EXPLANATION FOR THE NOTIFICATION
ON
ESCALATION FACTORS AND OTHER PARAMETERS
FOR
TARIFF BASED COMPETITIVE BIDDING FOR TRANSMISSION SERVICE
BASED ON OLD SBDs, DATED 02.04.2024

The CERC is required to notify the escalation rate and discount rate for the purpose of bid evaluation for projects based on old SBDs and Guidelines in pursuance of paragraph 14 of the MOP Resolution dated 10th August 2021 on 'Tariff Based Competitive-bidding Guidelines for Transmission Service'. Paragraph 14 of the Resolution provides as under:

"*14. Repeal and Saving*

14.1. The "Tariff based Competitive-bidding Guidelines for Transmission Service" issued on 13th April, 2006 as amended from time to time, are hereby repealed.

14.2. Provided, however, that any agreement signed or action taken prior to the date hereof shall not be affected by such repeal of the said Guidelines of 2006 and shall continue to be governed by the Guidelines repealed hereunder."

2. In accordance with paragraph 14.2 of the MOP Resolution dated 10th August 2021 referred to above, the annual escalation rate and discount rate for the purpose of bid evaluation for projects based on old SBDs and Guidelines have been computed for the period from 01.04.2024 to 30.09.2024. The computation of the annual escalation rate and discount rate is provided in the following paragraphs.

3. Escalation Factors and other parameters for the purpose of evaluation

3.1 Escalation rate for escalable transmission charges for evaluation

The escalation rate to be applied to the quoted escalable transmission charges has been computed based on the time series data on the Wholesale Price Index (WPI) and Consumer Price Index- Industrial Workers (CPI-IW) for the past 12 years, i.e., for the period from 2012 to 2023. The data on WPI and CPI-IW has been used as published by the Ministry of Commerce & Industry and Labour Bureau, respectively. A composite series has been developed, assigning 45% weight to WPI and 55% weight to CPI, which then has been used for computing the escalation rate. The formula used for computing the escalation rate and the computation of the escalation rate is as under:

*e: annual escalation rate in percentage =g*100, where:*

g: escalation factor $= [\exp\{(6 \times \sum_{t=2}^{n} (t-1) \times \ln R_t\}/\{(n-1) \times n \times (2n-1)\}]-1$

$R_t = (Y_t/Y_1)$

Y_t = "t"th observation

Y_1 = initial observation

n = number of observations

Composite Series: Average Index for Escalable Transmission Charges					
Year	**WPI for All Commodities (Base 2011-12=100)**	**CPI for Industrial Workers (Base 2016=100)**	**Proportion of WPI Component in Total Cost**	**Proportion of CPI Component in Total Cost**	**Composite Series**
2012	105.7	72.7	45%	55%	87.52
2013	111.1	80.6	45%	55%	94.33
2014	114.8	85.7	45%	55%	98.81
2015	110.3	90.8	45%	55%	99.56
2016	110.3	95.3	45%	55%	102.03
2017	114.1	97.6	45%	55%	105.04
2018	118.9	102.4	45%	55%	109.81
2019	121.2	110.2	45%	55%	115.16
2020	121.8	116.3	45%	55%	118.80
2021	135.0	122.0	45%	55%	127.86
2022	151.3	129.2	45%	55%	139.16
2023	151.3	136.4	45%	55%	143.11

ANNUAL ESCALATION RATE FOR ESCALABLE TRANSMISSION CHARGES FOR EVALUATION						
Year No. (t)	**Year**	**Composite Series**	**Rt = Yt/Y1**	**Ln Rt**	**Year -1 (t-1)**	**Product [(t-1) x (Ln Rt)]**
1	2012	87.52				
2	2013	94.33	1.08	0.07	1	0.07
3	2014	98.81	1.13	0.12	2	0.24
4	2015	99.56	1.14	0.13	3	0.39

5	2016	102.03	1.17	0.15	4	0.61
6	2017	105.04	1.20	0.18	5	0.91
7	2018	109.81	1.25	0.23	6	1.36
8	2019	115.16	1.32	0.27	7	1.92
9	2020	118.80	1.36	0.31	8	2.44
10	2021	127.86	1.46	0.38	9	3.41
11	2022	139.16	1.59	0.46	10	4.64
12	2023	143.11	1.64	0.49	11	5.41
A = Sum of "product" column						21.41
B= 6 times (6 x A)						128.49
C= (n-1) x n x (2n-1); n = No. of Years of data = 12						3036.00
D = B/C						0.04
g (Exponential Factor) = Exponential (D) -1						0.0432
e = Annual Escalation Rate (%) = g x 100						4.32

The annual escalation rate computed in the above table (4.32%) is notified as an escalation rate for escalable transmission charges for evaluation.

3.2 Discount rate for computation of levelized transmission charges for evaluation

Weighted Average Cost of Capital (WACC) has been considered as a discount rate and computed as under:

WACC = [Cost of Debt + Cost of Equity]

Where,

Cost of Debt = [0.70 (Market Rate of Interest) X (1-Corporate Tax Rate)]

Cost of Equity = [0.30 {Risk Free Rate + b (Equity Market Risk Premium)}]

The computation of WACC can be seen in the following table.

DISCOUNT RATE TO BE USED FOR BID EVALUATION		
Weighted Values	**Cost of Debt/Equity**	**WACC (%)**
1. Cost of Debt		
0.70(Cost of Debt)x(1-CTR)	**5.30**	
2. Cost of Equity		
0.30((RF+b(ERP))	**3.95**	
Discount Rate (1+2)		**9.25**
Assumptions used for computing the Discount Rate		
Components of Debt/Equity		**Assumptions (%)**
Debt		70.00
Equity		30.00
Corporate tax rate for the assessment year 2024-25 (Effective tax rate, i.e. inclusive of cess and surcharge)		25.17
Risk-Free rate (RF)		7.45

Beta Value (b)	0.84
Equity Market Risk Premium (ERP)	6.77
Cost of Debt	10.13
Cost of Equity	13.16

The Debt and Equity of 70:30 has been assumed based on CERC norms on Debt and Equity in its 2024-29 Tariff Regulations. The effective corporate tax rate (i.e. inclusive of surcharge and cess) proposed in the Interim Union Budget 2024-25 has been used as a corporate tax rate while computing the cost of debt.

While calculating the cost of debt, the market rate of interest is linked to the marginal cost of funds-based lending rate (MCLR), which refers to the minimum interest rate of a bank below which it cannot lend, except in some cases allowed by the RBI. The market rate of interest for the year 2023 is taken as the MCLR (8.13%, i.e., average of MCLR of five major banks) + 200 basis points. The 200 basis points have been considered as per the methodology used for the notification dated 31.05.2021 (*in the context of Escalation Rates for the purpose of Evaluation as per the competitive bidding guidelines dated 22.7.2020 read with amendment dated 3.11.2020*). Accordingly, the market rate of interest has been taken as 10.13%.

The 10-year GOI securities rate for 2023 has been considered as the risk-free rate.

For the calculation of the cost of equity, the market risk premium is assumed as the difference between the expected market return and the risk-free rate. Accordingly, the market risk premium in this Notification has been arrived at by subtracting the average risk-free rate for the last 12 years from the average rate of return on the market portfolio over the past 12 years. Sensex values for the past thirteen years have been used to arrive at the rate of return on the market portfolio for the past 12 years. A historical approach has been adopted for arriving at the expected market return, assuming the expected future return to be the same as past returns.

The beta value has been computed based on the data on the Bombay Stock Exchange (BSE) Indices for Power Sector and Sensex for the year 2023.

The WACC computed in the above table (9.25%) is notified as the discount rate.

4. The explanation for the notifications dated 1.2.2012 and 31.5.2021 (see CERC website www.cercind.gov.in) provides further details such as the date of announcement of

the notification, methodology used, sources of the data used for computing the escalation factors, etc.

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