

EXPLANATION FOR THE NOTIFICATION ON ESCALATION FACTORS AND OTHER PARAMETERS, DATED 1.10. 2014

In pursuance of Clause 5.6 (vi) of Ministry of Power (MOP) Notification dated 19.1.2005 (as amended from time to time) on “*Guidelines for Determination of Tariff by Bidding Process for procurement of Power by Distribution Licensees*”, the CERC had been notifying various escalation factors and other parameters, every six months, for the purpose of bid evaluation and payment. Clause 5.6 (vi) of the guidelines updated as on 21.7.2010, is as under:

Following shall be notified and updated by the CERC every six months:

- 1. Escalation rate for domestic coal. (Separately for evaluation and payment)*
- 2. Escalation rate for domestic gas. (Separately for evaluation and payment)*
- 3. Escalation rates for different escalable sub-components of energy charge for plants based on imported coal. (Separately for evaluation and payment)*
- 4. Escalation rates for inland transportation charges for coal (Separately for evaluation and payment)*
- 5. Escalation rates for inland transportation charges for gas (Separately for evaluation and payment)*
- 6. Escalation rate for different escalable sub-components of energy charge for plants based on imported gas. (Separately for evaluation and payment)*
- 7. Inflation rate to be applied to indexed capacity charge component.*
- 8. Inflation rate to be applied to indexed energy charge component in cases of captive fuel source.*
- 9. Discount rate to be used for bid evaluation.*
- 10. Dollar-Rupee exchange variation rate. (For the purpose of evaluation)*
- 11. Escalation for normative transmission charges (For the purpose of evaluation)”*

2. In addition to the above mentioned escalation factors and other parameters the CERC had been notifying the matrix of transmission charges and losses as per Format 5.10 & 5.11 of the RFP of Standard Bidding Document of Case-1.

3. The MOP has, vide its resolution dated 21.9.2013 and 9.11.2013, issued new guidelines for Case 2 and Case 1 respectively. As per these new guidelines, the CERC is not required to notify the escalation factors and other parameters for the purpose of evaluation. Accordingly, the Commission issued an Order (in Petition No.002/SM/2014) dated 21.2.2014 as under:

"9. We direct that the notification of escalation rates for evaluation applicable for the six months commencing 1.4.2014 and onwards shall be discontinued in accordance with the provisions discussed in Para 3 to 7 of this order."

4. However, as required under the MOP Guidelines dated 19.1.2005 (as amended from time to time), the CERC shall continue to notify the escalation rates for the purpose of payment. The explanation for the present notification applicable for the period from 1.10.2014 to 31.3.2015 is provided in the following paras.

5. The methodology for computing the escalation rate for imported coal for payment has been followed as per the CERC Order (in Petition No.308/SM/2013) dated 23.12.2013. In case of other parameters (other than escalation rate for imported coal for payment), the methodology (including basis for selection of prices/price indices, weights applied to various prices/price indices, source of the data used) for computing the escalation factors for payment for the current notification may be seen from the *methodology that was used for computing the escalation factors and other parameters published in the notification dated 24.11.2006, 3.7.2009 and 28.12.2010* (see CERC website www.cercind.gov.in).

6. The data on domestic gas prices received from Ministry of Petroleum and Natural Gas (MOPNG) is now in Dollar terms, therefore, the escalation factor on price of gas for payment has been computed based on the data on price of gas provided by MOPNG (price of gas in \$) after converting the price into rupees based on monthly average RBI reference rate for dollar.

7. Escalation Factors and other parameters for Payment

The annual escalation rates for payment have been computed based on latest twelve months data (weekly/monthly). The steps followed while computing the escalation rates are as under.

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

Step 2: A half-yearly escalation rate computed based on the average six months 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 of two or more series in 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 based on this composite new single series.

Computation of the escalation factors and other parameters for payment is as under:

(1) Escalation rate for Domestic coal component (for Payment)

The escalation rate for domestic coal for payment has been computed based on the data on WPI for Non-Coking coal for the period from July 2013 to June 2014. The escalation rate for domestic coal has been computed as under.

| Table-1: ESCALATION RATE FOR DOMESTIC COAL (FOR PAYMENT) | |
|---|------------------------------|
| Period | WPI (Non-Coking Coal) |
| Jul-13 | 177.0 |
| Aug-13 | 177.0 |
| Sep-13 | 177.0 |
| Oct-13 | 177.0 |
| Nov-13 | 177.0 |
| Dec-13 | 177.0 |
| Jan-14 | 178.1 |
| Feb-14 | 178.1 |
| Mar-14 | 178.1 |
| Apr-14 | 178.1 |
| May-14 | 178.1 |
| Jun-14 | 178.1 |
| Average Index (July 13-Dec 13) | 177.00 |
| Average Index (Jan 14-Jun 14) | 178.10 |
| Half-Yearly Inflation | 0.62% |
| Annual Inflation Rate | 1.24% |

The above computed escalation rate (1.24%) is notified as escalation rate for domestic coal for payment.

(2) Escalation rate for domestic gas (For Payment)

The escalation rate for domestic gas has been computed based on the data on consumer price of gas for the period from July 2013 to June 2014. The data has been collected from Ministry of Petroleum & Natural Gas (MOPNG) and GAIL (India) Ltd. Composite series (Average consumer price of Gas), based on Consumer Price off-shore with 90% weight and Consumer Price for North-Eastern States with 10% weight has first been developed, which then has been used for computing the escalation rate as under:

| Table-2: ESCALATION RATE FOR DOMESTIC GAS (FOR PAYMENT) | | | |
|--|--|---|--------------------------|
| Period | Consumer Prices Off-shore (Landfall point and On-shore) (₹/'000' cubic metre) | Consumer Prices For North-Eastern States (₹/'000' cubic metre) | Composite Series* |
| Jul-13 | 9038.04 | 5422.83 | 8677 |
| Aug-13 | 9557.18 | 5734.31 | 9175 |
| Sep-13 | 9639.32 | 5783.59 | 9254 |
| Oct-13 | 9316.27 | 5589.76 | 8944 |
| Nov-13 | 9470.10 | 5682.06 | 9091 |
| Dec-13 | 9360.84 | 5616.50 | 8986 |
| Jan-14 | 9385.89 | 5631.53 | 9010 |
| Feb-14 | 9412.81 | 5647.68 | 9036 |
| Mar-14 | 9225.32 | 5535.19 | 8856 |
| Apr-14 | 9125.92 | 5475.55 | 8761 |
| May-14 | 8966.92 | 5380.15 | 8608 |
| Jun-14 | 9031.28 | 5418.77 | 8670 |
| Average Index (July 13-Dec 13) | | | 9021 |
| Average Index (Jan 14-June 14) | | | 8824 |
| Half-Yearly Escalation | | | -2.19% |
| Annual Escalation | | | -4.38% |
| * Composite series 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 (-4.38%) is notified as escalation rate for domestic gas for payment.

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

(3.1) Escalation Rate for Imported Coal (For Payment)

The escalation rate for imported coal has been computed based on price of South African Coal, Australian Coal and Indonesian Coal for the period from September 2013 to August 2014. The escalation rate for imported coal for payment has been computed as under:

| Table-3.1: ESCALATION RATE FOR IMPORTED COAL (FOR PAYMENT) | | |
|--|--|-------------------------------|
| Component Index | Data Series | Annual Escalation Rate |
| Composite series using weight of 25% to API4 (Price of South African Coal), 25% to GlobalCOAL (Price of Australian Coal), 25% to Argus ICI 3 (Price of Indonesian Coal) and 25% to Platts CI (Price of Indonesian Coal). | Weekly/Daily data from September 2013 to August 2014 | -15.09% |

The annual escalation rate computed in the above table (-15.09%) is notified as escalation rate for imported coal for payment.

(3.2) Escalation Rate for Transportation of Imported Coal (For Payment)

The escalation rate for transportation of imported coal has been computed based on FOB price of 380cst Singapore bunker fuel for the period from September 2013 to August 2014. The escalation rate for transportation of imported coal for payment has been computed as under:

| Table-3.2: ESCALATION RATE FOR TRANSPORTATION OF IMPORTED COAL (FOR PAYMENT) | | |
|---|---|-------------------------------|
| Component Index | Data Series | Annual Escalation Rate |
| Singapore Bunker Price Index | Monthly data from September 2013 to August 2014 | -5.13% |

The annual escalation rate computed in the above table (-5.13%) is notified as escalation rate for transportation of imported coal for payment.

(3.3) Escalation Rate for Inland Handling of Imported Coal (For Payment)

The escalation rate for inland handling of imported coal has been computed based on the data on WPI and CPI-IW for the period from July 2013 to June 2014. Composite series, 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 Ministry of Commerce & Industry and

Labour Bureau, respectively. The escalation rate for inland handling of imported coal has been computed as under:

| Table-3.3: ESCALATION RATE FOR INLAND HANDLING OF IMPORTED COAL (FOR PAYMENT) | | | |
|---|------------|------------|--------------------------|
| Period | WPI | CPI | Composite Series* |
| Jul-13 | 175.5 | 235.0 | 199.3 |
| Aug-13 | 179.0 | 237.0 | 202.2 |
| Sep-13 | 180.7 | 238.0 | 203.6 |
| Oct-13 | 180.7 | 241.0 | 204.8 |
| Nov-13 | 181.5 | 243.0 | 206.1 |
| Dec-13 | 179.6 | 239.0 | 203.4 |
| Jan-14 | 179.0 | 237.0 | 202.2 |
| Feb-14 | 179.5 | 238.0 | 202.9 |
| Mar-14 | 180.3 | 239.0 | 203.8 |
| Apr-14 | 180.8 | 242.0 | 205.3 |
| May-14 | 182.0 | 244.0 | 206.8 |
| Jun-14 | 183.0 | 246.0 | 208.2 |
| Average Index (July 13-Dec 13) | | | 203.23 |
| Average Index (Jan 14-Jun 14) | | | 204.86 |
| Half-Yearly Inflation | | | 0.80% |
| Annual Inflation | | | 1.60% |
| *Composite series using weight of 60% to Wholesale Price Index (WPI) and 40% to Consumer Price Index (CPI). | | | |

The annual inflation computed in the above table (1.60%) is notified as escalation rate for inland handling charges of imported coal for payment.

(4) Escalation rates for inland transportation charges for coal (For Payment)

The escalation for inland transportation charges for coal has been computed based on the data on coal freight rates for the period from July 2013 to June 2014. The data has been collected from Ministry of Railways. The data on coal freight rate for 100 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 distance upto 100 km, upto 500 km, upto 1000 km, upto 2000 km and beyond 2000 km respectively. The escalation rate for inland transportation charges of coal for payment has been computed as under:

| Table-4: ESCALATION RATE FOR INLAND TRANSPORTATION CHARGES FOR COAL (FOR PAYMENT) | | | | | |
|---|---------------------------------------|--------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Period | Coal Freight Index for 100 km* | Coal Freight Index for 500 km | Coal Freight Index for 1000 km | Coal Freight Index for 2000 km | Coal Freight Index for 3000 km |
| Jul-13 | 158.9 | 610.2 | 1172.4 | 2171.7 | 2778.0 |
| Aug-13 | 158.9 | 610.2 | 1172.4 | 2171.7 | 2778.0 |
| Sep-13 | 158.9 | 610.2 | 1172.4 | 2171.7 | 2778.0 |
| Oct-13 | 160.7 | 617.0 | 1185.5 | 2195.9 | 2808.9 |
| Nov-13 | 161.6 | 620.4 | 1192.1 | 2208.0 | 2824.4 |
| Dec-13 | 161.6 | 620.4 | 1192.1 | 2208.0 | 2824.4 |
| Jan-14 | 161.6 | 620.4 | 1192.1 | 2208.0 | 2824.4 |
| Feb-14 | 161.6 | 620.4 | 1192.1 | 2208.0 | 2824.4 |
| Mar-14 | 161.6 | 620.4 | 1192.1 | 2208.0 | 2824.4 |
| Apr-14 | 161.6 | 620.4 | 1192.1 | 2208.0 | 2824.4 |
| May-14 | 161.6 | 620.4 | 1192.1 | 2208.0 | 2824.4 |
| Jun-14 | 168.0 | 628.4 | 1207.5 | 2236.6 | 2860.9 |
| Average Index (Jul 13-Dec 13) | 160.10 | 614.73 | 1181.16 | 2187.83 | 2798.62 |
| Average Index (Jan 14-June 14) | 162.66 | 621.74 | 1194.67 | 2212.76 | 2830.49 |
| Half-Yearly Escalation Rate | 1.60% | 1.14% | 1.14% | 1.14% | 1.14% |
| Annual Escalation Rate | 3.20% | 2.28% | 2.29% | 2.28% | 2.28% |
| <i>Note: The classification of Coal Freight Index has been changed from 1-100 km to 1-125 w.e.f 25.6.2014</i> | | | | | |

The annual escalation rates computed in the above table (3.20%, 2.28%, 2.29%, 2.28% and 2.28% respectively applicable upto 100 km, upto 500 km, upto 1000 kms, upto 2000 kms and beyond 2000 kms) are notified as annual escalation rates for inland transportation charges for coal for payment.

(5) Escalation rate for inland transportation charges for gas (For Payment)

The Escalation Rate for Inland Transportation Charges for Gas has been computed based on the data on transportation charges of gas along HVJ pipeline charged by GAIL for the period from July 2013 to June 2014. The data has been collected from Ministry of Petroleum & Natural Gas. The escalation rate for transportation of natural gas has been computed as under:

| Table-5: ESCALATION RATE FOR INLAND TRANSPORTATION CHARGES FOR GAS (FOR PAYMENT) | |
|---|---|
| Period | Transportation charges along HVJ pipeline (₹/1000 SCM) |
| Jul-13 | 856 |
| Aug-13 | 856 |
| Sep-13 | 856 |
| Oct-13 | 856 |
| Nov-13 | 856 |
| Dec-13 | 856 |
| Jan-14 | 856 |
| Feb-14 | 856 |
| Mar-14 | 856 |
| Apr-14 | 856 |
| May-14 | 856 |
| Jun-14 | 856 |
| Average Index (Jul 13-Dec 13) | 856 |
| Average Index (Jan 14-Jun 14) | 856 |
| Half-Yearly Inflation | 0.00% |
| Annual Inflation Rate | 0.00% |

The annual escalation rate computed in the above table (00.00%) is notified as escalation rate for transportation charges of gas.

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

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

The escalation rate for imported gas for payment has been computed based on Japan JCC LNG price for the period from September 2013 to August 2014. The data has been subscribed from Platts. The computation of escalation rate for imported gas can be seen from the following table.

| Table-6.1: ESCALATION RATE FOR IMPORTED GAS (FOR PAYMENT) | | |
|--|---|-------------------------------|
| Component Index | Data Series | Annual Escalation Rate |
| Japan JCC LNG Price Index | Monthly data from September 2013 to August 2014 | 5.56% |

The annual escalation rate computed in the above table (5.56%) is notified as escalation rate for imported gas for payment.

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

The escalation rate for transportation of imported gas has been computed based on FOB price of 380cst Singapore bunker fuel for the period from September 2013 to August 2014. The escalation rate for transportation of imported gas for payment has been computed as under:

| Table-6.2: ESCALATION RATE FOR TRANSPORTATION OF IMPORTED GAS (FOR PAYMENT) | | |
|--|---|-------------------------------|
| Component Index | Data Series | Annual Escalation Rate |
| Singapore Bunker Price Index | Monthly data from September 2013 to August 2014 | -5.13% |

The annual escalation rate computed in the above table (-5.13%) is notified as escalation rate for transportation of imported gas for payment.

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

The escalation rate for inland handling of imported gas has been computed based on the data on WPI and CPI-IW for the period from July 2013 to June 2014. Composite series, 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 Ministry of Commerce & Industry and Labour Bureau, respectively. The escalation rate for inland handling of imported gas has been computed as under:

| Table-6.3: ESCALATION RATE FOR INLAND HANDLING OF IMPORTED GAS (FOR PAYMENT) | | | |
|---|------------|------------|--------------------------|
| Period | WPI | CPI | Composite Series* |
| Jul-13 | 175.5 | 235.0 | 199.3 |
| Aug-13 | 179.0 | 237.0 | 202.2 |
| Sep-13 | 180.7 | 238.0 | 203.6 |
| Oct-13 | 180.7 | 241.0 | 204.8 |
| Nov-13 | 181.5 | 243.0 | 206.1 |
| Dec-13 | 179.6 | 239.0 | 203.4 |
| Jan-14 | 179.0 | 237.0 | 202.2 |
| Feb-14 | 179.5 | 238.0 | 202.9 |
| Mar-14 | 180.3 | 239.0 | 203.8 |
| Apr-14 | 180.8 | 242.0 | 205.3 |
| May-14 | 182.0 | 244.0 | 206.8 |
| Jun-14 | 183.0 | 246.0 | 208.2 |

| | |
|---|--------|
| Average Index (July 13-Dec 13) | 203.23 |
| Average Index (Jan 14-Jun 14) | 204.86 |
| Half-Yearly Inflation | 0.80% |
| Annual Inflation | 1.60% |
| *Composite series using weight of 60% to Wholesale Price Index (WPI) and 40% to Consumer Price Index (CPI). | |

The annual inflation computed in the above table (1.60%) is notified as escalation rate for inland handling charges of imported gas for payment.

(7) Inflation Rate to be applied to Indexed Capacity Charge Component (For Payment)

The Inflation Rate to be applied to Indexed Capacity Charge Component has been computed based on the data on WPI and CPI-IW for the period from July 2013 to June 2014. Composite series, 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 Ministry of Commerce & Industry and Labour Bureau, respectively. The inflation rate has been computed as under:

| Table-7: INFLATION RATE TO BE APPLIED TO INDEXED CAPACITY CHARGE COMPONENT (FOR PAYMENT) | | | |
|---|------------|------------|--------------------------|
| Period | WPI | CPI | Composite Series* |
| Jul-13 | 175.5 | 235.0 | 199.3 |
| Aug-13 | 179.0 | 237.0 | 202.2 |
| Sep-13 | 180.7 | 238.0 | 203.6 |
| Oct-13 | 180.7 | 241.0 | 204.8 |
| Nov-13 | 181.5 | 243.0 | 206.1 |
| Dec-13 | 179.6 | 239.0 | 203.4 |
| Jan-14 | 179.0 | 237.0 | 202.2 |
| Feb-14 | 179.5 | 238.0 | 202.9 |
| Mar-14 | 180.3 | 239.0 | 203.8 |
| Apr-14 | 180.8 | 242.0 | 205.3 |
| May-14 | 182.0 | 244.0 | 206.8 |
| Jun-14 | 183.0 | 246.0 | 208.2 |
| Average Index (July 13-Dec 13) | | | 203.23 |
| Average Index (Jan 14-Jun 14) | | | 204.86 |
| Half-Yearly Inflation | | | 0.80% |
| Annual Inflation | | | 1.60% |
| *Composite series using weight of 60% to Wholesale Price Index (WPI) and 40% to Consumer Price Index (CPI). | | | |

The annual inflation computed in the above table (1.60%) is notified as Inflation Rate to be applied to Indexed Capacity Charge Component.

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

Using Consumer Price Index for industrial workers (CPI-IW), Wholesale Price Index for all commodities (WPI-All Commodities) and disaggregated WPI series for various commodities used in the captive mining for the period from July 2013 to June 2014, 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, composite series has been arrived at by giving weight of 10% to WPI; 20% to CPI; 10% to Tyres; 10% to Matches, Explosives & Other Chemicals; 25% to Machinery & Machine Tools; and 25% to HSD Oil and the same has been used for computing the escalation rate.

| Table-8: INFLATION RATE TO BE APPLIED TO INDEXED ENERGY CHARGE COMPONENT IN CASE OF CAPTIVE MINE COAL SOURCE (FOR PAYMENT) | | | | | | | |
|---|-------|-------|-----------------------|--------------------------------------|---------------------------|-----------------------|-------------------|
| Period | WPI | CPI | Wholesale Price Index | | | | Composite Series* |
| | | | Tyres | Matches, Explosive & Other Chemicals | Machinery & Machine Tools | High Speed Diesel Oil | |
| Jul-13 | 175.5 | 235.0 | 174.4 | 150.0 | 130.8 | 212.0 | 182.69 |
| Aug-13 | 179.0 | 237.0 | 174.1 | 150.2 | 131.0 | 215.4 | 184.33 |
| Sep-13 | 180.7 | 238.0 | 175.1 | 151.1 | 131.3 | 219.8 | 186.07 |
| Oct-13 | 180.7 | 241.0 | 176.4 | 150.7 | 131.9 | 220.4 | 187.06 |
| Nov-13 | 181.5 | 243.0 | 176.7 | 150.2 | 132.4 | 222.4 | 188.14 |
| Dec-13 | 179.6 | 239.0 | 176.7 | 150.5 | 132.6 | 225.0 | 187.88 |
| Jan-14 | 179.0 | 237.0 | 176.7 | 150.2 | 132.4 | 226.6 | 187.74 |
| Feb-14 | 179.5 | 238.0 | 176.3 | 151.5 | 132.8 | 228.6 | 188.68 |
| Mar-14 | 180.3 | 239.0 | 176.2 | 151.2 | 133.2 | 231.2 | 189.67 |
| Apr-14 | 180.8 | 242.0 | 176.3 | 150.9 | 133.4 | 230.1 | 190.08 |
| May-14 | 182.0 | 244.0 | 176.2 | 151.1 | 133.8 | 232.3 | 191.26 |
| Jun-14 | 183.0 | 246.0 | 176.2 | 152.3 | 134.5 | 235.2 | 192.78 |
| Average Index (July 13-Dec 13) | | | | | | | 186.03 |
| Average Index (Jan 14-Jun 14) | | | | | | | 190.03 |
| Half-Yearly Inflation | | | | | | | 2.15% |
| Annual Inflation | | | | | | | 4.31% |
| *Composite series using weight of 10% to Wholesale Price Index (WPI), 20% to Consumer Price Index (CPI), 10% to WPI-Tyres, 10% to WPI-Matches, Explosives & other chemicals, 25% to WPI-Machinery & Machine Tools and 25% to WPI-HSD Oil. | | | | | | | |

The annual inflation computed in the above table (4.31%) is notified as inflation rate to be applied to indexed energy charge component in cases of captive fuel source.

8. The data series for API-4, Global Coal Index, Argus ICI3, Platts CI, Japan JCC LNG Price Index and Singapore 380 CST Bunker Fuel Price Index has 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.
