



**ORDER
OF THE
WEST BENGAL ELECTRICITY REGULATORY COMMISSION
IN CASE NO. OA-264/17-18**

IN REGARD TO THE APPLICATION SUBMITTED BY THE WEST BENGAL STATE ELECTRICITY DISTRIBUTION COMPANY LIMITED (WBSEDCL) FOR 'IN-PRINCIPLE' CLEARANCE I.R.O INVESTMENT APPROVAL FOR INSTALLATION AND COMMISSIONING OF 1000 MW (4 X 250 MW) TURGA PUMPED STORAGE PROJECT AT PURULIA BY WEST BENGAL STATE ELECTRICITY DISTRIBUTION COMPANY LIMITED (WBSEDCL) IN TERMS OF REGULATION 2.8.1.4 OF THE WEST BENGAL ELECTRICITY REGULATORY COMMISSION (TERMS AND CONDITIONS OF TARIFF) REGULATIONS, 2011, AS AMENDED

PRESENT:

**SRI SUTIRTHA BHATTACHARYA, CHAIRPERSON
SRI DURGADAS GOSWAMI, MEMBER
SRI PULAK KUMAR TEWARI, MEMBER**

DATE: 27.09.2021



'In-principle' clearance i.r.o investment approval for Installation and Commissioning of 1000 MW (4 x 250 MW) Turga Pumped Storage Project at Purulia by West Bengal State Electricity Distribution Company Limited (WBSEDCL) in terms of regulation 2.8.1.4 of the West Bengal Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2011, as amended



FACTS IN BRIEF:

- 1.0 The West Bengal State Electricity Distribution Company Limited (in short 'WBSEDCL') has submitted a petition vide letter dated 02.11.2017 for 'in-principle' clearance in respect of investment approval for Installation and Commissioning of 1000 MW (4 x 250 MW) Turga Pumped Storage Project at Purulia by WBSEDCL in terms of regulation 2.8.1.4 of the West Bengal Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2011, as amended (in short 'Tariff Regulations'). Subsequently, WBSEDCL has submitted additional documents in regard to their petition dated 02.11.2017 through supplementary petition dated 07.08.2020 and further vide letters dated 25.01.2021 and 10.02.2021. The Commission has admitted the petition submitted by WBSEDCL on 02.11.2017 along with supplementary petition and subsequent submissions dated 25.01.2021 and 10.02.2021 (together called as the 'application') on 12.02.2021 and registered in Case No. OA – 264/17-18.
- 2.0 The application of WBSEDCL along with the Detailed Project Report (DPR) inter-alia states the following:
 - 2.1 In order to utilize pumped storage potential of Ajodhya Hills in Purulia district of West Bengal, Government of West Bengal (GoWB) has entrusted WBSEDCL to develop 1000 MW (4 x 250 MW) pumped storage project on Turga Nala in Purulia District of West Bengal to be termed as Turga Pumped Storage Project (Turga PSP). The Turga PSP is the second pumped storage project to be taken up by WBSEDCL. Purulia Pumped Storage Project was the first project and is already in operation since 2007 – 08.
 - 2.2 WBSEDCL has stated that they have taken up detailed survey and investigation for the project through Government and Semi Government agencies like Survey of India (SOI), Geological Survey of India (GSI), Central Soil and Materials Research Station (CSMRS), Central Water and Power Research Station (CWPRS), etc. Subsequently, WBSEDCL assigned the work of preparation of Detailed Project Report (DPR) to WAPCOS Ltd., a Government of India undertaking as consultant. The DPR has also been concurred by the Central Electricity Authority (CEA) in October 2016 vide OM No. 2/WB/22/CEA/2013-PAC/713-745 dated 05.10.2016.



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2.3 WBSEDCL has submitted the following salient features of the project:

- (i) Installed Capacity: 1000 MW (4 X 250 MW)
- (ii) Type: Closed Loop, Two (2) Variable Speed Pump Turbine units, Two (2) Fixed Speed Pump Turbine units;
- (iii) Peak Operating duration: 1000 MW, 5 hours daily;
- (iv) Estimated Available Annual Energy Production: 1825 MU;
- (v) Estimated Annual Pumping Energy: 2466 MU at 74% cycle efficiency;
- (vi) Availability Factor: 95;
- (vii) Auxiliary Consumption (including transformation loss): 1.2%
- (viii) Operation and Maintenance Cost: Estimated as Rs. 3.5 Lakh/ MW in first year of operation and subsequent 5% escalation per year;
- (ix) Man/ MW Ratio: 0.225

2.4 WBSEDCL submitted that, the projected cost of Turga PSP was initially considered as Rs. 4234.90 Crore which was approved by CEA considering the December, 2014 price level. The estimated cost has been escalated to Rs. 4800.69 Crore considering the October, 2016 price level as per the provision of price escalation in terms of sub-paragraph (i) of paragraph 2 of the CEA's approval dated 05.10.2016. The project cost has been tabulated below:

In Rs Lakhs			
Sl No	Particulars	CEA's Approval Dated 05.10.2016 (considering December, 2014 price level)	Project Cost submitted for approval (considering October, 2016 price level)
1	Estimated Project Cost	3795.48	4008.65
2	Interest During Construction (IDC)	439.42	642.04
3	Foreign and Local Consultancy Charges for Overall Project	-	150.00
4	Total Estimated Project Cost	4234.90	4800.69

WBSEDCL has also stated that Consultancy Charge of Rs. 150 Crore has been considered in the present project cost since the same was not considered earlier due to restriction in the CEA Guidelines. It is submitted that, the State Cabinet on 08.05.2017 approved the project with a cost estimate of Rs. 4800.69 Crore.