

## Abstract

IHEP-Urgent restoration works of Unit#2 after the blast occurred on 11kV insulator of its excitation transformer and subsequent damages to various panels and 11kV Bus duct-awarding of work to OEM by waiver of tenders-Sanction Accorded– Orders issued.

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

B.O .(FTD) No.313 /2020 (No. DGE/G3/IHEP/U#2 Restoration/2020-21 Thiruvananthapuram dated: 06-05-2020

- Read:-
1. Letter of Acceptance (LOA) No.CEG/AEE1/IHEP-R&M/11kV Bus duct/2019-20/1819 dated 10-02-2020 given to M/s GE Power India Ltd.
  2. Letter No.CEG/AEE1/IHEP-R&M/U#2Restoration/2019-20/2061 dated 17.03.2020 of the Chief Engineer(Gen & PED), Moolamattom.
  3. Letter No.CEG/AEE1/IHEP-R&M/U#2Restoration/2019-20/2118 dated 30.03.2020 of the Chief Engineer(Gen & PED), Moolamattom and the enclosed estimate.
  4. Letter No.1228750-2 dated 03-04-2020 of M/s GE Power India Limited.
  5. Note No. DGE/G3/IHEP/U#2 Restoration/2020-21 Dated: 07-04-2020 of the Director (GE & SCM)to the FTD (Agenda 20/4/2020)
  6. Letter No.1228750-3 dated 24-04-2020 of M/s GE Power India Limited.
  7. LetterNo.CEG/AEE1/IHEP-R&M/U#2Restoration/20-21/96 dated 24-04-2020 of the Chief Engineer(Gen & PED), Moolamattom and the revised estimate enclosed.
  8. Note No.DGE/ G3/IHEP/U#2 Restoration/2020-21 dated 30-04-2020 of the Director (GE & SCM) (Agenda 56/4/2020)

## ORDER

The Idukki HEP is the largest Hydro Electric Power Generating Station in Kerala, with a total installed capacity of 780 MW (6x130 MW), commissioned in two stages, during 1976 & 1986. Being the largest, this Station holds a major role in meeting the power demand of Kerala. The first stage machines have covered a life span of more than 35 years and hence needed Renovation & Modernisation works, as per CEA regulations.

Subsequently, the Board as per order dated 16-03-2015 had accorded Administrative Sanction for the R&M works of the first stage machines of IHEP and the work was awarded to M/s GE Power India Limited. After renovation, Unit #3 was put back in service on 07.03.2019, the renovation of Unit#2 was completed and the 72 hour performance test run was also completed on 18.01.2020. R&M works of Unit#1 is also in the final stage.

The Unit#2 was synchronised to the grid on 20.01.2020 at 17.30hrs and during operation a major accident was occurred on Unit#2 at 19.09 hrs. on the same day, accompanied with a heavy flash and explosion at the location of the excitation transformer of Unit#2. As per the preliminary report, the cause of accident was failure of 11KV bushing of the exciter transformer of Unit#2. On detailed site inspection, it is observed that the top plate and 11KV Bushing of exciter transformer connecting with the Aluminum Bus duct were completely damaged. The vibration monitor unit, control system cubicle, excitation modules and transformer cooler control panel, which were installed very near to the explosion site, were also damaged partially in the heavy arcing and heavy discharge of 11KV fault current through the bus duct. The heavy discharge of electrical arc completely damaged the 11KV bushings, 11KV Bus duct Insulators & Bus duct Aluminum shields which demand complete replacement for putting Unit#2 back in to service.

Meanwhile, in the meeting of field officers, held on 04.02.2020 at Moolamattom, it was decided to prepare a consolidated estimate for the urgent rectification of Unit#2, so as to put back the machine in service at the earliest, by collecting budgetary offer from the OEM, M/s GEPIL. The sole reason for seeking offer from M/s GEPIL is that every equipment of unit#2 are designed and supplied by M/s GEPIL as part of renovation works and the defect liability period for a period of 3 years is also to be continued. Moreover, the tools and manpower assistance of the company is available at site which will help speedy restoration works. It was also decided to issue LOA to M/s GEPIL based on their budgetary offer, for the 11KV Bus duct work which is very critical for the restoration of Unit#2. The whole restoration work has been divided in to three PARTS, as follows:

- I. PART-A : Design, Manufacture, Supply, Erection and commissioning of new 11KV Isolated Phase Bus Duct(IPBD) - Budgetary offer was collected for the same, from M/s GEPIL and LOA was issued to M/s GEPIL, after necessary negotiations, as decided in the meeting, held on 04.02.2020 at Moolamattom, for

the supply and erection of IPBD for unit#2 for an amount of Rs.74,34,000/-(including GST@18%) by the Chief Engineer(Gen. & PED) as per letter read (1) above.

- II. PART-B: Providing supervisory services for inspection to assess the quantity of material/labour for the restoration works\_ M/s GEPIL had initially offered Rs.14,06,560/-(including GST) and after negotiation, they have reduced their rate to Rs.9,85,300/-(including GST@18%) for 21 days of inspection services.
- III. PART-C: Design, Engineering, Manufacture, Supply, Erection and Commissioning of different components of various cubicles for the restoration works of Unit #2 due to blasting of 11KV bushing of its excitation Transformer-In the budgetary offer, M/s GEPIL had initially quoted Rs.1,11,00,000/-for the supply and Rs.17,90,000/- for erection with 22 days of lead time. On further negotiation, they reduced their rate to Rs.97,63,475/- for supply and Rs.17,00,500/- for erection with 11 days of lead time ,from the date of confirmed order. The total offered amount is Rs.1,35,27,491/-(including GST@18%).

Based on the above, the Chief Engineer (Gen. & PED) has forwarded an estimate amounting to Rs.2,19,46,791/-(including GST@18%), as per letters read (2&3)above, and requested sanction for the procurement of proprietary items and works through the OEM. Director level negotiation was carried out with M/s GEPIL , but, they were hesitant to offer further discounts. Then, the matter was placed before the FTD as per note read (5), for obtaining Administrative Sanction as requested by the Chief Engineer(Generation & PED). But,the meeting of FTD held on 16-04-2020 declined the request with direction of the CMD, "to assess the reasonableness of the rates quoted by M/s GEPL,the OEM considering the market rates of materials to be replaced."

As directed, the Chief Engineer(Gen.&PED) conducted a meeting with the engineers from Generation Circle, Moolamattom on 20-04-2020 and discussed various aspects in detail, especially the execution of works and rationality of rates quoted by the OEM,for the restoration works of unit #2. In the meeting, it is ensured that the materials to be replaced and the associated works of Unit#2 ,as suggested by the OEM are essential and most of the rates offered by the OEM are comparable to the market rates of other suppliers. It is also pointed out the limitation to segregate the net amount among different components and also stressed that KSEBL has no option at this stage, for using components from other suppliers because the necessary guarantee clauses for the entire system of Unit#2 bounded on the OEM has to be retained .

As decided in the meeting, M/s GEPL was once again requested to offer their rock bottom rate and the firm considered the request as a very special case and reduced their offered rate by Rs.15 Lakh on the amount, without taxes and informed the matter as per letter read (6) above. Based on the offered reduction, the estimate amount in respect of Part-III works has been modified as Rs.11757491/-(inclusive of GST @18%) and revised the total estimate by retaining Rs.74,34,000/- & Rs.9,85,300/- ,PART-I & II estimated amounts and the Chief Engineer (Generation & PED) has forwarded the revised estimate amounting to **Rs.2,01,76,791/-**(Rupees Two Core One Lakh Seventy Six Thousand Seven Hundred & Ninety One Only),including GST@18%, as per letter read (7) ,for obtaining sanction and to award the subject work to M/s GEPIL ,the OEM, by waiver of tender calls. It is also requested to ratify the action of the Chief Engineer (Gen. & PED), in having issued LOA to M/s GEPIL, the OEM for the Design, Supply, Erection and Commissioning of 11KV Isolated Phase Bus Duct(IPBD) for Unit#2.

Having considered the recommendation in the Note read as (8) above, the Full Time Directors meeting held on 30-04-2020, resolved to accord Administrative Sanction for an amount of Rs.2,01,76,791/-(Rupees Two Core One Lakh Seventy Six Thousand Seven Hundred & Ninety One Only ),for the urgent restoration works of Unit#2 at IHEP.

Further resolved to accord sanction to the Chief Engineer (Gen. &PED), for carrying out the purchase/work of proprietary items from M/s GEPIL, the OEM, for the restoration work of Unit#2 at IHEP.

Further resolved to ratify the action of the Chief Engineer (Gen. & PED), in having issued LOA to M/s GEPIL, the OEM for the Design, Supply, Erection and Commissioning of 11KV Isolated Phase Bus Duct(IPBD) for Unit#2 .

Orders are issued accordingly.

By Order of the Full Time Directors,  
Sd/-  
(LEKHA.G)  
Company Secretary  
(In -charge.)

To:

1. The Chief Engineer (Generation& PED),Moolamattom.
2. The Deputy Chief Engineer, Generation Circle, Moolamattom.

Copy to:

The Financial Advisor/The Chief Internal Auditor,  
The TA to CMD/D(GE&SCM)/ D(TSO&S)/ D(DIT&HRM)/D(GC)  
The Fair copy Superintendent/Library/Stock File

DESPATCHED

Forwarded / By Order  
Asst. Executive Engineer