

**EXPLANATION TO  
THE NOTIFICATION DATED 8.4.2024  
ON  
ESCALATION FACTORS AND OTHER PARAMETERS**

In pursuance of Clause 5.6 (vi) of Ministry of Power’s Notification on “Guidelines for Determination of Tariff by Bidding Process for Procurement of Power by Distribution Licensees” dated 19.01.2005, as amended from time to time, and in pursuance of paragraph 5.4 and paragraph 5.5 of Ministry of Power’s Resolution dated 22.07.2020 on “Guidelines for Tariff Based Competitive Bidding Process for Procurement of Round-the-Clock Power from Grid Connected Renewable Energy Power Projects, complemented with Power from Coal Based Thermal Power Projects” read with amendment dated 03.11.2020, the Central Electricity Regulatory Commission (CERC) notifies various escalation factors and other parameters, every six months, for the purpose of payment. The escalation factors and other parameters are as under:

- i. Escalation rate for domestic coal
  - ii. Escalation rate for domestic gas
  - iii. Escalation rates for different escalable sub-components of energy charge for plants based on imported coal
  - iv. Escalation rates for inland transportation charges for coal
  - v. Escalation rates for inland transportation charges for gas
  - vi. Escalation rate for different escalable sub-components of energy charge for plants based on imported gas
  - vii. Inflation rate to be applied to indexed capacity charge component
  - viii. Inflation rate to be applied to indexed energy charge component in cases of captive fuel source
2. The escalation factors and other parameters have been computed based on the methodology/explanation published along with the notification dated 22.11.2006 and 3.7.2009, CERC Order dated 23.12.2013 in Petition No.308/SM/2013, CERC Order dated 18.10.2019 in Petition No.10/SM/2019, CERC Order dated 15.01.2020 in Petition No.11/SM/2019, and CERC Order dated 29.05.2021 in Petition No.7/SM/2021 and its Addendum dated 6.4.2022 (see CERC website [www.cercind.gov.in](http://www.cercind.gov.in) for details). Following the same, the escalation factors and other parameters for payment have been

computed for the present notification.

### 3. Escalation Factors and other parameters for Payment

The annual escalation rates for payment have been computed based on the latest available twelve month data. The steps followed while computing the escalation rates are as under.

Step 1: Average index values for the appropriate six month period computed.

Step 2: A half-yearly escalation rate is computed based on the average six month index.

Step 3: Annual escalation rate computed by multiplying half-yearly escalation rate by two.

Step 4: The annual escalation rate for parameters that require combining two or more series in a pre-determined proportion has been determined by combining each data point of two or more series in the pre-determined proportion to arrive at a composite new single series, and then the annual escalation rate has been determined.

#### (1) Escalation Rate for Domestic Coal

The escalation rate for domestic coal for payment has been computed based on the data on the Coal Price Index of CERC for the period from March 2023 to February 2024 as under.

<b>Table-1: ESCALATION RATE FOR DOMESTIC COAL</b>	
<b>Period</b>	<b>CERC Coal Price Index (2017-18=100)</b>
Mar-23	108.7
Apr-23	108.7
May-23	108.9
Jun-23	113.6
Jul-23	113.6
Aug-23	113.6
Sep-23	113.6
Oct-23	113.6
Nov-23	113.6
Dec-23	113.6
Jan-24	113.6
Feb-24	113.6
Average Index (Mar 23-Aug 23)	111.18
Average Index (Sep 23-Feb 24)	113.60

Half-Yearly Inflation	2.17%
Annual Inflation	4.35%

The above computed annual inflation (4.35%) is notified as an escalation rate for domestic coal for payment.

## (2) Escalation Rate for Domestic Gas

The escalation rate for domestic gas has been computed based on the data on consumer price of gas for the period from January 2023 to December 2023. The data has been collected from the Ministry of Petroleum & Natural Gas and GAIL (India) Ltd. A composite index, assigning a weight of 90% to Consumer Price off-shore and 10% to Consumer Price for North-Eastern States, has been developed and used for computing the escalation rate for domestic gas as under:

<b>Table-2: ESCALATION RATE FOR DOMESTIC GAS</b>			
<b>Period</b>	<b>Consumer Prices Off-shore (Landfall point and On-shore) (₹'000 cubic metre)</b>	<b>Consumer Prices for North-Eastern States (₹'000 cubic metre)</b>	<b>Composite Index*</b>
Jan-23	25267.66	15154.70	24256
Feb-23	25486.39	15285.89	24466
Mar-23	25387.67	15226.68	24372
Apr-23	20966.42	12579.85	20128
May-23	19268.34	11561.00	18498
Jun-23	19242.68	11545.61	18473
Jul-23	19223.55	11534.13	18455
Aug-23	19371.78	11623.07	18597
Sep-23	19425.95	11655.57	18649
Oct-23	19477.07	11686.24	18698
Nov-23	19491.73	11695.04	18712
Dec-23	19503.42	11702.05	18723
Average Index (Jan 23-Jun 23)			21699
Average Index (Jul 23-Dec 23)			18639
<b>Half-Yearly Escalation</b>			<b>(-)14.10%</b>
<b>Annual Escalation</b>			<b>(-)28.20%</b>
* Composite index using weight of 90% to Consumer Price Off-shore and 10% to consumer price North-Eastern States.			

The annual escalation rate computed in the above table (-28.20%) is notified as the escalation rate for domestic gas for payment.

**(3) Escalation Rate for different escalable sub-components of energy charge for plants based on imported coal**

***(3.1) Escalation Rate for Imported Coal***

The escalation rate for imported coal for payment has been computed based on the price of South African Coal, Australian Coal and Indonesian Coal for the period from March 2023 to February 2024, as per the revised formula for the composite index for imported coal specified by CERC in Order dated 25<sup>th</sup> September 2023 in Petition No. 12/SM/2023, is as under:

<b>Table-3.1: ESCALATION RATE FOR IMPORTED COAL</b>		
<b>Component Index</b>	<b>Data Series</b>	<b>Annual Escalation Rate</b>
Composite series using weight of 25% to API-3 (Price of South African Coal), 10% to API-5 (Price of Australian Coal), 16.25% to Argus ICI-3 (Price of Indonesian Coal), 16.25% to Argus ICI-4 (Price of Indonesian Coal), 16.25% to Platts CI 5000 GAR (Price of Indonesian Coal) and 16.25% to Platts CI 4200 GAR (Price of Indonesian Coal).	Weekly/Daily data from March 2023 to February 2024	(-)10.69%

The annual escalation rate computed in the above table (-)10.69% is notified as an escalation rate for imported coal for payment.

***(3.2) Escalation Rate for Transportation of Imported Coal***

The escalation rate for transportation of imported coal for payment has been computed based on the price of LSFO published by Clarksons Research [VLSFO Price at Singapore, basis maximum Sulphur content of 0.5% (\$/t)] for the period from March 2023 to February 2024 as under:

<b>Table-3.2: ESCALATION RATE FOR TRANSPORTATION OF IMPORTED COAL</b>		
<b>Component Index</b>	<b>Data Series</b>	<b>Annual Escalation Rate</b>
Singapore Bunker Price (VLSFO price, basis maximum sulphur content of 0.5%) (\$/t)	Weekly data from March 2023 to February 2024	18.25%

The annual escalation rate computed in the above table 18.25%, is notified as the escalation rate for the transportation of imported coal for payment.

### ***(3.3) Escalation Rate for Inland Handling of Imported Coal***

The escalation rate for inland handling of imported coal has been computed based on the data on WPI-all commodities and CPI-IW for the period from January 2023 to December 2023. A composite index, based on WPI-all commodities with 60% weight and CPI-IW with 40% weight, has first been developed, which then has been used for computing the escalation rate. The data on WPI and CPI-IW has been taken from the website of the Ministry of Commerce & Industry and Labour Bureau, respectively. The escalation rate for inland handling of imported coal has been computed as under:

<b>Table-3.3: ESCALATION RATE FOR INLAND HANDLING OF IMPORTED COAL</b>			
<b>Period</b>	<b>WPI (Base 2011-12=100)</b>	<b>CPI-IW (Base 2016=100)</b>	<b>Composite Index*</b>
Jan-23	150.7	132.8	143.5
Feb-23	150.9	132.7	143.6
Mar-23	151.0	133.3	143.9
Apr-23	151.1	134.2	144.3
May-23	149.4	134.7	143.5
Jun-23	148.9	136.4	143.9
Jul-23	152.1	139.7	147.1
Aug-23	152.5	139.2	147.2
Sep-23	151.8	137.5	146.1
Oct-23	152.5	138.4	146.9
Nov-23	153.1	139.1	147.5
Dec-23	151.8	138.8	146.6
Average Index (Jan 23-Jun 23)			143.81
Average Index (Jul 23-Dec 23)			146.89
Half-Yearly Inflation			2.15%
<b>Annual Inflation</b>			<b>4.29%</b>
*Composite index with weight of 60% to WPI and 40% to CPI- IW			

The annual inflation computed in the above table (4.29%) is notified as an escalation rate for inland handling of imported coal for payment.

**(4) Escalation rates for inland transportation charges for coal**

The escalation for inland transportation charges for coal has been computed based on the data on coal freight rates (Rs./Tonne) for the period from January 2023 to December 2023. The data has been collected from the Ministry of Railways. Based on the availability of data from the Ministry of Railways, the data on coal freight rates for 100 km, 125 km, 500 km, 1000 km, 2000 km, and 3000 km has been used for computing the escalation rate for inland transportation charges for coal for a distance up to 100 km, up to 125 km, up to 500 km, up to 1000 km, up to 1400 km, up to 2000 km and beyond 2000 km respectively. The escalation rate for inland transportation charges of coal for payment has been computed as under:

<b>Table-4: ESCALATION RATE FOR INLAND TRANSPORTATION CHARGES FOR COAL</b>						
<b>Period</b>	<b>Coal Freight Rate for 100 km</b>	<b>Coal Freight Rate for 125 km</b>	<b>Coal Freight Rate for 500 km</b>	<b>Coal Freight Rate for 1000 km</b>	<b>Coal Freight Rate for 2000 km</b>	<b>Coal Freight Rate for 3000 km</b>
Jan-23	216.0	389.6	1054.7	1891.8	3065.7	3787.9
Feb-23	216.0	389.6	1054.7	1891.8	3065.7	3787.9
Mar-23	216.0	389.6	1054.7	1891.8	3065.7	3787.9
Apr-23	216.0	389.6	1054.7	1891.8	3065.7	3787.9
May-23	216.0	389.6	1054.7	1891.8	3065.7	3787.9
Jun-23	216.0	389.6	1054.7	1891.8	3065.7	3787.9
Jul-23	216.0	389.6	1054.7	1891.8	3065.7	3787.9
Aug-23	216.0	389.6	1054.7	1891.8	3065.7	3787.9
Sep-23	216.0	389.6	1054.7	1891.8	3065.7	3787.9
Oct-23	216.0	389.6	1054.7	1891.8	3065.7	3787.9
Nov-23	216.0	389.6	1054.7	1891.8	3065.7	3787.9
Dec-23	216.0	389.6	1054.7	1891.8	3065.7	3787.9
Average Rate (Jan 23-Jun 23)	216.00	389.60	1054.70	1891.80	3065.70	3787.90
Average Rate (Jul 23-Dec 23)	216.00	389.60	1054.70	1891.80	3065.70	3787.90
Half-Yearly Escalation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Rate						
Annual Escalation Rate	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

The annual escalation rates computed in the above table (0.00% applicable up to 100 kms, 0.00% applicable up to 125 kms, 0.00% applicable up to 500 kms, 0.00% applicable up to 1000 kms, 0.00% applicable up to 2000 kms and 0.00% applicable beyond 2000 kms) are notified as annual escalation rates for inland transportation charges of coal for payment.

**(5) Escalation rate for inland transportation charges for gas**

The escalation rate for inland transportation charges for gas has been computed based on the data on transportation charges of gas notified by PNGRB, applicable for HVJ Integrated pipeline for the period from January 2023 to March 2023 and the transportation charges applicable for HVJ-Upgradation & DUPL-DPPL pipelines (GAIL Integrated) for the period from April 2023 to December 2023. The escalation rate for inland transportation charges for gas has been computed as under:

<b>Table-5: ESCALATION RATE FOR INLAND TRANSPORTATION CHARGES FOR GAS</b>	
<b>Period</b>	<b>Transportation charges along HVJ pipeline (`000' SCM)</b>
Jan-23	1365.39
Feb-23	1365.39
Mar-23	1365.39
Apr-23	2202.93
May-23	2202.93
Jun-23	2202.93
Jul-23	2202.93
Aug-23	2202.93
Sep-23	2202.93
Oct-23	2202.93
Nov-23	2202.93
Dec-23	2202.93
Average Charges (Jan 23-Jun 23)	1784
Average Charges (Jul 23-Dec 23)	2203
Half-Yearly Escalation	23.47%
Annual Escalation	46.94%

The annual escalation rate computed in the above table (46.94%) is notified as the escalation rate for inland transportation charges for gas for payment.

**Note:** Since 2009, the CERC has been computing the escalation rate for inland transportation charges for gas based on the data on individual pipeline tariffs published by PNGRB (transportation charges of gas along the HVJ pipeline charged by GAIL). The PNGRB, through its orders dated 22.3.2023 and 24.3.2023, has notified unit natural gas pipeline tariff of Integrated Natural Gas Pipeline (INGPL) of GAIL India Ltd and zonal apportionment of the tariff of INGPL of GAIL India Ltd. PNGRB, vide its Order dated 29.3.2023, notified Unified Tariff for 20 connected natural gas pipelines which are now part of National Gas Grid which shall be charged from customers, in addition to individual pipeline tariff which shall be paid to the pipeline entity, w.e.f. 1.4.2023. The Unified Tariff for consumers for different tariff zones is based on distance, viz., Zone 1: 300 kms, Zone 2: 300-1200 kms, and Zone 3: >1200 kms. The decision to consider the data on Unified Tariff for computing the escalation rates for inland transportation charges for gas shall be taken up separately by the Commission at an appropriate time based on the availability of data.

**(6) Escalation rate for different escalable sub-components of energy charge for plants based on imported gas**

***(6.1) Escalation rate for imported gas***

The escalation rate for imported gas for payment has been computed based on Japan/ Korea Marker (JKM) for the period from March 2023 to February 2024 in terms of the CERC Order dated 29 May 2021 in Petition No. 7/SM/2021. The data has been subscribed from Platts. The computation of the escalation rate for imported gas can be seen from the following table.

<b>Table-6.1: ESCALATION RATE FOR IMPORTED GAS</b>		
<b>Component Index</b>	<b>Data Series</b>	<b>Annual Escalation Rate</b>
LNG Japan/Korea DES Spot Crg (\$/MMBTU)	Daily data from March, 2023 to February, 2024	23.48%



The annual escalation rate computed in the above table 23.48%, is notified as the escalation rate for imported gas for payment.

**(6.2) Escalation rate for transportation of imported gas**

The escalation rate for transportation of imported gas for payment has been computed based on the price of LSFO published by Clarksons (VLSFO Price at Singapore, basis maximum Sulphur content of 0.5% (\$/t)) for the period from March 2023 to February 2024. The escalation rate for the transportation of imported gas has been computed as under:

<b>Table-6.2: ESCALATION RATE FOR TRANSPORTATION OF IMPORTED GAS</b>		
<b>Component Index</b>	<b>Data Series</b>	<b>Annual Escalation Rate</b>
Singapore Bunker Price (VLSFO price, basis maximum sulphur content of 0.5%) (\$/t)	Weekly data from March 2023 to February 2024	18.25%

The annual escalation rate computed in the above table, 18.25%, is notified as the escalation rate for the transportation of imported gas for payment.

**(6.3) Escalation rate for inland handling of imported gas**

The escalation rate for inland handling of imported gas has been computed based on the data on WPI-all commodities and CPI-IW for the period from January 2023 to December 2023. A composite index, based on WPI with 60% weight and CPI-IW with 40% weight, has first been developed, which then has been used for computing the escalation rate. The data on WPI and CPI-IW has been taken from the website of the Ministry of Commerce & Industry and Labour Bureau, respectively. The escalation rate for inland handling of imported gas has been computed as under:

<b>Table-6.3: ESCALATION RATE FOR INLAND HANDLING OF IMPORTED GAS</b>			
<b>Period</b>	<b>WPI (Base 2011-12=100)</b>	<b>CPI-IW (Base 2016=100)</b>	<b>Composite Index*</b>
Jan-23	150.7	132.8	143.5
Feb-23	150.9	132.7	143.6
Mar-23	151.0	133.3	143.9
Apr-23	151.1	134.2	144.3
May-23	149.4	134.7	143.5

Jun-23	148.9	136.4	143.9
Jul-23	152.1	139.7	147.1
Aug-23	152.5	139.2	147.2
Sep-23	151.8	137.5	146.1
Oct-23	152.5	138.4	146.9
Nov-23	153.1	139.1	147.5
Dec-23	151.8	138.8	146.6
Average Index (Jan 23-Jun 23)			143.81
Average Index (Jul 23-Dec 23)			146.89
Half-Yearly Inflation			2.15%
<b>Annual Inflation</b>			<b>4.29%</b>
*Composite index with weight of 60% to WPI and 40% to CPI-IW			

The annual inflation computed in the above table (4.29%) is notified as an escalation rate for inland handling of imported gas.

#### **(7) Inflation Rate to be applied to Indexed Capacity Charge Component**

The inflation rate to be applied to the Indexed Capacity Charge Component has been computed based on the data on WPI-All commodities and CPI-IW for the period from January 2023 to December 2023. A composite Index, based on WPI with 60% weight and CPI-IW with 40% weight, has first been developed, which then has been used for computing the escalation rate. The data on WPI and CPI-IW has been taken from the website of the Ministry of Commerce & Industry and Labour Bureau, respectively. The inflation rate has been computed as under:

<b>Period</b>	<b>WPI (Base 2011-12=100)</b>	<b>CPI-IW (Base 2016=100)</b>	<b>Composite Index*</b>
Jan-23	150.7	132.8	143.5
Feb-23	150.9	132.7	143.6
Mar-23	151.0	133.3	143.9
Apr-23	151.1	134.2	144.3
May-23	149.4	134.7	143.5
Jun-23	148.9	136.4	143.9
Jul-23	152.1	139.7	147.1
Aug-23	152.5	139.2	147.2
Sep-23	151.8	137.5	146.1
Oct-23	152.5	138.4	146.9
Nov-23	153.1	139.1	147.5
Dec-23	151.8	138.8	146.6

Average Index (Jan 23-Jun 23)	143.81
Average Index (Jul 23-Dec 23)	146.89
Half-Yearly Inflation	2.15%
<b>Annual Inflation</b>	<b>4.29%</b>
*Composite index with weight of 60% to WPI and 40% to CPI-IW.	

The annual inflation computed in the above table (4.29%) is notified as the Inflation Rate to be applied to the Indexed Capacity Charge Component.

**(8) Inflation Rate to be applied to indexed energy charge component in cases of captive fuel source**

Using the Consumer Price Index for Industrial Workers (CPI-IW), and Wholesale Price Index for all commodities and disaggregated items used in the captive mining for the period from January 2023 to December 2023, the inflation rate to be applied to indexed energy charge component in cases of captive fuel source has been computed. Before computing the escalation rate, the composite index has been arrived at by assigning a weight of 10% to WPI-All commodities; 20% to CPI-IW; 10% to WPI-Medium & heavy commercial vehicle tyres; 10% to WPI- Manufacture of other chemical products; 25% to WPI-Machinery & Equipment; and 25% to WPI-HSD Oil and the same has been used for computing the escalation rate.

Period	WPI- all commodities (Base 2011- 12=100)	CPI- IW (Base 2016=100)	Wholesale Price Index				Composite Index*
			Medium & heavy commercial vehicle tyre	Manufacture of other chemical products	Manufacture of Machinery and Equipment	High Speed Diesel Oil	
Jan-23	150.7	132.8	116.2	139.8	127.0	181.4	144.33
Feb-23	150.9	132.7	114.0	138.3	127.7	183.8	144.74
Mar-23	151.0	133.3	114.4	138.6	128.0	176.5	143.19
Apr-23	151.1	134.2	114.4	137.5	128.4	171.7	142.17
May-23	149.4	134.7	114.1	136.5	128.5	169.5	141.44
Jun-23	148.9	136.4	114.3	135.0	128.0	169.0	141.35
Jul-23	152.1	139.7	114.0	134.2	128.6	170.2	142.67
Aug-23	152.5	139.2	114.4	134.3	128.5	171.9	143.06
Sep-23	151.8	137.5	113.9	134.1	129.2	174.4	143.38
Oct-23	152.5	138.4	113.1	133.9	128.9	175.1	143.63
Nov-23	153.1	139.1	114.3	133.1	129.2	174.3	143.75

Dec-23	151.8	138.8	115.4	133.1	129.4	172.0	143.14
Average Index (Jan 23-Jun 23)							142.87
Average Index (Jul 23-Dec 23)							143.27
Half-Yearly Inflation							0.28%
Annual Inflation							<b>0.56%</b>
*Composite Index with weight of 10% to WPI- all commodities, 20% to CPI-IW, 10% to WPI- Medium & heavy commercial vehicle tyre, 10% to WPI-Manufacture of other chemical products, 25% to WPI- Manufacture of Machinery and Equipment and 25% to WPI-HSD Oil.							

The annual inflation computed in the above table (0.56%) is notified as the inflation rate to be applied to indexed energy charge components in cases of captive fuel sources.

4. The data series for API-3, API-5, Argus ICI-3, Argus ICI-4, Platts CI, Platts JKM, and Singapore VLSFO Bunker Fuel Price Index have been analysed by CERC. The data is not made available for public dissemination since it is paid for and is sourced on a single-user subscription.

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