

# **ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION**

Hyderabad

**Dated: 29.08.2006**

**PRESENT:**

Sri. K. Swaminathan, Chairman

Sri. Surinder Pal, Member

Sri. R. Radha Kishen, Member

**O.P.No.13 of 2006**  
(Suo motu)

**In the matter of determination of Surcharge and Additional Surcharge under Sections 39, 40 and 42 of the Electricity Act, 2003 for the FY 2006-07.**

WHEREAS Sections 39(2)(d)(ii) and 40(c)(ii) of the Electricity Act, 2003 (hereinafter referred to as 'the Act') provide for payment of a surcharge (hereinafter also referred to as 'the Cross-subsidy Surcharge') when a transmission system is used for open access for supply of electricity to a consumer and Section 42(2) of the Act provides for payment of the surcharge in addition to the wheeling charges as determined by the State Commission.

AND WHEREAS as per the aforementioned provisions, the surcharge has to be utilised to meet the requirements of current level of cross-subsidy.

AND WHEREAS Section 42(4) of the Act further provides that a consumer permitted to receive supply of electricity from a person other than the Distribution Licensee of the area in which such consumer is located, shall be liable to pay an Additional Surcharge to meet the fixed cost of the distribution licensee arising out of his obligation to supply.

AND WHEREAS the aforementioned Cross-subsidy Surcharge and the additional surcharge for the year 2005-06 and the methodology for computation thereof were

determined by the Commission vide its Order dated 21.09.2005 in O.P.No.16 of 2005.

AND WHEREAS pursuant to the notification of Tariff Policy by the Government of India (GoI) published in the Gazette of India on 06.01.2006, the Commission initiated proceedings by issuing a public notice on 12.01.2006 for review of the methodologies for computation of Cross-subsidy Surcharge and additional surcharge in the light of the said Tariff Policy.

AND WHEREAS the Commission received some written responses to its above-mentioned notice, and also heard those desiring to be heard in person at the public hearings, on 16.02.2006 at Karimnagar, on 18.02.2006 at Rajahmundry, on 20.02.2006 at Nellore and on 22.02.2006 at Kurnool, in the presence of the representation of the licensees, individuals, consumer rights activists and other stakeholders, along with the ARR / Tariff proposals of DISCOMS (Distribution Companies / Licensees) for 2006-07.

AND WHEREAS in view of its preoccupations with several other matters, like determination of transmission tariff and wheeling tariffs / charges under MYT regime for 2006-07 to 2008-09 and tariff for retail sale of electricity, etc., for the year 2006-07, the Commission could not complete the above-mentioned proceedings and therefore, deemed it just and appropriate to issue an interim Order and accordingly in exercise of the powers vested under section 94 (2) of the Act passed an interim order dated 01.04.2006 provisionally extending the applicability of the rates of Surcharge /Additional Surcharge already specified in its order dated 21.09.2005 in O.P.No.16 of 2005, from 1<sup>st</sup> April 2006 onwards, subject to adjustment of the Surcharge/Additional Surcharge if any so paid against that payable as per the final Order.

NOW, THEREFORE, the Commission in exercise of powers conferred by Sections 39, 40, and 42 of the Act and all other powers enabling it in that behalf specifies the applicable Surcharge /Additional Surcharge for different categories of consumers availing of open access at different voltages for the financial year FY 2006-07 as per the following:

## ORDER

1. The Cross-subsidy Surcharge under the provisions of the Act was first fixed by the Commission for 2005-06 in its order dated 21.09.2005 in O.P No. 16 of 2005. The embedded cost approach was adopted in this Order for computation of surcharge for different consumer categories. In the Order, Additional Surcharge was fixed at the rate of the Demand charge for HT Category-I (A), payable for a period of three months from the date on which the open access has commenced.
2. Meanwhile, the Government of India (for short, GoI) notified the Tariff Policy under Section 3 of the Act, (Gazette notification dated 06-01-2006). The Tariff Policy suggests calculation of Surcharge based on the weighted average cost of the stations at the margin. On the issue of Additional Surcharge, the Policy recommended its levy only on proof of stranded costs. Pursuant to the notification of the Tariff Policy, the Commission initiated proceedings by issuing a public notice for hearings on review of methodology for computation of Cross-subsidy Surcharge and Additional surcharge. Seven responses including one from the Government of Andhra Pradesh (for short, GoAP) were received on the issue of methodology to be adopted for fixing the Cross-subsidy Surcharge in the light of the Tariff Policy issued by the Government of India, and as mentioned above, those wishing to be heard on the subject in person were also heard.
3. The Commission fixed the Transmission charges and Wheeling charges for the first control period (FY: 2006-09) and the retail charges for FY 2006-07. The Cross-subsidy Surcharge and Additional Surcharge to be charged to open access consumers now needed to be determined, based on the new tariffs and costs.

4. The Commission has carefully examined all the responses received from the public and other stakeholders on the methodology for estimating the Cross-subsidy Surcharge and the Additional Surcharge. The responses are discussed hereinafter on each aspect.

**Methodology for estimating the Cross-subsidy  
Views and Comments Received**

5. Sri M. Venugopala Rao (Prajasakthi), Sri M.Thimma Reddy (Peoples's Monitoring Group on Energy Regulation), Sri K.P. Rao, an individual, and the Distribution Licensees have stated that it is appropriate to continue with the present methodology of using the embedded Cost-of-Service (for short, CoS) approach of estimating the Cross-subsidy Surcharge. The GoAP also suggested that the existing methodology should continue. These are elaborated hereunder:
  - (i) Sri Venugopala Rao, while stating that it may be appropriate to continue with the present methodology for calculation of Cross-subsidy Surcharge, further commented that adoption of the Tariff Policy methodology is not mandatory. In case of adoption of the Tariff Policy methodology, the weighted average of power purchase cost of top 5% power at the margin should be considered. In case of two-part tariff, the variable charges only should be considered. In case of single-part tariff, both variable and fixed cost should be considered. On no account should the marginal cost be taken as a basis for calculating Cross-subsidy Surcharge. Further, UI charges should also not be considered.
  - (ii) Sri Thimma Reddy, while suggesting that the appropriate methodology is the CoS embedded cost for estimating cross- subsidy surcharge, has opined that according to Section 39 (2) of the Act, the Cross-subsidy Surcharge shall be utilized for the purpose of meeting the requirement of current level of cross-subsidy. Hence the cross-subsidy being calculated on the basis of embedded cost approach is quite appropriate and correct. On the methodology suggested in the Tariff Policy, he has expressed the fear that the Cross-subsidy

Surcharge calculated on this basis will work out to less than 25 paise/unit compared to the existing one of 142 paise/unit. Furthermore, the Tariff Policy, in keeping with the Act stipulates that by 2010-11, the Cross-subsidy Surcharge shall be reduced to 20%. If that takes place, the Cross-subsidy Surcharge will be almost negligible and no big consumer will be with the grid threatening the very existence of the licensees in any shape. Literally, it will be free for all those who have money power. He has also drawn the attention of the Commission to the fact that under the existing power purchase agreements (PPA) with the IPPs (independent power producers), they need to be paid fixed costs even in the case of distribution licensees not purchasing power from them, which have to be borne by the licensees / consumers connected to the grid, and hence he suggests that these costs also need to be added to the Surcharge, as done in Commission's Order dated: 21-09-2005. Sri Thimma Reddy further added that the average cost of power purchased from the IPPs is 220 paise per unit and variable cost is about 100 paise/unit; in other words, the fixed cost per unit amounts to 120 paise/unit. If this is added to the Surcharge prescribed by the Tariff Policy, it will be about 145 paise which is equivalent to the one that the Commission has prescribed.

- (iii) Sri K.P.Rao has suggested that the embedded cost approach is correct methodology for arriving at Cross-subsidy Surcharge. In his opinion, if the avoided cost approach suggested in the Tariff Policy is used then the cost to serve for those consumers who have the option of Open Access will also have to be computed on the basis of costs of power purchases at the highest cost in the margin. He opined that it is not mandatory for the Commission to adopt the Tariff Policy surcharge. He also suggested that in case the methodology of Tariff Policy is adopted the variable cost component of the power purchase cost at the margin should only be considered, as the Fixed Costs are not reckonable, as these are not saved.

- (iv) The Special Chief Secretary, (Energy Department, GoAP) communicated the view that the sector is currently passing through a transition phase where, besides ensuring introduction of competition in all possible business components, it is equally important to ensure financial sustainability of the utilities. Accordingly, he added that the GoAP is of the view that it may be essential that the methodology adopted for determination of cross-subsidy ensure revenue neutrality without impeding competition. Therefore, for the purpose of determination of Cross-subsidy Surcharge, the existing methodology i.e., “embedded cost” methodology be continued.
- (v) The Licensees (Discoms) while insisting that embedded cost should be the basis for determining Cross-subsidy Surcharge submitted the following:
  - (a) The use of the word ‘may’ in the Tariff Policy suggests that the Commission has the jurisdiction to use its own methodology;
  - (b) The Act specifies that the Cross-subsidy Surcharge shall be utilized to meet the requirements of “the current level of cross-subsidy” and accordingly the embedded cost should be adopted;
  - (c) If Tariff Policy is followed what a Distribution Company saves is the cost of power purchased at the margin, which is the Variable Cost in a two-part tariff and Total Cost in a single-part tariff.

### **Commissions Analysis**

- 6. Since the issue of its first Order dated 21.09.2005 on Cross-subsidy Surcharge, several developments have taken place which include, apart from the issue of the Tariff Policy by Gol, the following:
  - i. Issue of Regulations No.4 & 5 of 2005 by the Commission on determination of Tariffs for Transmission of Electricity and Wheeling and Retail Sale of Electricity, based on Sections 61 and 62 of the Act;

- ii. Fixation of Transmission and Wheeling charges for the first Control Period (2006-07 to 2008-09) on a non-discriminatory basis.

These developments together with the allocation of PPAs to DISCOMs (Multi-buyer Model) required some changes in the methodology for computation of CoS. The charges for network usage Transmission charges and Wheeling charges are calculated separately, to reflect the costs allocable to the network, based on the normative and benchmarking principles. These network costs are for FY 2006-09 and as per the Tariff Orders both dated 23.06.2006, for Transmission Tariffs (2006-07 to 2008-09), and for Distribution Tariffs (FY 2006-07 to 2008-09) and Retail Supply Tariffs (FY 2006-07), these have been allocated voltage-wise rather than on the basis of the Average Cost for all voltages as done in the earlier Tariff Orders. These charges have been determined for each year of the current (first) Control period. For arriving at the CoS, the network cost at each voltage level has been allocated to the respective consumer categories based on the load contracted by the category. In the case of HT- consumers, contracted capacity is used and for other categories of consumers (namely LT consumers), the non-coincident peak is used. Under this method, the network costs of 33 kV are to be borne by 33 kV, 11 kV and LT users, the 11 kV costs by 11 kV and LT users, while cost of LT network is borne by LT users alone. Thus, the extent of costs borne by the lower voltage consumers is higher as it is the cumulated costs of the network at the different voltage levels. Based on the above allocation of network costs, the CoS for each of the consumer categories underwent a change vis-à-vis the earlier years.

7. The Commission has consistently been adopting the Embedded Cost Approach since its very first Tariff Order for FY 2000-01 issued on 27-05-2000 for determining the cost of supply for particular consumer categories and for tariff fixation and identification of cross-subsidy. The Commission has always held the view that the Embedded Cost Approach is the most appropriate approach for determining the current level of cross-subsidy.

8. The Distribution Licensees and the consumer groups/activists have pointed out that since the Commission is adopting the Embedded Cost Approach while determining the cross-subsidies in its Tariff Orders, the determination of the Surcharge to meet the current level of cross-subsidy has to be consistent with this approach. The GoAP also opined that any methodology that is adopted for fixing the Cross-subsidy Surcharge must ensure 'revenue neutrality' and this can only be achieved if the embedded cost approach is adopted.
9. While examining these views the argument of 'revenue neutrality' expressed by GoAP merits consideration. The Commission agrees with GoAP that introduction of competition cannot be at the cost of financial viability of the utilities. Currently, the Tariff Order, which ensures that the Distribution Licensees costs are fully recovered, is based on the projections made by the Licensees on the expected sales to various consumer categories. Revenue neutrality would require that subsidizing load migrating to Open Access is matched by appropriate fresh load moving in or is compensated by means of Surcharge. On this count and considering the GoAPs view, the Commission prefers to continue with the existing methodology of fixing the Cross-subsidy Surcharge for FY2006-07 based on embedded cost.

**Applicability of Cross-subsidy Surcharge on the existing users of the wheeling facility:**

**Views and Comments Received**

10. Sri Sudheer Reddy, DGM (Finance), of Rain Calcining Ltd.,(for short, RCL), has contended that Wheeling charges come under the MPWPA (Modified Power Wheeling and Purchase Agreement) which determines that the consumers (Scheduled) of RCL cannot be treated as Open Access consumers under section 42(2) of the Act and hence no Cross-subsidy Surcharge can be levied on them.

**Commission's Analysis**



11. The Commission draws in this connection the attention of all concerned to the notification by the Ministry of Power, Government of India, on 08.06.2005 vide SO. 789 (E), of the Electricity (Removal of Difficulties) second Order 2005, effective from 10<sup>th</sup> June 2003, which was also quoted in paragraph 6.2 of the Commission's order dated 21.09.2005 (O.P.No.16 of 2005) the operative portion of which is again reproduced below:

*"Exemption from payment of surcharge on the sale or supply of electricity:*

*No surcharge would be required to be paid, in terms of sub-section (2) of section 42 of the Act on the electricity being sold by the generating companies with consent of the competent government under clause (c) of sub-section (1) of section 43A of the Electricity (supply) Act, 1948 (now repealed by the Act), and on the electricity being supplied by the distribution licensee on the authorization by the State Government under section 27 of the India Electricity Act, 1910 (now repealed by the Act), till the current validity of such consent or authorizations".*

The Commission re-iterates that the Cross-subsidy Surcharge shall not be leviable on all those covered by the aforementioned Order of GoI, provided, however that such consumers too shall be liable to pay the applicable surcharge on their ceasing to be covered by the aforementioned Order.

**Cross-subsidy surcharge to be varied as per source of generation:**

#### **Views and Comments Received**

12. The Small Hydro Power Developers Association have pointed out that Cross-subsidy Surcharge under the Tariff Policy needs to be determined in a manner that does not constrain introduction of competition. They further opine that special consideration needs to be given where the cost of generation is high, as in the case of renewable sources of energy. Accordingly, they have requested that determination of Cross-subsidy Surcharge for small hydro projects must keep in mind the cost of generation.

### **Commission's Analysis**

13. The Commission wishes to clarify that Cross-subsidy Surcharge flows from the tariffs fixed for retail consumers and the costs attributed to different consumer categories and does not make a distinction between the costs of power purchase on the basis of sources or fuel. Hence the Cross-subsidy Surcharge cannot be different for different sources of generation.

Keeping in mind, however, the need to encourage generation from renewable sources of energy, the Commission in its last Order had allowed a relief of 50 percent on the surcharge. That relief will continue to be available under this Order also.

### **14. Conclusion**

For all the above reasons, the Commission decides as follows:

- (1) The embedded cost methodology shall be the basis for estimating the quantum of cross-subsidy as done in the Tariff Order dated 23.03.2006 for Distribution Tariffs (2006-07 to 2008-09) and Retail Supply Tariffs (for FY 2006-07) for the respective consumer categories. The rates for Cross-subsidy Surcharge for FY 2006-07 as applicable to consumers availing open access at different voltages in the areas of supply of respective distribution licensees are given in Annexure.
- (2) To encourage renewable sources of energy, a relief of 50 percent on surcharge shall be provided to consumers availing of open access from non-conventional energy projects located within the State of Andhra Pradesh.
- (3) Additional surcharge for licensees' obligation to supply as per section 42(4) of the Act shall be payable by the consumer allowed open access only if it is conclusively demonstrated that the obligation of a licensee, in terms of existing power purchase commitments, has been

and continues to be stranded, or there is an unavoidable obligation and incidence to bear fixed costs consequent to such commitments.

- (4) The Cross-subsidy Surcharge and Additional Surcharge as specified in this Order shall be subject to adjustment against any Cross-subsidy Surcharge / Additional surcharge already paid by the Open Access consumer concerned against the Commission's interim order on the subject dated 01.04.2006.

This Order is corrected and signed this 29<sup>th</sup> day of August 2006.

Sd/-  
(R.RADHA KISHEN)  
MEMBER

Sd/-  
(SURINDER PAL)  
MEMBER

Sd/-  
(K.SWAMINATHAN)  
CHAIRMAN

**CERTIFIED COPY**

**ANNEXURE**  
**CROSS SUBSIDY SURCHARGE DETERMINATION FOR FY 2006-07**

Category	Cross Subsidy Surcharge (Rs/kWh)			
	EPDCL	SPDCL	CPDCL	NPDCL
<b>Total</b>				
<b>LT</b>				
<b>Category I - Domestic</b>				
Slab 4 (201-300)	1.39	1.79	1.38	1.50
Slab 5 (>300)	2.19	2.62	2.19	2.36
<b>Category II - Non-domestic</b>				
Slab 1 (0-50)	0.84	0.94	0.88	0.33
Slab 2 (51-100)	3.03	3.23	3.14	2.70
<b>Category III (A &amp; B) - Industrial</b>				
<b>Category III (A) - Industrial</b>				
Industrial Normal	1.57	1.91	1.66	1.94
Industrial Optional	4.39	0.00	1.03	0.00
<b>Category III (B) - Industrial (Optional)</b>				
SSI Units	0.96	1.86	1.03	1.79
Seasonal Industries	0.00	0.00	0.00	1.60
<b>Category VI - Local Bodies, St. Lighting &amp; PWS</b>				
<b>PWS Schemes</b>				
All Nagarpalikas & Municipalities				
Upto 1000 units	0.00	1.28	0.00	0.16
More than 1000 units	0.19	0.69	0.00	0.26
Municipal Corporations				
Upto 1000 units	0.00	4.97	0.00	0.72
More than 1000 units	0.78	1.30	0.52	0.90
<b>Category VII - General Purpose</b>	0.31	0.81	0.00	0.29
<b>Category VIII</b>	0.00	3.21	2.59	2.90
Temporary Supply	0.00	3.21	2.59	2.90
<b>HT</b>	<b>1.79</b>	<b>1.70</b>	<b>1.66</b>	<b>1.42</b>
<b>Category I - Industry - General</b>				
<b>General</b>				
Industrial				
>=132 kV	2.40	2.42	2.43	2.42
33 kV	1.82	1.82	1.88	1.81
11 kV	1.80	1.81	1.82	1.81
<b>Ferro-alloys</b>	<b>0.80</b>	<b>0.00</b>	<b>0.87</b>	<b>0.00</b>
<b>Seasonal Industries</b>				
11 kV	2.50	0.00	2.26	2.15
<b>Category II - Industry – Other</b>				
>=132 kV	2.59	0.00	2.27	9.34
33 kV	2.75	3.18	2.40	2.57
11 kV	2.75	2.54	2.22	2.54
<b>Category IV - Irrigation &amp; Agriculture</b>				
Government Lift Irrigation Schmes	1.39	1.47	1.43	1.64
<b>Category V - Railway Traction</b>	<b>2.05</b>	<b>2.22</b>	<b>2.05</b>	<b>2.11</b>
<b>Category VI - Townships &amp; Residential Colonies</b>	<b>1.46</b>	<b>1.59</b>	<b>1.19</b>	<b>1.53</b>