.6.5 and 3.3.6.7 of Volume III of tender documents from the technical specifications of KSEBL. Accordingly sanction was obtained to incorporate the above changes in the technical specifications of tender documents for E&M works of SHEPs for future tenders.

Subsequently, in the review meeting convened by the Director (GE&SCM) on 15/10/2019, the delay in execution of Civil works of Peruvannamuzhy and Pazhassi Sagar SHEPs due to delay in finalization of tender for E&M works was discussed in detail. After detailed deliberations on the issues and considering the urgency of completing the projects, it was decided that tendering of both projects shall be done without specifying turbine type/ configuration (horizontal/vertical), Generator speed etc. as against the designed values in the approved DPRs, but by specifying unit capacity & station capacity, hydro mechanical parameters etc. enabling more flexibility in the tender conditions and improved participation from the bidders. It was also directed to cancel the tender already invited

for E&M works of Pazhassi Sagar SHEP and for both Peruvannamuzhy and Pazhassi Sagar projects, new tender will be invited. The evaluation methodology shall be clearly mentioned in the tender.

Considering the above decisions, the Chief Engineer (Gen.&PED) has requested sanction to invite tenders for Peruvannamuzhy (2 X 3 MW) and Pazhassi Sagar SHEPs (3 x 2.5 MW) without stringently specifying the turbine type like Kaplan or Francis, turbine configuration (horizontal/vertical) and Generator speed, deviating from the parameters in the approved DPR, but precisely specifying unit capacity, station capacity and hydro mechanical parameters for the projects and to modify the technical specifications by including the specifications of both the Kaplan and Francis Turbines along with the methodology of price evaluation of the Bids. Sanction was also requested to entrust the Civil Wing to assess the price implication in Civil construction works for the different alignment of turbine, after the PQ Bid opening so that the same can be loaded for price evaluation of bids.

Accordingly, as per the Note read as 3rd above, the Board was apprised about the poor participation in the tenders floated for Peruvannamuzhy (2X3 MW) and Pazhassi Sagar (3X2.5 MW) SHEPs and sanction was requested for the new methodology for the tendering process as above. The Board discussed the matter in detail and observed that extra merits in the new situation vis a vis the old situation have to be prepared in a comparative form to take a final decision in the matter, vide Proceedings read as 4th above. Accordingly, the new methodology proposed as well as the old methodology adopted earlier for the tendering process of Peruvannamuzhy and Pazhassi Sagar SHEPs along with the merits/demerits of each methodology and a flow chart showing the methodology for evaluating the Electro-mechanical works, considering the cost implication of civil part was placed before the Full time Directors as per Note read as 5th above. The FTD in the meeting held on 26-12-2019 discussed the matter in detail and resolved to invite all manufacturers/ contractors/ vendors in the field and conduct a detailed discussion by a special technical team of KSEBL to finalize the type of turbine with tender condition modifications within a month for getting sufficient bids. Subsequently, as per B.O. read as 6th above, a Technical Committee was constituted for finalizing the tender conditions/ new methodology of tendering for Pazhassi Sagar (3X2.5 MW) and Peruvannamuzhy (2X3 MW) Small Hydro Electric Projects, to collect suggestions from the bidders and to submit the report within one month.

The Chief Engineer (Gen.&PED) as per letter read as 7th above, has reported that the technical committee meeting was convened on 18.01.2020 and apart from members, representatives from different firms participated in the meeting. The meeting discussed tender conditions/ new methodology of tendering. However, in the meeting, all the prospective bidders have opined that KSEB shall specify the type of turbine, orientation & speed in the tender to avoid the difficulty in bid evaluation. It is decided in the meeting that majority of the opinion from the bidders will be considered for selection and orientation of turbine. Hence it is suggested that bidders shall not be given the option to select the turbine, but KSEBL shall specify the type of turbine, orientation & speed in the tender. Also many of the firms have suggested that commercial conditions are the hurdles which prevent them from participating in KSEBL projects.

As per the technical committee report, for Peruvannamuzhy SHEP the turbine is finalized as Horizontal Full Kaplan with 750 rpm Generator through gearbox and double seal MIV. Considering the report of the technical committee, the Chief Engineer (Gen. & PED) has recommended to invite tender for Peruvannamuzhy SHEP specifying turbine as horizontal full Kaplan with 750 rpm Generator through gearbox with double seal MIV. Also it is noted that the cost implication of civil part may not be considered for evaluation of bid of E&M equipment as KSEBL specifies the type of turbine,

orientation & speed of generator in the tender. Also, as the modification of commercial conditions is not yet finalized the existing commercial conditions may be continued for these projects also.

The budgetary offers were collected from the prospective bidders and two prospective bidders viz. M/s Kirloskar Brothers Ltd. and M/s Voith Hydro Pvt. Ltd. submitted their budgetary offers including supply, transport, erection, testing and commissioning. It is reported that on comparing the above two offers, the rate offered by M/s KBL seems more realistic. Hence the revised estimate amount comes to Rs. 37.88 Crore (Rupees Thirty Seven Crore and Eighty Eight Lakh only) for the execution of Peruvannamuzhy SHEP. Considering the revised estimate for E&M works of Rs. 37.88 Crore, the total estimate including Civil works becomes Rs. 92.61 Crore (Civil- Rs. 50.52 Crore, E&M- Rs. 37.88 Crore & Power evacuation - Rs. 4.21 Crore).

It is reported that huge variation of the revised estimate amount of Rs.37.88 Crore for execution of E&M Works for Peruvannamuzhy SHEP from the originally sanctioned estimate of Rs. 22.80 Crore are mainly due to various reasons such as: the originally sanctioned estimate for the project was prepared on 2014 even though the Administrative sanction was received in 2015. At the time of preparation of originally sanctioned estimate, type of turbine was Francis. But as per B.O. dated 05-12-2017, turbine was revised as Kaplan. Also in the technical committee report, turbine is finalized as Horizontal Full Kaplan. The provisions for a speed increasing gear box considering the low speed of the machine was also not seen envisaged while preparing the E & M estimate for the subject project. Hence the price for the speed increasing gear box was also not considered in the originally sanctioned E & M estimate. The increasing trend in international price of Steel/Iron (125%), Aluminium (64%) and Copper (74%) since 2015 also resulted in further escalation in the price of major items like Turbine, MIV, Generator, Power cables, Electrical Auxiliaries related items etc when considered at current price level. As per the labour bureau index, there is around 15% raise in labour price since 2015. This will result in cascading effect on the increase in the estimate prepared at current price level since the increase in labour will be applicable for manufacturing the E & M equipment and also for the service part. The taxes and duties component were also not included in the estimate for execution of E&M works of Peruvannamuzhy Small Hydro Electric Project prepared at 2014 price level.

The Chief Engineer (Generation & PED) reported that the contract for Civil work for the project is already awarded and the works are in progress. Also, the first tranche of the MNRE grant for Peruvannamuzhy SHEP is already sanctioned. Hence it is recommended that the E & M works needs to be tendered at the earliest as further progress in Civil work is related to the availability of turbine elevation, center line details and layout of E & M equipment. Considering all above, the Chief Engineer (Gen.&PED) has requested sanction for the revised PAC amount for E&M works amounting to Rs 37.88 Crore including taxes for Peruvannamuzhy SHEP and to retender the E&M works with the revised PAC.

The matter was considered by the Full Time Directors in the meeting held on 26-02-2020 and resolved to place the matter before the Board of Directors. Accordingly, the matter was placed before the Board of Directors as per Note read as 9th above.

Having considered the matter in detail, the Board

Resolved to accord revised Administrative Sanction for the cost estimate of Rs. 92.61 Crore for the construction of Peruvannamuzhy SHEP (2x3MW) SHEP with a split up of Civil works - Rs. 50.52 Crore, E&M works - Rs. 37.88 Crore and Power evacuation - Rs. 4.21 Crore.

Resolved also to accord sanction to retender the E&M works of Peruvannamuzhy SHEP (2x3 MW) with the revised PAC, and to modify the turbine type to Horizontal Full Kaplan with 750 rpm Generator through Gearbox and double seal MIV.

Resolved further to continue the existing commercial conditions for the above project though there was request for modification from various vendors/contractors.

Orders are issued accordingly.

By Order of the Director Board,

Sd/-
Lekha G
Company Secretary (In charge)

To

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

Copy to:

The Chief Engineer (Civil Construction - North).
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 &S)/ Director (D,IT&HRM).
The PA to Director (Finance).

Forwarded / By Order

Sunil Kumar
Asst. Exe. Engineer

DESPATCHED
No. 399
DATE 23.03.20