ORDER

OF THE

WEST BENGAL ELECTRICITY REGULATORY COMMISSION

IN CASE NO: OA – 396 / 21 – 22

IN REGARD TO THE APPLICATION SUBMITTED BY THE WEST BENGAL STATE ELECTRICITY TRANSMISSION COMPANY LIMITED (WBSETCL) FOR APPROVAL OF INCURRING CAPITAL EXPENDITURE OF AN ESTIMATED COST OF RS. 22,116.00 LAKH FOR CONSTRUCTION OF 01 NO. 132/33/11KV GAS INSULATED SUB-STATION AT SILICON VALLEY IT HUB AND 01 NO. 220/33KV GAS INSULATED SUB-STATION AT KHANAKUL & ASSOCIATED TRANSMISSION SYSTEM IN TERMS OF REGULATION 2.8.2.3 AND PARAGRAPH 4.1 (VI) OF SCHEDULE – 2 OF THE WEST BENGAL ELECTRICITY REGULATORY COMMISSION (TERMS AND CONDITION OF TARIFF) REGULATIONS, 2011, AS AMENDED

PRESENT
SRI MALLELA VENKATESWARA RAO, CHAIRPERSON
SRI PULAK KUMAR TEWARI, MEMBER

DATE: 20.02.2023

सत्यमेव जयते

In regard to the application submitted by the West Bengal State Electricity Transmission Company Limited (WBSETCL) for approval of incurring Capital Expenditure of an estimated cost of Rs. 22,116.00 Lakh for construction of 01 no. 132/33/11KV Gas Insulated Sub-Station at Silicon Valley IT Hub and 01 no. 220/33KV Gas Insulated Sub-Station at Khanakul & associated Transmission System in terms of regulation 2.8.2.3 and Paragraph 4.1 (vi) of Schedule – 2 of the West Bengal Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2011, as amended.

FACTS IN BRIEF

1.0 The West Bengal State Electricity Transmission Company Limited (in short 'WBSETCL') submitted an application dated 21.01.2022 for the approval of incurring Capital Expenditure to an estimated cost of Rs. 22,116.00 Lakh for construction of 01 no. 132/33/11KV Gas Insulated Sub-Station (GIS) at Silicon Valley IT Hub and 01 no. 220/33KV Gas Insulated Sub-Station (GIS) at Khanakul & associated Transmission System along with the Detailed Project Reports (DPR) in terms of regulation 2.8.2.3 and Paragraph 4.1 (vi) of Schedule – 2 of the West Bengal Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2011, as amended from time to time (in short 'WBERC Tariff Regulations'). The Commission has admitted the application and registered in Case No. OA – 396/21-22.

2.0 In the application, WBSETCL has inter-alia submitted the following:

2.1 **Construction of Silicon Valley IT Hub 132/33/11 KV GIS at New Town AA-IIE and associated transmission system:**

2.1.1 The proposed Bengal Silicon Valley IT Hub is to be set up on 200 acres of land in New Town Action Area-II, Dist.-North 24 Parganas, West Bengal. WBHIDCO, the executing agency for infrastructure development, requested WBSETCL to arrange power supply in tune of 40 MVA for Silicon Valley IT Hub which will reach to 210 MVA in near future.

The Transmission Scheme is scheduled to be commissioned in next two years within 2023 – 24.

2.1.2 Presently, power for Silicon Valley IT Hub is being supplied by New Town AA-III 220 KV Substation and New Town AA-I 132 kV Substation. New Town AA-I 132 kV Substation has a double circuit (D/C) connectivity, each with Salt Lake 132 kV GIS and New Town AA-III 220 KV Sub-station.

Construction of New Town AA-IIC 220 kV GIS, with D/C connectivity with Rajarhat (PGCIL) near Silicon Valley IT Hub, is under progress to meet the growing demand of power in the area and as well as to evacuate power from this substation to upcoming Chandiberia / Abdalpur 132 KV GIS in order to meet the power demand in Keshtopur, Baguihati and part of North 24 Parganas.

2.1.3 Large no. 33 KV bays required to meet the demand load of Silicon Valley IT Hub but construction of such bays is not possible due to limitation of space in the switchyard and control room in each

of the above substations. Therefore, New Town AA-IIE Substation is thought to be constructed in the campus of Silicon Valley IT Hub to provide power currently in tune of 40 MVA.

2.1.4 Silicon Valley IT Hub 132/33/11 KV GIS at New Town AA-IIE is envisaged with 2 nos. of 132 kV Line Bay, 132 kV S/C U.G Cable connectivity from each New Town AA-I 132 kV Sub-station and New Town AA-IIC 220 kV GIS , (2 x 80) MVA 132/33 kV Transformers and 14 nos. of 33 kV feeder Bays.

2.1.5 A parcel of land having an area of 2.50 Acre bearing no. IIE/36 within AA-II has been allotted in favour of WBSETCL by WBHIDCO authority for establishment of 132 kV GIS and process has already been initiated for obtaining possession.

2.1.6 The total project cost including interest during construction (IDC) of Rs. 1010.71 Lakh emerges to Rs. 14163.93 Lakh as tabulated below:

Sl. No.	Description	Amount (₹ in Lakh)
1	Construction of Silicon Valley IT Hub 132/33 KV GIS at New Town AA-IIE with 02 nos. of 132 KV feeder bays, 2x80 MVA, 132/33 KV Transformers & 14 nos. 33 KV feeder bays.	5047.91
2	Construction of 01 no. 132 KV Line bay at New Town AA-I 132 KV SS	102.67
3	132 KV S/C UG Cable line from New Town AA-I 132 KV Substation to proposed Silicon Valley IT Hub 132 KV GIS (RL=6.7 km)	4011.69
4	132 KV S/C UG Cable line from New Town AA-IIC 220 KV GIS (WIP) to proposed Silicon Valley IT Hub 132 KV GIS (RL=3 km)	2275.31
5	Total Cost (1+2+3+4)	11437.58
6	Supervision Charge	1715.64
7	**Total Project Cost (5+6)**	**13153.22**
8	IDC	1010.71
9	**Project Cost including IDC (7+8)**	**14163.93**

2.1.7 Administrative approval to construct Silicon Valley IT Hub 132/33 kV GIS and associated Transmission system has been accorded by the resolution by circulation passed by the majority of the Board of Directors, WBSETCL in its meeting held on 23rd November 2021.

2.1.8 WBSETCL has submitted that the project shall supply adequate quality power in IT Industry & commercial sector in the project area, also more job facility, socio-economic development can be achieved, etc.

As submitted by WBSETCL, construction of new 132/33 KV GIS at Silicon Valley IT Hub will add the following benefits:

a) Improvement in voltage profile, system stability and reduction in technical energy loss.

b) Additional sale of energy by WBSEDCL in the project command area.

c) Enhancement of system reliability, reduction in customer interruption frequency index and customer interruption duration index.

2.2 **Construction of Khanakul 220/33 KV GIS and associated transmission system:**

2.2.1 220/33 KV Gas Insulated Substation (GIS) at Khanakul, Hooghly is envisaged with 2 nos. 220 kV Feeder bays, 2 x 50 MVA 220/33 kV Transformers, 14 nos. 33 kV Feeder bays, 10 MVAR Capacitor Bank, S/C LILO of Arambag – Domjur 220 kV D/C transmission line at proposed Khanakul 220/33 kV GIS.

2.2.2 Khanakul 220/33 KV GIS was thought to cater load demand in and around Khanakul, Gaurangapur, Ghoshpur Kabilpur, Natibpur, Rajhati in Hoogly District.

2.2.3 Presently, Khanakul-I 33/11 KV substation, with peak load of 11 MVA, is connected to Mayapur and Gourhati 33/11 KV substation and will be connected with ongoing Khanakul-II 33/11 KV substation (peak load of 4 MVA). 33 KV bus of proposed Khanakul 220/33 KV GIS will be connected with 33/11 KV substation at Mayapur, Gourhati and ongoing Khanakul-II. Proposed Khanakul 220/33 KV GIS will be fed from S/C LILO of Arambag – Domjur 220 kV D/C transmission line.

2.2.4 Proposed Khanakul 220/33 kV GIS was contemplated to offload Arambag 400 kV Sub-station. 33 kV Substations of WBSEDCL in the vicinity are suffering from low voltage problem due to huge load concentration through long distance 33 kV line. Establishment of Khanakul 220/33 kV GIS will cause remarkable improvement in the voltage profile at 33 kV Bus of these Substations. After commissioning of Khanakul 220/33 kV GIS, dependency of the 33 kV Substation in the vicinity over Arambag will be reduced to a great extent. Loading of 132/33 kV Transformers in the District

can be maintained confirming N-1 contingency. Thus, the reliability of the system will be enhanced to a great extent.

2.2.5 Establishment of 220/33 kV Gas Insulated Sub-station at Khanakul is proposed to be constructed utilizing the spare able land available within 33/11 kV Substation of WBSEDCL. Permissive possession of 1.84 Acre land at Mouza – Ramnagar, J.L. No – 42 and Khanakul, J.L. No – 45, P.S. Khanakul, District Hooghly has already been taken from WBSEDCL on 23.02.2021 for this purpose.

2.2.6 The total project cost including interest during construction (IDC) of Rs. 725.42 Lakh emerges to Rs. 7952.07 Lakh as tabulated below:

Sl. No.	Description	Amount (₹ in Lakh)
1	Construction of Khanakul 220/33 KV GIS with 02 nos. of 220 KV feeder bays, 2x50 MVA, 220/33 KV Transformers, 14 nos. 33 KV feeder bays, 33 KV Earthing Transformers.	4187.20
2	Construction of S/C LILO of Arambag – Domjur 220 KV D/C Transmission line at proposed Khanakul 220/33 KV GIS (RL= 11.413 km)	2096.84
3	Total Cost (1+2)	6284.04
4	Supervision Charge	942.61
5	**Total Project Cost (3+4)**	**7226.65**
6	IDC	725.42
7	**Project Cost including IDC (5+6)**	**7952.07**

2.2.7 The project was thought to be established in the Rolling Plan of WBSETCL for the year 2024 – 25 as approved by the BOD of WBSETCL in its 69th meeting held on 12.07.2019.

2.2.8 WBSETCL has submitted that the project shall revive the transmission system in the Hoogly district by providing a reliable power to existing and future consumers, adequate power would be provided for agriculture, new small and medium industries creating more job facility, socio-economic development etc.

As submitted by WBSETCL, the constructing the new 220/33 KV GIS at Khanakul will add the following benefits:

a) Additional sale of energy by WBSEDCL in the project command area.

b) Improvement in voltage profile, stabilized system, and reduction in technical energy losses.

c) Enhancement of system reliability, reduction in customer interruption frequency index and customer interruption duration index.

d) Better power quality will promote Industrial development sector.

3.0 WBSETCL has further submitted the following:

3.1 The projects are proposed to be funded through WBSETCL's Internal Resources (IR) and through domestic borrowings. The equity component (30%) is proposed to be met through Internal Resources (IR) and the loan component (70%) through domestic borrowings from any Financial Institute. The interest during construction (IDC) is worked out with interest rate for the loan @ 9.50% for the domestic funding with a payback period of 9 years 6 months.

3.2 The unit rates for all equipment for transmission lines & substations have been considered from latest cost data (which was prepared based on the unit equipment rate obtained from Procurement Department of WBSETCL and average of unit rates of latest three LOAs and PWD rate) and are inclusive of all Taxes & Duties. For Cash flow study & IRR calculation, 15 years repayment period including Mortarium period of initial 3 years is considered. Life span of the asset is considered 25 years for the Substation asset and 35 years for the line asset. Power Map of West Bengal present and as on 31.08.2021 and 31.03.2026, single line diagram, plot plan, financial calculations, detailed estimate for Sub-station, detailed estimate for Line, Power flow study snaps-shots, approval of the projects, Technical & Administrative Approval Order are enclosed for reference.

3.3 WBSEDCL is the target beneficiary of the projects. The projects are in pre-tender engineering stage.

4.0 The Commission, after carefully analyzing, admitted the application on 17.08.2022 and directed WBSETCL to publish the gist of their application as approved by the Commission in the newspapers as also in the website of WBSETCL as per requirement of regulation 2.8.2.3 of the WBERC Tariff Regulations. WBSETCL accordingly published the gist of the application in (i) The Telegraph (ii) the Millennium Post (iii) the 'Sangbad Pratidin' and (iv) the 'Ei Samay' on 31.08.2022 and in their website on 29.08.2022 inviting suggestions and objections on their application within 21 days (including the date of publication) of publication of the notice in

Newspaper. No suggestion and objection were received by the Commission within the stipulated time-period.

OBSERVATIONS OF THE COMMISSION

5.0 The Commission observes that, in terms of Regulation 2.8.2.3 of the WBERC Tariff Regulations, approval of the Commission for investment in new transmission project is mandatory after 31.12.2007. The Commission also observes that the regulation inter-alia specifies approval of the project shall be taken before investment is made in order to minimize the investment risk.

6.0 The Commission has noted that the Khanakul 220/33 KV GIS and associated transmission system project submitted in the instant application have been considered in the perspective plan submitted by WBSETCL along with their Multi Year Tariff Application for the 7th Control Period for the years 2020 – 21, 2021 – 22 and 2022 – 23 which was approved by the Commission in the Tariff Order for WBSETCL in Case No. TP - 90/19 - 20 dated 25.06.2021 in terms of regulation 2.9.3 of the WBERC Tariff Regulations.

7.0 The Commission has noted that the Silicon Valley IT Hub 132/33/11 KV GIS at New Town AA-IIE and associated transmission system project submitted in the application have been considered in the Rolling Plan submitted by WBSETCL along with their Multi Year Tariff Application for the 8th Control Period for the years 2023 – 24, 2024 – 25 and 2025 – 26 and the tariff petition is admitted by the Commission.

8.0 Commission observes that the proposed Silicon Valley IT Hub 132/33/11 KV GIS is to be set up on 2.50 acres of vacant land of WBHIDCO and taking over of 2.50 acres of land is under process. Similarly, the proposed Khanakul 220/33 KV GIS is envisaged to be constructed on the spare 1.84 acre land available within Khanakul-I 33/11 kV Sub-station of WBSEDCL. In terms of regulation 5.11 of the West Bengal Electricity Regulatory Commission (Licensing and Condition of License) Regulation, 2013 WBSETCL is required to take prior approval from the Commission before taking over or acquiring by purchase of the land.

9.0 The Commission further observes the following:

The proposed Silicon Valley IT Hub 132/33/11 KV GIS at New Town AA-IIE will facilitate supply of adequate & quality power in IT Industry & commercial Sector in and around New Town AA-IIE.

The proposed Khanakul 220/33 KV GIS and associated transmission system will cater growing load demand in and around Khanakul, Gaurangapur, Ghoshpur Kabilpur, Natibpur, Rajhati areas in Hooghly district and will supply adequate, reliable & quality power supply in the vicinity.

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10.0 The Commission after considering all the facts and the project report submitted by WBSETCL, accords initial approval of the investment proposal in terms of regulation 2.8.2.3 of the WBERC Tariff Regulations with the details as given below subject to approval of project cost in terms of regulation 2.8.5 of the WBERC Tariff Regulations:

Sl. No.	Description	Amount (₹ in Lakh)
A	**Silicon Valley IT Hub 132/33 KV GIS at New Town AA-IIE**	
1	Construction of Silicon Valley IT Hub 132/33 KV GIS at New Town AA-IIE with 02 nos. of 132 KV feeder bays, 2x80 MVA, 132/33 KV Transformers & 14 nos. 33 KV feeder bays.	5047.91
2	Construction of 01 no. 132 KV Line bay at New Town AA-I 132 KV SS	102.67
3	132 KV S/C UG Cable line from New Town AA-I 132 KV Substation to proposed Silicon Valley IT Hub 132 KV GIS (RL=6.7 km)	4011.69
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8	IDC	1010.71
9	**Project Cost including IDC (7+8)**	**14163.93**
B	**Khanakul 220/33 KV GIS**	
1	Construction of Khanakul 220/33 KV GIS with 02 nos. of 220 KV feeder bays, 2x50 MVA, 220/33 KV Transformers, 14 nos. 33 KV feeder bays, 33 KV Earthing Transformers.	4187.20

In regard to the application submitted by the West Bengal State Electricity Transmission Company Limited (WBSETCL) for approval of incurring Capital Expenditure of an estimated cost of Rs. 22,116.00 Lakh for construction of 01 no. 132/33/11KV Gas Insulated Sub-Station at Silicon Valley IT Hub and 01 no. 220/33KV Gas Insulated Sub-Station at Khanakul & associated Transmission System in terms of regulation 2.8.2.3 and Paragraph 4.1 (vi) of Schedule – 2 of the West Bengal Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2011, as amended.

Sl. No.	Description	Amount (₹ in Lakh)
2	Construction of S/C LILO of Arambag – Domjur 220 KV D/C Transmission line at proposed Khanakul 220/33 KV GIS (RL= 11.413 km)	2096.84
3	Total Cost (1+2)	6284.04
4	Supervision Charge	942.61
5	**Total Project Cost (3+4)**	**7226.65**
6	IDC	725.42
7	**Project Cost including IDC (5+6)**	**7952.07**
	Total (A+B)	**22116.00**

11.0 The Commission also gives the following directions:

(i) For the purpose of capitalization WBSETCL will have to seek approval of the Commission for the project cost along with actual interest during construction and all actual expenditure incurred or apportioned to the project cost on account of spares, transportation, insurance, tax, establishment charges, tools and plants, audit and accounts, maintenance and losses during construction and consultancy charges and also any actual expenditure met out of contingency. WBSETCL is to provide the cost break-up of each scheme showing the actual vis-à-vis estimation included in the total project cost as above.

(ii) WBSETCL shall ensure proper metering arrangement in line with Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006 as amended from time to time and arrangement for real time data display at SLDC control room before energization of the sub-station and associated Transmission Systems.

(iii) On completion of each project WBSETCL shall submit the COD and a benefit analysis of the project separately before the Commission.

(iv) Original project cost is required to be approved in terms of Regulation 2.8.5 of the WBERC Tariff Regulations. Commission may disallow any excess of project cost on capitalization over approved cost if it finds the justifications furnished are not adequate.

(v) In case of escalation in project cost in any scheme, WBSETCL shall take due approval from the Commission before capitalization of assets.

(vi) WBSETCL shall take prior approval from the Commission before taking over or acquiring by purchase of the land at New Town AA-IIE of WBHIDCO and Khanakul 33 kV sub-station of WBSEDCL in terms of regulation 5.11 of the West Bengal Electricity Regulatory Commission (Licensing and Condition of License) Regulation, 2013

12.0 The Petition is thus disposed off. Let a copy of this order be served upon WBSETCL.

Sd/-
(PULAK KUMAR TEWARI)
MEMBER

Sd/-
(MALLELA VENKATESWARA RAO)
CHAIRPERSON

Dated: 20.02.2023

Sd/-
SECRETARY