



**ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION**

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O.P. No.54 of 2013 (Suo-moto)

**Draft proposals for determining the methodology of cross subsidy and  
levy of cross subsidy surcharge for the year 2013-14**

Cross subsidy surcharge is computed as the difference between (i) the tariff applicable to the relevant category of consumers and (ii) the cost of the distribution licensee to supply electricity to the consumers of the applicable class and the surcharge is applicable to open-access consumers as per E.A. sec-42.

The Commission determined the cross subsidy and passed order for the financial year 2006-07 (Op No.13/2006) on Dt.29.08.2006. This order was passed after National Tariff Policy Dt: 6<sup>th</sup> January 2006 of Government of India had come into effect. The methodology followed for determining the tariff for 2005-06 & 2006-07 is based on the embedded cost methodology. The Government of Andhra Pradesh had also suggested to follow the embedded cost methodology for determination of Cross-subsidy surcharge. The same methodology is being followed by Commission even for determination of annual tariff each year, through Tariff Order from the inception.

Aggrieved by this Order for 2005-06 M/s R.V.K Energy Pvt Ltd, M/s.Venkataraya Power Pvt Ltd and many others had gone in appeal against the order on adoption of methodology and resultant Cross-subsidy surcharge determined. At present, the matter is pending for orders before the Hon'ble Supreme Court.

Commission gave a provisional order (in Op No.5 of 2007) for the year 2007-08, dt.28.03.2007 to extend the applicability of the rates of surcharge/ additional surcharge already specified for the year 2006-07 from 1<sup>st</sup> April, 2007 onwards till the Commission passes a final order on the proceedings already initiated.

There were no Cross-subsidy surcharge orders for the years from 2007-08 to 2012-13, until the orders were passed by the Commission on Dt:26.10.2012. The Commission had followed the embedded cost methodology for the purpose of determination of cross-subsidy surcharge for all the years from 2007-08 to 2012-13. These orders were issued so as to enable the Distribution Companies to collect the cross-subsidy surcharge from the open access consumers. The said determination of Cross-Subsidy surcharges was done through the process of public hearing conducted on Dt: 13.08.12 and Dt.17.09.12. The objections and views were considered and the Commission passed the orders adopting the embedded cost methodology.

“M/s. Sree Luxmi Tulasi Agro Papers Pvt. Ltd., and Sri P.Satyanarayna Reddy have filed an appeal in High court in W.P No.16072 of 2013 against the above said orders.”

There have been representations that embedded cost methodology adopted does not correctly determine the cross-subsidy to be paid to DISCOMs for availing open access. The DISCOMs cannot be compensated more than the cost what could have been incurred by them. DISCOM cannot realise more than what is due to them. The Commission also considered that this embedded cost methodology does not truly address the true value of cross-subsidy surcharge to be collected from the open access consumers. Therefore Commission considered that there is a need for extensive public process of hearing on two available methodologies (a) National Tariff Policy and (b) Embedded Cost Method. DISCOMs in their ARR filed, have requested for determination of cross-subsidy surcharge based on the National Tariff Policy guidelines. The principle and methodologies for both these policies are as under:

**National Tariff Policy methodology:-**

National Electricity Policy lays down that the amount of cross-subsidy surcharge and the additional surcharge to be levied from consumers who are permitted open access should not be so onerous that it eliminates competition which is intended to be fostered in generation and supply of power directly to the consumers through open access. A consumer who is permitted open access will have to make payment to the generator, the transmission licensee whose transmission systems are used, distribution utility for the wheeling charges and, in addition, the cross subsidy surcharge. The computation of cross subsidy surcharge, therefore, needs to be

done in a manner that while it compensates the distribution licensee, it does not constrain introduction of competition through open access.

The cost of supply to the consumer for this purpose may be computed as the aggregate of (a) the weighted average of power purchase costs (inclusive of fixed and variable charges) of top 5% power sources at the margin, excluding liquid fuel based generation, in the merit order approved by the SERC adjusted for average loss compensation of the relevant voltage level and (b) the distribution charges determined on the principles as laid down for intra-state transmission charges.

**Surcharge formula:**

$$S = T - [ C ( 1 + L / 100 ) + D ]$$

Where,

S is the surcharge.

T is the Tariff payable by the relevant category of consumers.

C is the Weighted average cost of power purchase of top 5% at the margin excluding liquid fuel based generation and renewable power.

D is the Wheeling charge.

L is the system Losses for the applicable voltage level, expressed as a percentage.

**Embedded Methodology:-**

Embedded cost method examines the relative cost to deliver specific service based on cost causation. The Cost-to-Serve approach differs from traditional line-by-line assessments of capital and expense budgets. Traditional methods do not show the causal relationship between expenditure change and the impact on business strategy.

In this methodology while determining the cost incurred for each consumer category, we may differentiate the cost attributable to each class of consumer based on load factor, power factor, supply voltage, total consumption of power during any specified period or the time at which the supply is required or the geographical position of consumer area, the nature of supply and the purpose for which the supply is required etc,.

The cost of service for each consumer category has been worked out through allocating the approved aggregate revenue requirement (ARR) based on any of the above parameters. The revenue from tariff for each consumer category is the sums of revenue from demand/fixed charges, energy charges and customer charges, etc.

The revenue in excess of the cost of service (for each consumer category) is considered as Cross-subsidy.

The Commission illustrates the above concepts and filings are taken through the determination of Cross-subsidy for HT-I Industrial category of APCPDCL from annual Tariff Order of 2013-14. The illustration is as under:

**Under National Tariff Policy (NTP)**

- a) Average Revenue is Rs.7.768/kWh.
- b) The weighted average of power purchase costs (inclusive of fixed and variable charges) of top 5% power sources at the margin is Rs.4.95/kWh.
- c) The grossed-up weighted average. cost plus the wheeling charge is arrived at as Rs.5.466/kWh.
- d) Then, the Cross subsidy surcharge as per NTP is Rs.2.302 (i.e., Rs.7.768 - Rs.5.466) for a HT-I Industrial category consumer.

**Under Embedded Cost method (CoS)**

- a) Average Revenue is Rs.7.768/kWh.
- b) The cost attributable to HT-I Category consumer is arrived at as Rs.5.149/kWh.
- c) Then, the Cross subsidy surcharge as per CoS is Rs.2.619 (i.e., Rs.7.768 - Rs.5.149) for a HT-I Industrial category consumer.

The Cross-subsidy surcharge will be applicable for the year 2013-14 as and when the R&C order is withdrawn.

The comments and objections regarding the adoption of methodology should reach this office by 03.08.2013. The Public Hearing on this subject will be held on 06.08.2013 at 11AM.

The Cross-subsidy surcharges provisionally determinable on both methodologies a) National Tariff Policy and b) Embedded cost method for all applicable categories for all the four DISCOMs for the Year 2013-14 containing five (5) sheets are enclosed.

**(By Order of the Commission)**

Sd/-  
Commission Secretary

Cross Subsidy surcharge as per NTP and Embedded Cost method for FY 2013-14

Rs./kWh

Rs./kWh

<b>FY 2013-14</b>	<b>Cross Subsidy surcharge as per NTP</b>				
<b>HT- Category (at 11KV)</b>	<b>CP</b>	<b>EP</b>	<b>NP</b>	<b>SP</b>	<b>ALL</b>
HT- 1 Industry General	2.30	2.70	2.58	1.98	2.36
HT-2 OTHERS	3.64	4.48	3.52	2.90	3.62
HT-3 Airports, Bus & RLY Stns	-	1.25	-	4.15	2.70
HT-6 Townships & Colonies	0.49	0.60	0.55	0.40	0.50

<b>Cross Subsidy surcharge (Embedded)</b>				
<b>CPDCL</b>	<b>EPDCL</b>	<b>NPDCL</b>	<b>SPDCL</b>	<b>ALL</b>
2.62	2.71	2.41	2.02	2.50
3.39	4.13	3.81	3.09	3.45
	0.90		4.34	2.63
0.21	0.49	0.53		0.34

<b>HT- Category (at 33KV)</b>	<b>CP</b>	<b>EP</b>	<b>NP</b>	<b>SP</b>	<b>ALL</b>
HT- 1 Industry General	1.30	1.69	1.54	0.94	1.25
HT-2 OTHERS	3.32	3.32	6.89	2.66	3.26

<b>CPDCL</b>	<b>EPDCL</b>	<b>NPDCL</b>	<b>SPDCL</b>	<b>ALL</b>
2.25	2.57	2.29	1.94	2.195
3.58	3.94	6.96	3.21	3.600

<b>HT- Category (at 132KV)</b>	<b>CP</b>	<b>EP</b>	<b>NP</b>	<b>SP</b>	<b>ALL</b>
HT- 1 Industry General	0.68	1.73	1.08	0.59	0.90
HT-2 OTHERS	2.11	2.32	15.48	-	2.50
HT-3 Airports, Bus & RLY Stns	1.38	-	-	-	1.38
HT-5 Rly. Traction	1.14	1.20	1.20	1.17	1.19

<b>CPDCL</b>	<b>EPDCL</b>	<b>NPDCL</b>	<b>SPDCL</b>	<b>ALL</b>
1.94	2.91	2.20	1.84	2.13
3.08	3.39	13.49		3.50
2.35				2.35
1.57	1.64	1.52	1.79	1.65

## Calculation of Cross Subsidy Surcharge for Fy 2013-14 as per the provisions of National Tariff Policy

Rs./kWh

Rs./kWh

Rs./kWh

FY 2013-14	Avg. Tariff (Tariff Order)					Grossed up Avg. PP Cost + wheeling					Cross Subsidy surcharge as per NTP				
HT- Category (at 11 kV)	CPDCL	EPDCL	NPDCL	SPDCL	ALL	CPDCL	EPDCL	NPDCL	SPDCL	ALL	CP	EP	NP	SP	ALL
HT- 1 Industry General	7.768	8.115	7.926	7.380	7.777	5.466	5.415	5.345	5.395	5.413	2.30	2.70	2.58	1.98	2.36
Time of Day Tariff	6.753	6.813	6.813	6.783	6.772	5.466	5.415	5.345	5.395	5.413	1.29	1.40	1.47	1.39	1.36
Ferro Alloy Units	5.430			5.441	5.435	5.466			5.395	5.413	(0.04)	-	-	0.05	0.02
HT-2 OTHERS	9.104	9.896	8.868	8.299	9.029	5.466	5.415	5.345	5.395	5.413	3.64	4.48	3.52	2.90	3.62
Time of Day Tariff	7.927	8.005	7.996		9.656	5.466	5.415	5.345		5.413	2.46	2.59	2.65	-	4.24
HT-3 Airports, Bus & RLY Stns		6.665		9.544	8.114		5.415		5.395	5.413	-	1.25	-	4.15	2.70
Time of Day Tariff											-	-	-	-	-
Ht-4 Irrigation, Agrl. & CPWS	5.271	5.402	5.451	5.443	5.368	5.466	5.415	5.345	5.395	5.413	(0.19)	(0.01)	0.11	0.05	(0.04)
HT-6 Townships & Colonies	5.951	6.019	5.891	5.791	5.910	5.466	5.415	5.345	5.395	5.413	0.49	0.60	0.55	0.40	0.50
RESCOs		1.147	0.890	0.358	0.815		5.415	5.345	5.395	5.413	-	(4.27)	(4.45)	(5.04)	(4.60)
Ht-8 Temp. spply	18.884	10.409			12.073	5.466	5.415	5.345	5.395	5.413	13.42	4.99	(5.34)	(5.39)	6.66
<b>HT- Category (at 33 kV)</b>	<b>CPDCL</b>	<b>EPDCL</b>	<b>NPDCL</b>	<b>SPDCL</b>	<b>ALL</b>	<b>CPDCL</b>	<b>EPDCL</b>	<b>NPDCL</b>	<b>SPDCL</b>	<b>ALL</b>	<b>CP</b>	<b>EP</b>	<b>NP</b>	<b>SP</b>	<b>ALL</b>
HT- 1 Industry General	6.499	6.845	6.713	6.128	6.432	5.197	5.150	5.171	5.190	5.180	1.30	1.69	1.54	0.94	1.25
Time of Day Tariff	6.322	6.383	6.379	6.353	6.335	5.197	5.150	5.171	5.190	5.180	1.13	1.23	1.21	1.16	1.15
Ferro Alloy Units	4.998	5.046		5.022	5.019	5.197	5.150		5.190	5.180	(0.20)	(0.10)	-	(0.17)	(0.16)
HT-2 OTHERS	8.520	8.467	12.057	7.851	8.442	5.197	5.150	5.171	5.190	5.180	3.32	3.32	6.89	2.66	3.26
Time of Day Tariff	7.305	7.376	7.370		8.128	5.197	5.150	5.171		5.180	2.11	2.23	2.20	-	2.95
HT-3 Airports, Bus & RLY Stns											-	-	-	-	-
Time of Day Tariff											-	-	-	-	-
<b>HT- Category (at 132 kV)</b>	<b>CPDCL</b>	<b>EPDCL</b>	<b>NPDCL</b>	<b>SPDCL</b>	<b>ALL</b>	<b>CPDCL</b>	<b>EPDCL</b>	<b>NPDCL</b>	<b>SPDCL</b>	<b>ALL</b>	<b>CP</b>	<b>EP</b>	<b>NP</b>	<b>SP</b>	<b>ALL</b>
HT- 1 Industry General	5.921	6.969	6.324	5.830	6.145	5.241	5.241	5.241	5.241	5.241	0.68	1.73	1.08	0.59	0.90
Time of Day Tariff	5.920	5.975	5.976	5.955	5.943	5.241	5.241	5.241	5.241	5.241	0.68	0.73	0.73	0.71	0.70
Ferro Alloy Units	4.596	4.666			4.647	5.241	5.241			5.241	(0.65)	(0.58)	-	-	(0.59)
HT-2 OTHERS	7.353	7.564	20.725		7.742	5.241	5.241	5.241		5.241	2.11	2.32	15.48	-	2.50
Time of Day Tariff	7.054	7.122	7.117		7.107	5.241	5.241	5.241		5.241	1.81	1.88	1.88	-	1.87
HT-3 Airports, Bus & RLY Stns	6.618				6.618	5.241				5.241	1.38	-	-	-	1.38
Time of Day Tariff	6.745				6.745	5.241				5.241	1.50	-	-	-	1.50
HT-5 Rly. Traction	6.384	6.446	6.441	6.410	6.427	5.241	5.241	5.241	5.241	5.241	1.14	1.20	1.20	1.17	1.19

**Calculation of Revenue realisation through Tariff for FY 2013-14 based on Embedded Cost methodology**

<b>FY 2013-14</b>	<b>Sales (MU)</b>					<b>Cross Subsidy (Available0 (Rs.Cr.)</b>					<b>Cross Subsidy surcharge (CPU)</b>				
<b>HT- Category at 11 kV Supply</b>	CPDCL	EPDCL	NPDCL	SPDCL	ALL	CPDCL	EPDCL	NPDCL	SPDCL	ALL	CPDCL	EPDCL	NPDCL	SPDCL	ALL
HT- 1 Industry General	2792.54	1167.21	448.76	1105.03	<b>5513.54</b>	731.45	316.37	108.09	223.13	1379.04	2.62	2.71	2.41	2.02	2.50
Time of Day Tariff	480.02	142.14	62.38	65.93	<b>750.47</b>	77.01	20.02	8.09	9.38	114.50	1.60	1.41	1.30	1.42	1.53
Ferro Alloy Units	11.99	-	-	8.38	<b>20.37</b>	0.34			0.07	0.40	0.28			0.08	0.20
HT-2 OTHERS	1200.37	288.46	80.98	447.75	<b>2017.55</b>	406.50	119.22	30.89	138.50	695.11	3.39	4.13	3.81	3.09	3.45
Time of Day Tariff	49.37	61.25	14.26	-	<b>124.88</b>	10.91	13.73	4.19	21.02	49.85	2.21	2.24	2.94		3.99
HT-3 Airports, Bus & RLY Stns	-	1.00	-	1.02	<b>2.02</b>		0.09		0.44	0.53		0.90		4.34	2.63
Time of Day Tariff	-	-	-	-			0.02		0.06	0.08					
Ht-4 Irrigation, Agrl. & CPWS	439.30	196.68	383.64	59.55	<b>1079.17</b>	48.19	38.49	18.02	3.32	108.01	1.10	1.96	0.47	0.56	1.00
HT-6 Townships & Colonies	108.96	34.76	130.53	49.03	<b>323.28</b>	2.33	1.72	6.87		10.92	0.21	0.49	0.53		0.34
RESCOs	-	239.94	686.39	287.80	<b>1214.13</b>	-	-	-	-	0.00	-	-	-	-	0.00
Ht-8 Temp. spply	4.94	20.22	-	-	<b>25.16</b>	6.98	12.02			19.00	14.12	5.95			7.55
	<b>5087.50</b>	<b>2151.64</b>	<b>1806.93</b>	<b>2024.49</b>	<b>11070.56</b>	<b>1283.71</b>	<b>521.68</b>	<b>176.15</b>	<b>395.91</b>	<b>2377.45</b>	<b>2.523</b>	<b>2.425</b>	<b>0.975</b>	<b>1.956</b>	<b>2.148</b>
<b>HT- Category at 33 kV Supply</b>	CPDCL	EPDCL	NPDCL	SPDCL	Total	CPDCL	EPDCL	NPDCL	SPDCL	Total	CPDCL	EPDCL	NPDCL	SPDCL	Total
HT- 1 Industry General	4578.91	956.30	126.78	2417.24	<b>8079.24</b>	1028.72	245.51	28.98	469.81	1773.02	2.25	2.57	2.29	1.94	2.195
Time of Day Tariff	774.09	119.75	27.66	149.85	<b>1071.34</b>	160.18	25.22	5.40	32.50	223.29	2.07	2.11	1.95	2.17	2.084
Ferro Alloy Units	248.20	152.97	0.00	119.78	<b>520.94</b>	18.50	11.76	0.06	10.03	40.34	0.75	0.77		0.84	0.774
HT-2 OTHERS	465.81	85.93	2.94	83.23	<b>637.90</b>	166.98	33.83	2.05	26.76	229.62	3.58	3.94	6.96	3.21	3.600
Time of Day Tariff	25.46	16.09	0.14	0.00	<b>41.69</b>	6.04	4.58	0.03	3.32	13.96	2.37	2.85	2.27		3.349
HT-3 Airports, Bus & RLY Stns	0.00	0.00	0.00	0.00	<b>0.00</b>					0.00					
Time of Day Tariff	0.00	0.00	0.00	0.00	<b>0.00</b>					0.00					
	<b>6092.47</b>	<b>1331.03</b>	<b>157.52</b>	<b>2770.09</b>	<b>10351.12</b>	<b>1380.42</b>	<b>320.90</b>	<b>36.52</b>	<b>542.41</b>	<b>2280.24</b>	<b>2.27</b>	<b>2.41</b>	<b>2.32</b>	<b>1.96</b>	<b>2.203</b>
<b>HT- Category at 132 kV Suppl</b>	CPDCL	EPDCL	NPDCL	SPDCL	Total	CPDCL	EPDCL	NPDCL	SPDCL	Total	CPDCL	EPDCL	NPDCL	SPDCL	Total
HT- 1 Industry General	2987.65	1220.15	485.04	1337.72	6030.55	579.93	354.66	106.60	245.79	1286.98	1.941	2.907	2.198	1.837	2.134
Time of Day Tariff	493.15	229.93	99.64	65.54	888.26	95.70	43.96	18.43	12.86	170.95	1.941	1.912	1.850	1.962	1.925
Ferro Alloy Units	242.74	641.98	0.00	0.00	884.71	14.96	38.71		0.04	53.71	0.616	0.603			0.607
HT-2 OTHERS	60.42	98.05	1.86	0.00	160.33	18.62	33.27	2.51	1.69	56.08	3.082	3.393	13.485		3.498
Time of Day Tariff	3.34	11.86	0.02	0.00	15.22	0.93	3.50			4.43	2.783	2.951			2.911
HT-3 Airports, Bus & RLY Stns	62.60	0.00	0.00	0.00	62.60	14.69				14.69	2.347				2.347
Time of Day Tariff	2.22	0.00	0.00	0.00	2.22	0.55				0.55	2.474				2.474
HT-5 Rly. Traction	163.38	604.63	438.95	641.37	1848.33	25.58	98.98	66.78	114.53	305.88	1.566	1.637	1.521	1.786	1.655
	<b>4015.50</b>	<b>2806.59</b>	<b>1025.51</b>	<b>2044.63</b>	<b>9892.22</b>	<b>750.96</b>	<b>573.08</b>	<b>194.31</b>	<b>374.92</b>	<b>1893.27</b>	<b>1.870</b>	<b>2.042</b>	<b>1.895</b>	<b>1.834</b>	<b>1.914</b>
11 kV, 33 kV & 132 kV	<b>15195.46</b>	<b>6289.27</b>	<b>2989.96</b>	<b>6839.21</b>	<b>31313.90</b>	<b>3415.09</b>	<b>1415.65</b>	<b>406.98</b>	<b>1313.23</b>	<b>6550.96</b>	<b>2.247</b>	<b>2.251</b>	<b>1.361</b>	<b>1.920</b>	<b>2.092</b>

FY 2013-14	Sales (MU)					Revenue (Rs.crs)					Revenue (CPU)				
	CPDCL	EPDCL	NPDCL	SPDCL	Total	CPDCL	EPDCL	NPDCL	SPDCL	Total	CPDCL	EPDCL	NPDCL	SPDCL	Total
<b>HT- Category at 11 kV Supply</b>															
Industry General	2792.54	1167.21	448.76	1105.03	<b>5513.54</b>	2169.33	947.18	355.67	815.48	<b>4287.66</b>	7.77	8.11	7.93	7.38	7.78
Time of Day Tariff	480.02	142.14	62.38	65.93	<b>750.47</b>	324.18	96.84	42.50	44.72	<b>508.24</b>	6.75	6.81	6.81	6.78	6.77
Ferro Alloy Units	11.99	0.00	0.00	8.38	<b>20.37</b>	6.51	0.00	0.00	4.56	<b>11.07</b>	5.43			5.44	5.43
OTHERS	1200.37	288.46	80.98	447.75	<b>2017.55</b>	1092.83	285.46	71.81	371.61	<b>1821.71</b>	9.10	9.90	8.87	8.30	9.03
Time of Day Tariff	49.37	61.25	14.26	0.00	<b>124.88</b>	39.14	49.03	11.40	21.02	<b>120.58</b>	7.93	8.00	8.00		9.66
AIRPORTS, BUS & RLY STNS	0.00	1.00	0.00	1.02	<b>2.02</b>	0.00	0.67	0.00	0.97	<b>1.64</b>		6.66		9.54	8.11
Time of Day Tariff	0.00	0.00	0.00	0.00	<b>0.00</b>	0.00	0.02	0.00	0.06	<b>0.08</b>					
IRRIGATION, AGRI AND, CPWS	439.30	196.68	383.64	59.55	<b>1079.17</b>	231.56	106.25	209.10	32.41	<b>579.33</b>	5.27	5.40	5.45	5.44	5.37
TOWNSHIPS AND COLONIES	108.96	34.76	130.53	49.03	<b>323.28</b>	64.84	20.92	76.90	28.39	<b>191.05</b>	5.95	6.02	5.89	5.79	5.91
RESCOs	0.00	239.94	686.39	287.80	<b>1214.13</b>	0.00	27.52	61.11	10.29	<b>98.93</b>		1.15	0.89	0.36	0.81
Temp. spply	4.94	20.22	0.00	0.00	<b>25.16</b>	9.33	21.04	0.00	0.00	<b>30.37</b>	18.88	10.41			12.07
	<b>5087.50</b>	<b>2151.64</b>	<b>1806.93</b>	<b>2024.49</b>	<b>11070.56</b>	<b>3937.71</b>	<b>1554.93</b>	<b>828.49</b>	<b>1329.52</b>	<b>7650.66</b>	<b>7.74</b>	<b>7.23</b>	<b>4.59</b>	<b>6.57</b>	<b>6.91</b>
<b>HT- Category at 33 kV Supply</b>															
Industry General	4578.91	956.30	126.78	2417.24	<b>8079.24</b>	2975.94	654.57	85.11	1481.34	<b>5,196.96</b>	6.50	6.84	6.71	6.13	6.43
Time of Day Tariff	774.09	119.75	27.66	149.85	<b>1071.34</b>	489.37	76.44	17.64	95.20	<b>678.66</b>	6.32	6.38	6.38	6.35	6.33
Ferro Alloy Units	248.20	152.97	0.00	119.78	<b>520.94</b>	124.04	77.19	0.06	60.15	<b>261.44</b>	5.00	5.05	0.00	5.02	5.02
OTHERS	465.81	85.93	2.94	83.23	<b>637.90</b>	396.85	72.76	3.55	65.34	<b>538.51</b>	8.52	8.47	12.06	7.85	8.44
Time of Day Tariff	25.46	16.09	0.14	0.00	<b>41.69</b>	18.60	11.87	0.10	3.32	<b>33.89</b>	7.31	7.38	7.37		8.13
AIRPORTS, BUS & RLY STNS	0.00	0.00	0.00	0.00	<b>0.00</b>	0.00	0.00	0.00	0.00	-					
Time of Day Tariff	0.00	0.00	0.00	0.00	<b>0.00</b>	0.00	0.00	0.00	0.00	-					
	<b>6092.47</b>	<b>1331.03</b>	<b>157.52</b>	<b>2770.09</b>	<b>10351.12</b>	<b>4004.81</b>	<b>892.83</b>	<b>106.47</b>	<b>1705.35</b>	<b>6709.45</b>	<b>6.57</b>	<b>6.71</b>	<b>6.76</b>	<b>6.16</b>	<b>6.48</b>
<b>HT- Category at 132 kV Supply</b>															
Industry General	2987.65	1220.15	485.04	1337.72	6030.55	1768.99	850.38	306.72	779.88	3705.98	5.92	6.97	6.32	5.83	6.15
Time of Day Tariff	493.15	229.93	99.64	65.54	888.26	291.97	137.38	59.54	39.03	527.92	5.92	5.97	5.98	5.95	5.94
Ferro Alloy Units	242.74	641.98	0.00	0.00	884.71	111.57	299.53	0.00	0.04	411.14	4.60	4.67			4.65
OTHERS	60.42	98.05	1.86	0.00	160.33	44.42	74.17	3.85	1.69	124.13	7.35	7.56	20.73		7.74
Time of Day Tariff	3.34	11.86	0.02	0.00	15.22	2.36	8.45	0.01	0.00	10.82	7.05	7.12	7.12		7.11
AIRPORTS, BUS & RLY STNS	62.60	0.00	0.00	0.00	62.60	41.42	0.00	0.00	0.00	41.42	6.62				6.62
Time of Day Tariff	2.22	0.00	0.00	0.00	2.22	1.50	0.00	0.00	0.00	1.50	6.75				6.75
RAILWAY TRACTION	163.38	604.63	438.95	641.37	1848.33	104.29	389.72	282.74	411.15	1187.91	6.38	6.45	6.44	6.41	6.43
	<b>4015.50</b>	<b>2806.59</b>	<b>1025.51</b>	<b>2044.63</b>	<b>9892.22</b>	<b>2366.53</b>	<b>1759.63</b>	<b>652.87</b>	<b>1231.78</b>	<b>6010.81</b>	<b>5.89</b>	<b>6.27</b>	<b>6.37</b>	<b>6.02</b>	<b>6.08</b>
11 kV, 33 kV & 132 kV	<b>15195.46</b>	<b>6289.27</b>	<b>2989.96</b>	<b>6839.21</b>	<b>31313.90</b>	<b>10309.05</b>	<b>4207.39</b>	<b>1587.84</b>	<b>4266.65</b>	<b>20370.93</b>	<b>6.78</b>	<b>6.69</b>	<b>5.31</b>	<b>6.24</b>	<b>6.51</b>
LT supply	19254.84	7124.38	7624.56	12084.06	46087.85	6244.81	2692.20	1832.58	4018.22	14787.80	3.243	3.779	2.404	3.325	3.209
	34450.30	13413.65	10614.52	18923.27	77401.75	16553.87	6899.59	3420.42	8284.86	35158.73					



**Calculation of 5% Top marginal Power Purchase costs excluding Liquid Fuel and Renewable energy**

ALL DISCOMs	CPU	Total Dispatch	CPDCL	EPDCL	NPDCL	SPDCL	CPDCL	EPDCL	NPDCL	SPDCL	Total Amount
FY 2013-14	Rs./kWh	(MU)	46.06% (MU)	15.80% (MU)	15.87% (MU)	22.27% (MU)	(Rs.Crs)	(Rs.Crs)	(Rs.Crs)	(Rs.Crs)	(Rs.Crs)
TOTAL HYDRO	1.75	7056.61	3,250.27	1,114.94	1,119.88	1,571.51	567.22	194.58	195.44	274.25	1231.49
Talcher Stage 2	2.02	3262.16	1,502.55	515.42	517.70	726.48	303.35	104.06	104.52	146.67	658.61
<b>KTPS D</b>	2.23	3439.80	1,584.37	543.49	545.90	766.04	352.92	121.06	121.60	170.63	766.21
NTPC (SR)	2.23	5365.12	2,471.17	847.69	851.44	1,194.81	551.20	189.08	189.92	266.51	1196.70
Bundled power (JVNSM)	2.62	307.91	141.83	48.65	48.87	68.57	37.13	12.74	12.79	17.95	80.61
NLC Stage-II	2.62	1273.12	586.40	201.15	202.04	283.52	153.63	52.70	52.93	74.28	333.54
NLC Stage-I	2.63	732.18	337.24	115.68	116.20	163.06	88.53	30.37	30.50	42.81	192.21
Total APGPCL	2.79	278.70	128.37	44.03	44.23	62.07	35.80	12.28	12.34	17.31	77.73
<b>KTPS C</b>	2.82	1549.07	713.50	244.75	245.84	344.98	201.13	68.99	69.30	97.25	436.68
<b>KTPS A</b>	2.83	1528.40	703.98	241.49	242.56	340.37	199.26	68.35	68.66	96.34	432.61
<b>KTPS B</b>	2.84	1515.91	698.23	239.51	240.58	337.59	198.13	67.96	68.27	95.80	430.15
Total NPC	2.87	2102.28	968.31	332.16	333.63	468.18	278.38	95.49	95.92	134.60	604.39
NTPC Simhadri Stage I	2.93	7442.00	3,427.79	1,175.84	1,181.05	1,657.33	1002.82	344.00	345.52	484.86	2177.20
<b>VTPS II</b>	3.10	2896.66	1,334.20	457.67	459.70	645.09	414.16	142.07	142.70	200.24	899.17
<b>VTPS III</b>	3.10	2896.66	1,334.20	457.67	459.70	645.09	414.16	142.07	142.70	200.24	899.17
<b>VTPS I</b>	3.15	2703.55	1,245.25	427.16	429.05	602.08	391.99	134.46	135.06	189.53	851.04
TOTAL IPPS	3.22	3858.87	1,777.40	609.70	612.40	859.37	571.72	196.12	196.99	276.43	1241.26
NTPC (SR) Stage III	3.24	1424.00	655.89	224.99	225.99	317.12	212.65	72.95	73.27	102.82	461.68
NPC-Kaiga unit IV	3.31	481.98	222.00	76.15	76.49	107.34	73.39	25.17	25.29	35.48	159.33
Srivathsa	3.45	43.40		43.40			-	14.97	-	-	14.97
NTPC Simhadri Stage II	3.56	3253.00	1,498.33	513.97	516.25	724.44	532.87	182.79	183.60	257.64	1156.91
<b>RTS B</b>	3.67	405.80	186.91	64.12	64.40	90.37	68.62	23.54	23.64	33.18	148.98
<b>RTPP I</b>	4.07	2822.73	1,300.15	445.99	447.97	628.62	529.76	181.73	182.53	256.14	1150.16
<b>VTPS IV</b>	4.20	3497.80	1,611.08	552.65	555.10	778.96	677.46	232.39	233.42	327.55	1470.81
<b>KTPS Stage VI</b>	4.30	3497.61	1,611.00	552.62	555.07	778.92	692.55	237.57	238.62	334.85	1503.58
<b>Kakatiya TPPSt-I</b>	4.52	3497.61	1,611.00	552.62	555.07	778.92	728.23	249.81	250.91	352.10	1581.05
<b>DSTPP-1</b>	4.53	1373.52	632.64	217.02	217.98	305.88	286.64	98.33	98.76	138.59	622.33
Vallur Thermal Power Plant	4.69	1095.80	504.73	173.14	173.90	244.04	236.91	81.27	81.63	114.54	514.35
<b>RTPP Stage-II</b>	4.70	2888.73	1,330.55	456.42	458.44	643.32	625.18	214.45	215.41	302.27	1357.31
<b>RTPP Stage-III</b>	5.43	1444.38	665.28	228.21	229.22	321.66	361.12	123.87	124.42	174.60	784.01
<b>All sources excl. Liquid Fuel and Renewable Energy</b>	<b>3.17</b>	<b>73935.33</b>	<b>34034.62</b>	<b>11718.33</b>	<b>11726.65</b>	<b>16455.73</b>	<b>10786.91</b>	<b>3715.21</b>	<b>3716.64</b>	<b>5215.47</b>	<b>23434.23</b>
Other Market Purchase	6.00	10094.66	4649.60	1594.96	1602.02	2248.08					
5% top Margin Purchase Required		4201.50	1934.21	665.66	666.43	935.19	<b>957.34</b>	<b>329.42</b>	<b>329.85</b>	<b>462.87</b>	<b>2,079.48</b>
<b>Attributable price per Unit for 5% Top Margin Purchases as per NTP</b>							<b>4.95</b>	<b>4.95</b>	<b>4.95</b>	<b>4.95</b>	<b>4.95</b>

**Calculation showing sequential grossing up of average Power Purchase Cost  
( as per National Tariff Policy )**

**Table-1**

	Avg. Cost (T.O PP Cost)			
	CP	EP	NP	SP
132 kV	Rs./kWh			
	4.95	4.95	4.95	4.95
33 kV	Rs./kWh			
	4.95	4.95	4.95	4.95
11 kV	Rs./kWh			
	4.95	4.95	4.95	4.95

**Table-3**

	Wheeling Charges			
	CP	EP	NP	SP
132 kV	Rs/kW/month			
	61.03	61.03	61.03	61.03
33 kV	Rs./kVa/month			
	33.43	21.85	12.45	27.38
11 kV	Rs./kVa/month			
	204.79	198.12	140.69	180.5

**Table-2**

	Grossed up Avg. PP Cost with Losses			
	CP	EP	NP	SP
132 kV	Rs./kWh			
	% Loss	4.02%	4.02%	4.02%
	5.157	5.157	5.157	5.157
33 kV	Rs./kWh			
	% Loss	3.99%	3.39%	4.00%
	5.155	5.123	5.156	5.156
11 kV	Rs./kWh			
	% Loss	5.00%	4.22%	4.25%
	5.210	5.167	5.169	5.169

**Table-4**

	Wheeling Charge Conversion to Rs./kWh			
	CP	EP	NP	SP
132 kV	Rs/kWh			
	0.085	0.085	0.085	0.085
33 kV	Rs/kWh			
	0.042	0.027	0.016	0.034
11 kV	Rs/kWh			
	0.256	0.248	0.176	0.226

**Table-5 = ( Table-2 + Table-4 )**

	Final Grosses up Avg. PP Cost			
	CP	EP	NP	SP
132 kV	Rs./kWh			
	5.241	5.241	5.241	5.241
33 kV	Rs./kWh			
	5.197	5.150	5.171	5.190
11 kV	Rs./kWh			
	5.466	5.415	5.345	5.395