Appendix-1

EXPLANATION FOR THE NOTIFICATION ON ESCALATION FACTORS AND OTHER PARAMETERS, DATED 7.4. 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. The 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 **(Annexure-A)** 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 1.4.2014 to 30.9.2014 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 **(Annexure-B)**. 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 January to December 2013. 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)**
Jan-13	221.0
Feb-13	221.0
Mar-13	173.3
Apr-13	173.3
May-13	173.3
Jun-13	177.0
Jul-13	177.0
Aug-13	177.0
Sep-13	177.0
Oct-13	177.0
Nov-13	177.0
Dec-13	177.0
Average Index (Jan 13-Jun 13)	189.82
Average Index (July 13-Dec 13)	177.00
Half-Yearly Inflation	-6.75%
Annual Inflation Rate	-13.50%

The above computed escalation rate (-13.50%) 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 January to December 2013. 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*
Jan-13	8212.70	4927.62	7884
Feb-13	8130.59	4878.35	7805
Mar-13	8225.98	4935.59	7897
Apr-13	8221.61	4932.96	7893
May-13	8317.63	4990.58	7985
Jun-13	8829.67	5297.80	8476
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
Average Index (Jan 13-June 13)			7990
Average Index (July 13-Dec 13)			9021
Half-Yearly Escalation			12.90%
Annual Escalation			25.81%

* 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 (25.81%) 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)

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 March 2013 to February 2014	-5.00%

The annual escalation rate computed in the above table (-5.00%) is notified as escalation rate for imported coal for payment.

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

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 March 2013 to February 2014	1.22%

The annual escalation rate computed in the above table (1.22%) 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 January to December 2013. 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***

Jan-13	170.3	221.0	190.6
Feb-13	170.9	223.0	191.7
Mar-13	170.1	224.0	191.7
Apr-13	171.3	226.0	193.2
May-13	171.4	228.0	194.0
Jun-13	173.2	231.0	196.3
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
Average Index (Jan 13-Jun 13)			192.92
Average Index (July 13-Dec 13)			203.23
Half-Yearly Inflation			5.35%
Annual Inflation			10.69%
*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 (10.69%) 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 January to December 2013. 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
Jan-13	150.2	576.8	1108.1	2052.6	2625.6
Feb-13	150.2	576.8	1108.1	2052.6	2625.6
Mar-13	150.2	576.8	1108.1	2052.6	2625.6
Apr-13	158.9	610.2	1172.4	2171.7	2778.8
May-13	158.9	610.2	1172.4	2171.7	2778.8
Jun-13	158.9	610.2	1172.4	2171.7	2778.8
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
Average Index (Jan 13-June 13)	154.55	593.50	1140.25	2112.15	2702.20
Average Index (Jul 13-Dec 13)	160.10	614.73	1181.16	2187.83	2798.62
Half-Yearly Escalation Rate	3.59%	3.58%	3.59%	3.58%	3.57%
Annual Escalation Rate	7.18%	7.16%	7.17%	7.17%	7.14%

The annual escalation rates computed in the above table (7.18%, 7.16%, 7.17%, 7.17% and 7.14% 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 January to December 2013. 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)
Jan-13	856
Feb-13	856
Mar-13	856
Apr-13	856
May-13	856
Jun-13	856
Jul-13	856
Aug-13	856
Sep-13	856
Oct-13	856
Nov-13	856
Dec-13	856
Average Index (Jan 13-June 13)	856
Average Index (Jul 13-Dec 13)	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 March 2013 to February 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 March 2013 to February 2014	-4.77%

The annual escalation rate computed in the above table (-4.77%) 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 prices of 380cst Singapore bunker fuel for the period from March 2013 to February 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 March 2013 to February 2014	1.22%

The annual escalation rate computed in the above table (1.22%) 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 January to December 2013. 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*
Jan-13	170.3	221.0	190.6
Feb-13	170.9	223.0	191.7
Mar-13	170.1	224.0	191.7
Apr-13	171.3	226.0	193.2
May-13	171.4	228.0	194.0
Jun-13	173.2	231.0	196.3
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
Average Index (Jan 13-Jun 13)			192.92
Average Index (July 13-Dec 13)			203.23
Half-Yearly Inflation			5.35%
Annual Inflation			10.69%
*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 (10.69%) 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 January to December 2013. 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*
Jan-13	170.3	221.0	190.6
Feb-13	170.9	223.0	191.7
Mar-13	170.1	224.0	191.7
Apr-13	171.3	226.0	193.2
May-13	171.4	228.0	194.0
Jun-13	173.2	231.0	196.3
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
Average Index (Jan 13-Jun 13)			192.92
Average Index (July 13-Dec 13)			203.23
Half-Yearly Inflation			5.35%
Annual Inflation			10.69%

*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 (10.69%) 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 January to December 2013, 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**	
Jan-13	170.3	221.0	163.1	144.2	129.3	198.8	173.99
Feb-13	170.9	223.0	162.8	144.8	129.3	202.7	175.45
Mar-13	170.1	224.0	162.2	144.8	129.4	201.7	175.29
Apr-13	171.3	226.0	165.9	146.1	130.0	202.3	176.61
May-13	171.4	228.0	171.6	147.3	130.6	203.4	178.13
Jun-13	173.2	231.0	173.2	149.1	130.7	207.0	180.18
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
Average Index (Jan 13-Jun 13)							176.61
Average Index (July 13-Dec 13)							186.03
Half-Yearly Inflation							5.33%
Annual Inflation							**10.67%**
*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 (10.67%) 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.

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CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Coram:

Shri Gireesh B. Pradhan, Chairperson
Shri V.S. Verma, Member
Shri M. Deena Dayalan, Member
Shri A.K. Singhal, Member

Petition No. 002/SM/2014

Date of order: 21.02.2014

In the matter of

Requirement under the new MoP guidelines-Discontinue of notification on escalation rates for evaluation by CERC.

ORDER

Clause 5.6 (vi) of the Government of India, Ministry of Power (MoP) Notification No.23/11/2004-R&R(Vol.II) 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 enjoins on the Central Electricity Regulatory Commission (CERC) to notify the Escalation Rates for the imported coal, both for bid evaluation and payment purposes. In pursuance with the said provisions, the Commission has been notifying the escalation rates every six months.

2. The MoP has now issued new guidelines along with standard bidding documents (Model RFQ, RFP and PSA) separately for Case 2 and Case 1 bidding.

3. For Case 2 bidding, the MoP has, vide its resolution dated 21.9.2013, issued new guidelines "Guidelines for Procurement of Electricity from Thermal Power Stations set

up on Design, Build, Finance, Operate and Transfer (DBFOT) basis" subject to various terms and conditions including:

> "5. The 'Guidelines for Determination of Tariff by Bidding Process for Procurement of Power by Distribution Licensees' issued on 19th January, 2005, as amended from time to time, including the standard bidding documents issued thereunder, are hereby repealed insofar as they relate to long-term procurement of electricity through location specific, coal based power projects referred to therein as Case 2 projects. Provided, however, that any agreements signed or actions taken prior to the date hereof shall not be affected by such repeal of the said guidelines of 2005 and shall continue to governed by the guidelines repealed hereunder".

4. For Case 1 bidding, the MoP has, vide its resolution dated 9.11.2013, issued new guidelines "Guidelines for Procurement of Electricity from Thermal Power Stations set up on Design, Build, Finance, Own and Operate (DBFOO) basis" subject to various terms and conditions including:

> "5. The 'Guidelines for Determination of Tariff by Bidding Process for Procurement of Power by Distribution Licensees' issued on 19th January, 2005, as amended from time to time, including the standard bidding documents issued in 2009 and amended from time to time thereunder, are hereby repealed insofar as they relate to long-term procurement of electricity where the location technology, or fuel is not specified by the procurer referred to therein as Case 1 projects. Provided, however, that any agreements signed or actions taken prior to the date hereof shall not be affected by such repeal of the said guidelines of 2005 and shall continue to governed by the guidelines repealed hereunder".

5. As mentioned in the Overview of the Model Power Supply Agreement (MPSA), the Utility shall pay to the Supplier a **Fixed Change determined through competitive bidding** for availability of the Power Station. In case of Case 2, the Fixed Charge determined for each accounting year shall be revised annually to reflect 30 per cent of the variation in a composite index comprising Wholesale Price Index (WPI) and Consumer Price Index (CPI). In case of Case 1, the Fixed Charge determined for each

accounting year shall be revised annually to reflect 30 percent of the variation in WPI. Therefore, the escalable component of the fixed chares is taken care.

6. As per the MPSA, Fuel charge is the amount payable by the utility to the Concessionaire for the fuel utilized in generation of electricity. **Fuel Charge is a pass through**, subject to appropriate safeguards, which would address a major risk faced by power produces due to uncertainty relating to fuel prices over the medium and long term. The framework contained in the MPSA provides alternative formulations for determination of fuel costs depending on the source and pricing of fuel supplies. Four alternative sources of fuel (i) Concessional fuel from Coal India, (ii) fuel from captive mines, (iii) fuel through imports and (iv) fuel through imports from captive mines situated outside India have been dealt in the bid documents. Therefore, the escalation rates for domestic/imported coal/gas are not required to be notified.

7. As required under Appendix-I of Model RFP for PSA, the bidders submit their bid and offer in accordance with the provisions of the PSA and Clause 3.5 of the RFP (A Tariff of ₹…. comprising a Fixed charge of ₹…. per kWh and Fuel Charge of ₹…. per kWh) as on the bid due date, on the express understanding that the Lowest Bidder shall be selected on the basis of the lowest tariff offered. There is no levelised tariff quoted by the bidders, therefore, Discount Rate, Dollar Rupee Exchange Rate variation, Escalation for Transmission Charges, etc. are not required to be notified.

8. As mentioned in the above paras, as per the new MoP guidelines, no escalation rates are required to be notified by CERC. However, for agreements signed or actions

taken prior to the date of these new guidelines, the escalation rates for payment are required to be notified by CERC (i.e. under MoP guidelines of 2005).

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.

Sd/-	Sd/-	Sd/-	Sd/-
(A.K. Singhal)	**(M Deena Dayalan)**	**(V.S. Verma)**	**(Gireesh B. Pradhan)**
Member	**Member**	**Member**	**Chairperson**

CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Coram:
Shri Gireesh B.Pradhan, Chairperson
Shri V.S. Verma, Member
Shri M. Deena Dayalan, Member
Shri A.K. Singhal, Member

Suo Motu Petition No. 308/SM/2013

Date of order : 23.12.2013

In the matter of

Development of Modified Composite Index for Imported Coal for Payment Purposes.

ORDER

Clause 5.6 (vi) of the Government of India, Ministry of Power (MOP) Notification No. dated 19.01.2005 (as amended from time to time) on Guidelines for Determination of Tariff by Bidding Process for Procurement of Power by Distribution Licensees enjoins on the Central Electricity Regulatory Commission (CERC) to notify the Escalation Rates for the imported coal, both for bid evaluation and payment purposes. In pursuance with the said provisions, the Commission has been notifying the escalation rates every six months.

2. For payment purposes, the Commission uses a composite index for imported coal that considers the Australian Coal and South African Coal. In view of predominant share of Indonesian coal in steam coal imports, and based on feedback from stakeholders on need for inclusion of Indonesian coal in the composite index, a need was felt to modify the 'composite index' to include Indonesian coal. Accordingly, a revised methodology for computing the Composite Index and escalation was prepared as under:

"1.5 Development of the Modified Composite Index (modified) for imported coal for payment purposes- proposed methodology

Latest data for one year is sufficient for computing the escalation rate for imported coal sub-component for the purpose of payment. The composite index, that currently includes only Australian and South African Coal prices, is proposed to be modified to include Indonesian coal prices in the index.

The data on import of steam coal in India from various countries for the last three years (2010-13) can be seen in the Appendix B to this Annexure. It can be observed from the table in the Appendix that in 2010-11, about 73% coal was imported from Indonesia and 24% from South Africa. Data on average import of steam coal for the last 3 years shows about 76% from Indonesia and 19% from South Africa. The import from Australia was 1%, the average for last three years.

Considering the above import statistics and other criteria (stated below), it is proposed to reconstitute the Composite Index as follows:

(i) Weight assignments: 50% weight to Indonesian coal- Platts Indo Coal index, 25% weight to South African Coal- API 4 index, and 25% weight to Australian Coal (with 12.5% weight each to Coalfax index and Global COAL index). Both Coalfax and GlobalCOAL are currently in use.

(ii) Calorific value harmonization across indices and normalization: Indonesian coal calorific values given in the Platts index are on gross as received (GAR) basis, and that of API-4, Coalfax and Globalcoal are on gross air dried (GAD) basis. To maintain consistency, Indonesian coal calorific value was also converted to GAD basis. Considering that available API-4, Coalfax, GlobalCOAL, and Platts-Indo Coal indices are for 6000, 6700, 6700, and 5900 Kcal/ kg coals, and whereas, steam coal imports from Indonesia for use in power plants can be of different caloric values but in all likelihood not exceed 5000 Kcal/ kg, it is proposed to

normalize the indices for 5000 Kcal/kg. Since indices are actually real prices, normalization can be done easily.

(iii) The Australian coal index is proposed to be retained in the composite index despite insignificant steam coal imports. This is because many contracts still use Australian coal index, and it keeps open the possibility of use of Australian coal. Australian coal index is acceptable for a variety of contracts- future coal contracts for example. It can also help diversify the supply sources.

(iv) The composite index can be reviewed periodically and indices of other coal exporting countries added once they have at least 10% share in the coal imports in India, and subject to availability of reliable price indices as per the requirement. "

3. Comments/suggestions/objections of the stakeholders and other interested persons on the above revised methodology were invited through a public notice dated 18.6.2013. In response to the public notice, the comments/suggestions have been received from the following:

(i) L&T Power Development
(ii) Adani Power Ltd.
(iii) GMR Energy Ltd.
(iv) Thermal Powertech Corporation India Ltd.
(v) IL&FS Energy Development Company Ltd.
(vi) Platts
(vii) Argus Media Ltd
(viii) IHS McCloskey

4. The comments submitted by these stakeholders are discussed in brief in the following paras (para 4.1 to 4.8).

4.1 L&T Power Development

(i) The rationale for selecting the Platts Indo coal Index needs to be further elaborated. Also, the justification for selecting Platts Indo coal Index over other leading indices published by Argus, McCloskey etc. needs to be provided.

(ii) Since the source country of coal and index may be different, key requirement is historical validation and credibility of the Index.

(iii) Considering the lack of transparency in the Indonesian coal market, the proposed composite index should include 30% weight to Indonesian Coal, 30% weight to Australian COAL (15% weight to GlobalCOAL index and 15% weight to Coalfax) and 40% weight to South African Coal (API4).

4.2 Adani Power Ltd.

(i) Escalation rates should be country specific, depending on actual import of coal, namely, HBA Index for Indonesian coal, API4 index for South African coal, and Coalfax and GlobalCOAL index for Australian Coal.

(ii) If any seller uses two or more types of coal, then the Commission should publish a composite methodology, which should cover the impact of actual import from the respective coal sourcing country.

(iii) The reason for proposing separate escalation index is that it will give the actual escalation index and there will be no loss or no gain for the seller and actual benefit will be passed on to the energy consumer.

4.3 GMR Energy Ltd.

(i) Majority of the power producers are using Indonesian Coal, therefore, it is important that the proposed index should fully capture the price movements of actual imports.

(ii) The proposed composite index should include 75% weight to Indonesian Coal (Platts Indo Coal Index), 12.5% weight to South African Coal (API4 Index) and 12.5% weight to Australian Coal (New Castle Index)

4.4 Thermal Powertech Corporation India Ltd

(i) CERC, in the proposed index, has reduced the weight to Australian coal from 50% to 25% based on coal imports from Australia to India. However, the international coal contracts (especially Indonesian miners) prefer Australian New Castle index for benchmarking. Thus, in spite of lower physical delivery of coal from Australia, CERC composite index should retain higher percentage for Australian coal index.

(ii) The proposed composite index should include 50% weight to HBA index, 25% weight to API4, and 25% weight to Global COAL New Castle index. This is proposed for the following reasons:

(a) Post 2011, change in Indonesian regulations have made it mandatory to use HBA for all future exports from Indonesia.

(b) Internationally, miners prefer Global COAL New Castle Index for benchmarking medium to long term coal contracts. For instance, in 2012, TPCIL has signed 10 year coal contract with Indonesian miner benchmarked at New Castle Index.

(c) The usage of Barlo Joankar Index (BJI), i.e. for Australian coal, has been reduced in the international coal market, therefore, it is proposed to replace the BJI with Global COAL New Castle Index.

4.5 IL&FS Energy Development Company Ltd

(i) The Commission may notify the escalation rates for all the major indices individually and discontinue the composite index. The country specific escalation rates can be used for both evaluation and payment purposes. This would induce transparency and minimize the fuel cost risk for bidders and thus avoid artificial increase in the bid price due to such perceived risk.

(iii) Use of individual indices will result in accurate and transparent calculation of costs for the benefit of all stakeholders.

4.6 Platts

(i) ***Recommended Composite Index:*** The proposed composite index should include 60% weight to Indonesian coal (30% to FOB Kalimantan 5000 KCal/kg GAR and 30% to FOB Kalimantan 4200 KCal/kg GAR), 20% weight to South African Coal (FOB Richards Bay 6000 KCal/kg NAR), 20% weight to Australian Coal (10% to FOB Newcastle 6000 KCal/kg NAR and 10% to FOB Newcastle 5500 KCal/kg NAR).The reasons for recommending this composite index are as under:

(a) This has the benefit of increasing Indonesian participation to a realistic, yet conservative measure and also balances the escalation index with a portfolio of higher quality coals.

(b) The Australian component was evenly split between the GlobalCOAL FOB Newcastle 6000 kcal/kg NAR and the more liquid Platts FOB Newcastle 5500 NAR kcal/kg index. This will ensure that the Australian component will reflect the current export strategy and buying behaviour of Asian consumer nations.

(c) This basket of indices achieves a balance between the existing benchmarks and the current establishment of indices representing lower calorific value coals.

(ii) ***Why include Platts Kalimantan 5000 and 4200 kcal/kg GAR indices?:*** Platts is a trusted source for information and accounts for 25% of the Indonesian government's royalty system, the HBA. The vast majority of Indonesian exports is attributed to the growth in lower calorific coal, particularly in grades from 4200 to 5000 GAR.

(iii) ***Why reduce the higher calorific value component?:*** Reduction in South African input to 20% is in line with the smaller role it is playing in India's import

strategy. The share of Indian imports from South Africa declined to 15.91% in 2012, from 18.5% in 2011 and 23.55% in 2010.

(iv) Why include the Platts FOB Newcastle 5500 NAR index?: Platts were the first to acknowledge the emergence of a second thermal coal market in Australia with the launch of a FOB Newcastle 5500 kcal/kg NAR index. This market has since become the centre of liquidity for Australian exports and Platts is the only provider with two full years of historic data. The Platts index considers not only volumes traded to China but also volumes traded to Korea, Taiwan and increasingly to Japan.

(v) Why reduce the globalCOAL FOB Newcastle index?: Japan is the primary buyer for FOB Newcastle 6000 kcal/kg NAR coal and they do so on annual and term contracts. This has reduced spot market liquidity to the lowest levels in six years, and has caused periods of great volatility that are not reflective of movement in any other market, including the Platts FOB Newcastle 5500 kcal/kg NAR index.

4.7 Argus Media Ltd

Argus Media Ltd has proposed the inclusion of an Argus price assessment in the revised Composite Index for imported Indonesia coal (Indonesian Coal Index (ICI-3 5000 GAR) for the following reasons:

(i) The ICI index series is the most widely accepted price reference for Indonesian coal since June 2006. The ICI (ICI-1 for 6500 kcal thermal coal) is the driver for official Indonesian HBA (or known also as Indonesia Coal Price Reference, ICPR).

(ii) ICI has drawn strong attention and support from the Indonesian government and the Indonesian Coal Mining Association (ICMA), as well as from the market.

Companies in more than 30 different countries currently subscribe to the ICI indices.

(iii) ICI is used to calculate the Domestic Market Obligation (DMO) for Indonesian coal producers.

(iv) Most of the coal imported by India from Indonesia is of a lower CV than 6500 kcal. In fact, much of it is below 5000 kcal. Nevertheless, Argus suggests that 5000 kcal is a more appropriate price reference to track Indonesian coal shipments to India, as it reflects more closely the typical grade of coals being supplied.

(v) ICI-3 specifications were developed in collaboration with Indonesian exporters and purchasers of the grade.

4.8 IHS McCloskey

(i) Basis for the Composite Index

(a) Traditionally 6000 kcal NAR has been the international benchmark pricing basis. Since 2009 the international coal market has moved away from the standard 6000 kcal NAR to the use of lower grade coals. Other than Japan, Asia is largely dominated by demand for low CV bituminous and sub-bituminous coals.

(b) There are separate markets for different grades of coal and as such price movement can be independent of each other. This means that while the price may rise for the 6000 kcal/kg NAR Australian market, for example, the price could be falling in the market for 4900kcal/kg Indonesian coal. This is commonly termed “basis risk” and so when measuring escalation costs a high CV coal may not reflect price movement in the lower CV coals.

(c) As the Indian market largely takes lower grade coal, IHS has suggested 5500 kcal NAR (which may become the regional Asian standard) or 4900 kcal/5000 kcal NAR, which might be more appropriate for India.

(d) Most state generators, through PSU trading companies, evaluate imported coal on a 6300 kcal GAD basis. This is roughly equivalent to 5500 kcal NAR. However, the actual CV of the coal awarded is much lower, typically around 4900 kcal NAR.

(e) IHS has recommended using NAR as the basis as opposed to GAR or GAD. GAR is popular for pricing Indonesian coals. NAR is used by China and Korea, and the wider international market.

(f) While Indonesia has largely been dominated by GAR, it has quickly adopted NAR when selling to China and Korea, and in the current economic landscape, the buyer is increasingly setting the terms of reference. Private Indian buyers tend to buy GAR for lower CV coal and NAR for high CV coal (especially out of South Africa).

(ii) Price origin composition of the Composite Index:

(a) The composition of the Composite Index should be 50% Indonesian coal index, 25% South African coal index and 25% Australian coal index.

(b) The Indonesian coal should be a lower CV coal (4900 kcal/5000 kcal NAR) to represent the base load of imported Indonesian coal.

(c) South African imports do represent around 25% of Indian imports and so should still be included for a 6000 kcal NAR basis coal. API-4 represents a physical liquid market that has a highly visible spot trade and is an internationally accepted index that underpins a large OTC financial swap market. In addition, a very sizeable number of physical supply agreements use this index to price on a floating basis.

(d) Even though Australian imports are very small, they should be included for three reasons:

(i) Imports from Australia is closely linked to the very competitive Chinese (5500 kcal NAR) CFR market, which is currently the '*de facto'* Asian delivered pricing point for this quality of coal.

(ii) New developments in Queensland will see significant volumes of this quality coal emerge from Australia.

(iii) Coal from Australia will undoubtedly price into the Indian market in the future.

(iii) Recommended Indices for use in the Composite Index

(a) The IHS McCloskey indices (including the APIs, which are a joint venture with Argus) should be adopted for the Composite Index as they are transaction based indices that are already used by the coal market to settle physical and OTC financial swap contracts.

(b) Their credibility is further underlined by the fact that major exchanges have adopted these indexes for clearing (Chicago Mercantile Exchange, SGX, Intercontinental Exchange, London Clearing House).

(c) The recommended composite index should include IHS McCloskey Sub-bituminous marker (4900 kcal/kg NAR) for Indonesian coal, API-4 (6000 kc/kg NAR) for South African coal, and API-5 (5500 kcal/kg NAR) for Australian coal.

5. The comments of the stakeholders as discussed in paras 4.1 to 4.8 are mainly from the generating companies and price index developers. Keeping in view the requirements for wider public consultation on such an important issue, the Commission conducted a public hearing on 30.7.2013. About 43 representatives from various organizations attended the public hearing. Oral submissions were made by the representatives of the following organizations:

(i) Adani Power Ltd (APL)

(ii) Thermal Powertech Corporation India Ltd (TPCIL)

(iii) Jaiprakash Power Ventures Ltd (JPEL)

(iv) Lanco for Udupi Power Corporation Ltd (UPCL)

(v) L&T Power Development (L&T)

(vi) MP Power Management Company Ltd (MPPMCL)

6. The submissions made during the public hearing are briefly discussed in the succeeding paragraphs.

6.1 ***Adani Power Ltd (APL):*** The representative of APL has submitted that existing methodology does not capture the Indonesian indices, though Indonesia is the biggest coal sourcing country for Indian power sector. The proposed methodology does not capture HBA which is the basis for import of coal for Indian market. The representative of APL emphasized three points in his presentation:

(i) Proposed country specific price index instead of composite index should be adopted;

(ii) The index should be on actual imports basis; and

(iii) Platts Indo Coal to be replaced by HBA index for Indonesian coal since it forms basis of import of coal from Indonesia.

6.2 ***Thermal Powertech Corporation India Ltd (TPCIL):*** Representative of TPCIL, in his presentation, made the following points:

(i) The composite index should include 50% weight to Indonesian coal index (HBA), 25% weight to South African coal index (API-4) and 25% weight to Australian coal index (GlobalCOAL, New Castle). Barlow Joankar Index (BJI), which is presently used for Australian coal in the composite index, is rarely used in the international market, therefore, it may be removed from the composite index.

(ii) Escalation for the purpose of payment as computed by CERC as per the methodology at present is based on past one year data (i.e. variation in the current 6 months average index with the previous 6 months average index) is not capturing the actual monthly escalation. Therefore, true up mechanism should be introduced for the purpose of payment to capture the actual escalation. Alternatively, the representative of TPCIL also proposed that CERC should

publish quarterly notification in place of half-yearly notification with 3 monthly escalation values applicable for the following 3 months. He submitted that this would reduce the time lag and align the cost to the payment for each month.

(iii) In the "CERC Notification on escalation factors" escalation for evaluation is high whereas the escalation for payment purpose is negative during the same period. The representative of TPCIL proposed that escalation based on domestic coal should be used for imported coal for the purpose of bid evaluation.

6.3 ***Jaiprakash Power Ventures Ltd (JPVL):*** Representative of JPVL agreed with the proposed composite index. However, he pointed out that the composition is not reflecting the coal imports in India. He submitted that API prices are the key indices used for international coal business. In case of coal calorific value, NAR may be considered in place of GAD.

6.4 ***Udupi Power Corporation Ltd (UPCL):*** Representative of UPCL submitted that HBA itself is a composite index and is used for the purpose of royalty and taxation in Indonesia. However, it should be used for computing the escalation for payment purpose.

6.5 ***L&T Power Development (L&T):*** Representative of L&T agreed with proposed composite index.

6.6 ***MP Power Management Company Ltd (MPPMCL):*** Representative of MPPMCL proposed that the composite index should be based on imports of coal in India.

7. We have considered the submissions of the stakeholders as summarised in the preceding paragraphs. The following broad points can be inferred:-

(a) Weight assignments: The stakeholders have suggested different composite index by assigning specific weights to various price indices. Some of the generating companies have suggested country specific index in place of composite index. All three index developers (Platts, Argus and IHS

McCloskey) have recommended their own index for Indonesian coal to be incorporated in the composite index.

(b) *Calorific value harmonization across indices and normalization: P*rice index developers as well as generating companies have suggested calorific value harmonization across indices and normalization.

(c) *Australian coal index in the composite index:* Since there are no imports from Australia to India, some of the stakeholders have suggested removal of the Australian coal index in the composite index, whereas some others have suggested that the Australian coal index is to be retained in the composite index despite insignificant steam coal imports since a large number contracts still are based on Australian Index. Most of the stakeholders have suggested for removal BJI from the composite index, since it is no more relevant due to very low trade.

(d) *Review of composite index:* All the stakeholders have suggested for review of the composite index periodically. L&T Power Development has suggested that it should be mandatory to review the Composite Index every year.

8. The Commission, after considering the views received in response to the public notice during the public hearing and considering the composition of steam coal imports into India, and the importance and acceptability of indices in international contracts has decided that the weights and corresponding indices shall be as under:

(A) *Weight Assignments:* The weights of different coal in the composite index shall include 25% Australian Coal, 25% South African Coal, and 50% Indonesian Coal. Australian coal has been retained in the composite index despite very low volume of consumption in India due to its liquidity, acceptability for contracts, and possibility of increased use of Australian coal in future.

(B) *Indices:* The following indices shall be used for computing escalation rates for imported coal:-

(a) *South African Coal:* API4, a well-established index, and used widely for contracts, shall continue to be used as the representative index for South African Coal with weightage of 25%.

(b) *Australian Coal:* In case of Australian Coal, NEX index (also referred as Coalfax), which had a 12.5% weight in the existing composite index, is no more relevant due to its low liquidity. The other Australian Coal Index, Global COAL, 6000 Kcal/ kg on NAR basis also has 12.5% weight in the existing composite index. Actual coal imports in Asian countries are around 5500 Kcal/kg or lower (on NAR basis). Correlation between prices of higher calorific value Australian Coal and low calorific value Indonesian coal is weak, and therefore, availability of low calorific value Australian Index was also explored. From the information made available to the Commission by index publishers (Platts, Argus, and IHS McCloskey), the following low calorific value indices are available;

(i) API5 index launched by Argus and IHS McCloskey in May 2012, evaluated on 5500 Kcal/ Kg NAR basis.

(ii) Platts Newcastle index 5500 kcal/kg NAR basis, launched in January 2012, primarily in response to Chinese imports of Australian Coal.

Considering that both indices are of recent origin, it is considered prudent to watch their performance and acceptability over a period of time before a switch over can be made. Accordingly, Current GlobalCOAL Newcastle index shall continue to be used with the 25% weight assigned to Australian coal.

(C) Indonesian Coal: The following relevant indices are available for Indonesian coal:

(i) Argus: Indonesian Coal Index (ICI3), 5000 Kcal/kg GAR, launched in June 2006. Argus has other Indonesian coal indices as well, including ICI4, 4200 Kcal/kg GAR, launched in August 2008, and ICI5, 3400 Kcal/kg GAR coal launched in November 2011.

(ii) Platts: FOB Kalimantan 5000 kcal/kg GAR, launched in 2006 and FOB Kalimantan 4200 kcal/kg GAR, launched in June 2012.

(iii) IHS McCloskey: Indonesian Sub-bituminous marker, 4900 Kcal/kg NAR, launched in 2002.

(iv) Government of Indonesia: HBA Index 6322 Kcal/kg GAR, available since January 2009.

Since weight of the Indonesian coal in the composite index is substantial (50%), it has been decided to use indices from two publishers, with 25% weight for each. However, as far as consideration of individual indices is concerned, it is noticed that HBA index is only benchmark price, relevant for the purpose of royalty payment to the Government of Indonesia. HBA itself is a composite index which includes ICI-1 of Argus, Platts-1, New Castle Export index (NEX), New Castle GlobalCOAL index etc. Therefore, we have decided not to include HBA index in the composite index to be notified by CERC. IHS McCloskey Indonesian coal index (4900 Kcal/kg NAR) is available since 2002. However, keeping in view the representative index for import of coal from Indonesia to India (Calorific value of coal at 5000 Kcal/kg GAR or less), it has not been considered. Argus has an added advantage of having a local partner (Coalindo) in Indonesia, and the index captures assessment by both of them. The ICI-1 of Argus is the driver for official Indonesian HBA and is having 25% share in HBA. ICI is used to calculate the Domestic Market Obligation (DMO) for Indonesian coal producers. Platts has its own merit as it has developed an index for India i.e. for both eastern coast and western coast. Moreover, Platts accounts for 25% of the Indonesian government's

royalty system, the HBA. Both Argus and Platts are having 5000 Kcal/kg GAR index with good history since 2006. Considering the relative merits of the above indices, the indices published by Platts (5000 Kcal/kg GAR) and Argus (ICI3, 5000 Kcal/kg GAR) shall be included for the Indonesian coal for 25% each.

9. Two other issues need clarification in the contest of the indices decided by us in this order :

(a) *Coal measurement:* We notice that NAR (net as received) is now most internationally used as the basis for coal pricing. Though GAR (gross as received) is more in use in Indonesia, it is noticed that Indonesia has adopted NAR while selling coal to China and Korea, who prefer NAR as the basis. API4 (South African coal index) and globalCOAL (Australian Coal Index), both constituents of the composite index, also use NAR as the basis. Therefore, to maintain consistency across indices being used, and considering international trend, NAR shall be used as a basis for the indices.

(b) *Calorific value harmonization across indices and normalization:* Calorific values shall be harmonized across indices by normalizing the values for 5000 Kcal/Kg by assuming a linear trend across indices of different calorific value of coal.

10. A suggestion was made by some of the stakeholders to use country specific indices. We have considered the suggestion and are of the view that country specific indices may not always be available, or reliability could be an issue. Moreover, the rationale for using composite index instead of country specific index is to induce efficiency in procurement and diversification of supplies. As regards the suggestion for prudence review of indices, we are of the view that the composite index shall be reviewed and revised as and when the need arises.

11. We direct that the escalation rates for the six months commencing 1.4.2014 shall be notified in accordance with the Composite Index discussed in Para 8 of this order.

Sd/-	Sd/-	Sd/-	Sd/-
(A.K.Singhal)	**(M. Deena Dayalan)**	**(V.S.Verma)**	**(Gireesh B.Pradhan)**
Member	**Member**	**Member**	**Chairperson**

ANNEXURE

Stakeholders Present :

1 Shri V.Jayakumar, TANGEDCO
2 Shri Dr.Ashish Voerma
3 Shri H.S.Thakur, MPPGCL
4 Shri M.J.Parekh, GSECL
5 Shri A.J.Mehta, GSECL
6 Shri G.P.Verma, UPRVVNL
7 Shri K.M.Seam, Videocon Industries Ltd
8 Shri Amber Atal, Videocon Industries Ltd
9 Shri Ramulla, UPCL
10 Shri R.Parthasarathy, UPCL
11 Shri S.K.Bagat, Jaipee Group
12 Shri R.S.Kaushal, HPGCL
13 Shri Paramjeet Singh, PSPCL
14 Shri Kedar Guttikar, TPCIL
15 Shri Rajesh Bharadwaj, NTPC TNECL
16 Shri Deep Gupta, Adani Group
17 Shri Manoj Malviya, Adani Enterprise Ltd
18 Shri Namrata Mukherjee, IL&FS Energy Devt.co.Ltd
19 Shri Neha Deshwal, IL&FS Energy Devt.co.Ltd
20 Shri Biswadeep Parida, NTPC
21 Shri Ajasra Gupta, MPPMCL
22 Shri N.K.Gupta, Jaypee Group
23 Shri A.K.Datta, Mallicka Bezbaruah
24 Shri Ashok Shukla, Jaipee Group
25 Shri T.Sanwappa, KPCL
26 Shri G.A.Purushotham, KPCL
27 Shri T.Sudarshan, KPCL
28 Shri R.B.Sharma, GRIDCO
29 Shri P.K.Pradhan, GRIDCO
30 Shri S.R.Sarma, GRIDCO
31 Shri R.K.Bhat, THDCIL
32 Shri Anand Mohan, THDCIL
33 Shri Sameer Ganju, Adani Power
34 Shri Vipul Jadhav, Adani Power
35 Shri S.K.Mehta, CSPGCL
36 Shri P.J.Jani, GUVNL
37 Shri A.K.Sidhwani, MPPGCL
38 Shri G.S.Mandal, SJVNL
39 Shri Devendra, L&T
40 Shri Saurabh Gandhi
41 Shri Kuldeep Saini, HPPC
42 Shri Vikrant Saini, HPPC
43 Shri D.V.S.S.Rao