

ORISSA ELECTRICITY REGULATORY COMMISSION
BIDYUT NIYAMAK BHAWAN
UNIT-VIII, BHUBANESWAR – 751012

Present : Shri K. C. Badu, Member
Shri B.K.Misra, Member

Case Nos. 24, 25, 26, & 27 of 2010

In the matter of: Approval of Open Access Charges (Transmission/wheeling Charges, Surcharge and Additional Surcharge for the FY 2010-11 applicable to open access customers for use of Intra-state transmission/distribution system) in accordance with Section 39, 40 and 42 of the Electricity Act, 2003 read with the provisions of Chapter II (Charges for Open Access) of OERC (Determination of Open Access Charges) Regulations, 2006.

Case No.24/2010

In the matter of: M/s. Central Electricity Supply Utility of Orissa (CESU), 2nd Floor, IDCO Towers, Janpath, BBSR
... **Petitioner**

AND

Case No.25/2010

In the matter of: M/s. Western Electricity Supply Company of Orissa Ltd. (WESCO), Burla, Sambalpur
... **Petitioner**

AND

Case No.26/2010

In the matter of: M/s. North Eastern Electricity Supply Company of Orissa Ltd. (NESCO), Januganj, Balasore
... **Petitioner**

AND

Case No.27/2010

In the matter of: M/s. Southern Electricity Supply Company of Orissa Ltd. (SOUTHCO), Courtpetta, Berhampur
... **Petitioner**

For the Petitioners: Mr K V Durgaprasad, CCO, L.R. Padhi, AGM, CESU in Case No. 24/10, Mr B.K. Pattnaik, V.P., MR. KC Nanda, AGM and Mr. G C Mohanty, DGM (Com.), WESCO in Case No. 25/10, Mr, S D Bhanja, DGM, NESCO in Case No.26/10 and B.N.Mallick, DGM(Fin), S.K.Routray, Dy.Mgr.(Com), M.K.Das, G.M.(P.T), CSO, WESCO, NESCO & SOUTHCO in Case No. 27/10.

Date of Hearing : 21.05.2010

Date of Order : 24.06.2010

ORDER

1. The Distribution Licensees CESU, WESCO, NESCO and SOUTHCO had filed Applications before this Commission for Determination of Open Access Charges including Transmission /Wheeling Charge, Surcharge and Additional Surcharge for the FY 2010-11 applicable to open access customers for use of intra-state transmission/distribution systems following Sections 39, 40 & 42 of the Electricity Act, 2003, read with OERC (Terms and Conditions for Determination of Open Access Charges) Regulations, 2006, which were registered as Case No. 24/2010, 25/2010, 26/2010 & 27/2010 respectively.
2. All the distribution licensees were directed by the Commission to publish the matter in the English and Oriya Newspapers by 28.04.2010 inviting suggestions/objections, if any, from various stakeholders to be filed before the Commission on or before 10.05.2010. The Commission further directed the distribution licensees to file a consolidated rejoinder to all the suggestions / objections filed by the interested persons before the Commission on or before 15.05.2010.
3. In response to the Public Notice issued by four nos. of DISCOMs in English/ Oriya Newspapers, no body filed any objection with regard to the computation of Wheeling charge and Cross- Subsidy Surcharge of DISCOMS against aforesaid case nos.
4. The summary of submissions of the applicants are given as under:

(i) Central Electricity Supply Utility of Orissa (CESU)

The representatives of CESU submitted their views on computation of wheeling charges, Cross-Subsidy Surcharge and Additional Surcharge as follows.

(a) Wheeling Charges:

CESU submitted that wheeling charges for Open Access customers had been calculated at 78.97 P/Unit for FY 2010-11 basing on the approved Distribution Cost of Rs.424.16 crore and energy of 5371.3 MU to be distributed in HT during FY 2010-11.

(b) Cross Subsidy Surcharge:

CESU had estimated the Cross Subsidy Surcharge in respect of HT and EHT category consumers for FY 2010-11 as mentioned hereunder:

- Distribution loss of 8% as approved for the FY 09-10 is considered for calculation of wheeling charge for realistic assessment of loss of revenue to the utility.
- The transmission loss is generally appropriated while fixing the BST rate, so this loss is not loaded while computing the surcharge.
- The rate per unit charged to a HT /EHT consumer varies with the percentage of load factor at which the consumer avails supply. The Commission while approving Open Access charges for the FY 2009-10 assumed minimum load factor of 20% & up to maximum of 100% for deriving sales rates to different HT consumers. The Consumers availing less than 20% load factor are liable to pay surcharge at minimum of 20% Load Factor.

- For irrigation and Agro Industrial category, open access surcharge is not envisaged since the RST rates applicable are highly subsidized and Open Access will not be commercially beneficial.
- Open Access for Emergency Power to CPP is not envisaged as emergency requirements for HT & EHT consumers will be for very short period and can be met by way of temporary supply as per OERC Distribution (Conditions of Supply) Code 2004.
- The Surcharge has been calculated by CESU basing on the formula prescribed in the National Tariff Policy.
- CESU calculated the rate of sale and surcharge per unit for HT and EHT consumers basing on the above principle and the tariff as approved by the Commission for 2010-11 as given in the table below.

Table-1
Surcharge for EHT Consumer

Actual L.F (%)	100	95	90	85	80	75	70	65	60
Surcharge (Paise/ Unit)	179	183	188	193	199	206	213	222	233
Actual L.F (%)	55	50	45	40	35	30	25	20	
Surcharge (Paise/ Unit)	241	250	257	265	276	291	311	342	

Table-2
Surcharge for HT Consumer

Actual L.F (%)	100	95	90	85	80	75	70	65	60
Surcharge (Paise/ Unit)	170	174	179	184	190	197	205	214	225
Actual L.F (%)	55	50	45	40	35	30	25	20	
Surcharge (Paise/ Unit)	233	243	249	258	269	283	304	334	

(c) Additional Surcharge:

At present no consumer is availing supply through open access from CESU's network. On receipt of open access application from any intending consumer, CESU will submit to the Commission within 30 (thirty) days of receipt of application on account of additional fixed cost to be incurred towards its obligation to allow open access & for determination of additional surcharge as per CI-3 of OERC (Determination of open access charges) Regulation-2006.

(d) Scheduling & System operation charges

CESU proposes that a sum of Rs.2000/ day or part thereof may be allowed to be paid by all open access customers towards scheduling and operation charges

(e) **Reactive Energy charges :**

The Commission vide its order dated 20-03-10 in case No-145/2009 has allowed provisional reactive energy charges @6 paise per unit to M/s OPTCL for the FY 10-11. CESU proposes levy of reactive energy charges at the same rate to open access consumers.

(f) The following charges have not been evaluated.

- Charges for short term access through bidding.
- Unscheduled Interchange charge.
- Miscellaneous charges.

However, CESU submitted that these charges might be allowed as and when the same would be applicable.

(ii) **North Eastern Electricity Supply Company of Orissa Ltd. (NESCO), Western Electricity Supply Company of Orissa Ltd. (WESCO), Southern Electricity Supply Company of Orissa Ltd. (SOUTHCO)**

The representatives of NESCO, WESCO & SOUTHCO submitted their views on computation of Transmission/wheeling charges, Cross-Subsidy Surcharge and Additional Surcharge as follows:

(a) **Transmission/Wheeling Charges:**

The Regulation provides that Open access customers connected to the intra-state transmission/distribution systems shall pay the transmission and wheeling charges as applicable to the appropriate licensees, as the Commission may determine from time to time.

Wheeling charges (paise/unit) proposed by NESCO, WESCO & SOUTHCO for HT & EHT consumers are given in the Table below.

Table-3

	Paise/KVA	
	EHT	HT
NESCO	Not Applicable	18
WESCO	-do-	19
SOUTHCO	-do-	98

(b) **Cross Subsidy Surcharge:**

NESCO, WESCO & SOUTHCO have estimated the Cross Subsidy Surcharge in respect of HT and EHT category consumers for FY 2010-11 as mentioned hereunder:

Table-4

Description	NESCO		WESCO(based on approved cost of supply)		Paise/KVA SOUTHCO	
	EHT	HT	EHT	HT	EHT	HT
Bulk Domestic						247
Specified Public purpose		149		101		257
General Purpose (>110kVA)		131		111		268
Public Water Works		128		103		245

Large Industry	78	102	113	89	304	280
Power Intensive Industry	45	57	100	97	279	193
Allied Agriculture		-197				-52
Allied Agro Industrial						187
Emergency Supply to CGP	182	215				
Mini steel Plant			61	92		
Railway Traction	97		99	79	367	
Heavy Industries	95		111			
Medium Industry						273
Other - BDS		95				

(c) **Additional Surcharge:**

The representatives of NESCO, WESCO & SOUTHCO submitted that the Commission might determine the Additional Surcharge as and when any consumer applies for Open Access on case-to-case basis considering the submission of the licensee.

(d) **Other Proposal:**

- i. The representatives of NESCO, WESCO & SOUTHCO submitted that the distribution licensee may be allowed to reserve adequate transmission corridor for new consumers for grant of open access.
- ii. The representatives of NESCO & WESCO submitted that the BST rate for the units consumed by the open access consumer from DISCOM other than the incumbent distribution licensee may be determined at a higher rate in order to avoid the unwanted competition/ discrimination among the DISCOMs.
- iii. The licensees submitted that discrimination may not be made between new or existing consumer, new consumers should pay cross subsidy charges as the existing consumers pay. Here the licensee draws the attention to the decision of the Maharashtra Electricity Regulatory Commission in the case no.9 of 2006 on ***“methodology for computation of cross subsidy surcharge for open access transaction”*** wherein it is stated that, “New consumers will not be exempted from levy of cross subsidy surcharge.”
- iv. That prompt payment rebate may please be allowed if payment is made by an open access consumer within 48 hours of presentation of bill and delayed payment surcharge for non payment within due date.
- v. That during power regulation, when restricted demand is being considered for billing purposes and the licensee is getting demand charges on the revised CD i.e., restricted CD, then any drawal over and above the restricted demand by an open access customer from other sources is liable for open access charges.
- vi. The representative of SOUTHCO submitted that the Regulation as well as the Approval of determination of Open Access charges did not specify about the recording of SMD of the Open access consumer. Now the question arises whether the SMD shall be recorded with the embedded licensee (where the consumer is directly connected with the system) or with the

licensee where commercial arrangement has been made. This needs to be clarified and also the approval of SMD in respect of each distribution licensee shall be increased/decreased as the case may be due to the Contract Demand / recorded maximum demand of the Open Access Consumer.

5. The Commission has carefully examined all applications received from the DISCOMs on the methodology for estimating the Cross-subsidy Surcharge and the Additional Surcharge. As the subject matter of all the above cases are similar in nature, the Commission heard the views of all the applicants analogously and passed the following common order.

Commission's observations:

6. The Open Access Charges (Transmission/wheeling Charges, Surcharge and Additional Surcharge applicable to open access customers for use of Intra-state transmission/ distribution system) under the provisions of the Act were first fixed by the Commission for 2008-09 in its order dated 29.03.2008 in Case No. 66, 67, 68 & 69 of 2006. The detailed procedures and methodologies for computation of surcharge for different consumer categories have been elaborately described in the said order. Subsequently, the Commission has passed the second order on Open Access Charges (Transmission/wheeling Charges, Surcharge and Additional Surcharge applicable to open access customers for use of Intra-state transmission/ distribution system) in its order dated 03.07.2009 in Case No. 23,24,25& 26 of 2009 for 2009-10 based on the same principle.
7. The Commission has approved the Annual revenue requirement and Tariff of the following entities on dt.20.03.2010 for 2010-11 which is effective from 01.04.2010.
 - ARR & Transmission charges of OPTCL vide its order in Case No.145/2009
 - ARR & Retail Supply tariff of Distribution licensees in Case No.140,141,142&143 of 2009
 - ARR & BSP of GRIDCO in case No.-144/2009
 - ARR & Fees and Charges for SLDC vide case No.146/2009

The Cross-subsidy Surcharge and Additional Surcharge to be charged to open access consumers now needs to be re-determined, basing on the new tariffs and costs approved by the Commission in the said order.

8. Surcharge is to be levied on open access customers under Section 42 (2) of the Electricity Act, 2003. While determining the surcharge, the Commission has to keep in view the loss of cross subsidy from such consumers who opt to take supply from a person other than the incumbent distribution licensee. The distribution company on the other hand is spending money towards the cost of power purchase, charges for transmission, losses in transmission of the OPTCL, wheeling cost of this power in its own distribution system in addition to covering the expenses towards the cost of energy lost in distribution. The distribution utility is entitled to a return on equity on its own investment. Thus, the difference between the revenue realized from a consumer less all the aforesaid charges is the margin available to the distribution utility for supply to an EHT/HT consumer. This margin goes towards cross-subsidizing supplies to certain classes of consumers.
9. On the other hand, there are some consumers who may be getting electricity from the distribution utility and paying a charge which may be less than total expenses incurred

by the utility for such supply. As explained in para 8 above, the margin available from sale to an HT consumer is the cross subsidy surcharge that is available for the consumers below the cost of supply. Hence, an attempt is always made to reach a revenue neutral position such that the margin available from subsidizing consumers is adequate to meet the gap due to the subsidized consumers. The objective of the Electricity Act, 2003 is to reduce the cross subsidy in the tariff structure so that the consumers move towards the concept of meeting the full cost of supply with gradual reduction of the cross subsidy in a phased manner.

10. In this connection, the formula for computation of surcharge prescribed in the tariff policy in para 8.5.1 is quoted below:

Accordingly, when open access is allowed the surcharge for the purpose of sections 38, 39, 40 and sub-section 2 of section 42 would be 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. In case of a consumer opting for open access, the distribution licensee could be in a position to discontinue purchase of power at the margin in the merit order. Accordingly, 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 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

The cross-subsidy surcharge should be brought down progressively and, as far as possible, at a linear rate to a maximum of 20% of its opening level by the year 2010-11.

OERC has broadly adopted the above principle laid out in the National Tariff Policy for determination of cross-subsidy surcharge. But we have certain uniqueness in the structural and functional aspects of power sector in the State. Hence, we have incorporated certain modifications in the interpretation of definitions of the above formula while keeping in mind the realities of our State. As such, we have adopted the following principles for calculating the open access surcharge as already laid out in our earlier Orders on this subject dated 29.03.2008 & 03.07.2009.

T = applicable tariff for EHT and HT consumers at different load factor

C = Power Purchase cost plus transmission charge payable by DISCOMs.

In Orissa GRIDCO being the deemed trading licensee, is the State aggregator of power. It purchases power from different sources including renewable sources and resells the same to DISCOMs at bulk supply price (BSP) fixed by the Commission. It has become necessary to maintain a uniform retail tariff throughout the State. All the four DISCOMs of the State meet their requirement of power only through GRIDCO as all the subsisting PPAs with generators are made with the latter. In this scenario of single buyer model of power purchase it is prudent to accept the BSP as approved by the Commission as the cost of power purchase for respective DISCOM. It is not sensible to ascribe weighted average cost of power purchase of top 5% at the margin by GRIDCO to any particular DISCOM or several DISCOMs because the power procured by GRIDCO has already been pooled at their end before it is resold to DISCOMs. Hence, we have no alternative but to accept the BSP of respective DISCOM as the power purchase cost for calculation of cross-subsidy surcharge. It is not out of place to mention here that the transmission loss in State Transmission Network is inbuilt in the BSP. In addition to BSP as stated above all the DISCOMs pay transmission charges to State Transmission Utility (OPTCL) for transmitting power in its EHT network to be delivered at inter-connection points with the DISCOMs. Hence, for our purpose cost of power purchase by DISCOMs is sum of BSP of respective DISCOMs, transmission charges & SLDC Charges. (i.e. C in the formula)

L = loss at HT 8%, whereas transmission loss of 4% is included in the BSP and need not be put in the formula

D = Wheeling charge levied by DISCOMs = Distribution cost/ Input at HT

11. It has been prescribed in our Open Access Charges Regulation, 2006 that the wheeling charges shall also be determined following the same principle as laid down for determination of transmission charge. In Orissa, we have got four distribution utilities. The cost of distribution of each utility and the amount of energy handled in the distribution system also varies from utility to utility. The total cost of distribution divided by the total energy handled in the distribution system gives the postage stamp rate for utilisation of distribution system. For our purpose, we are only considering the energy handled in the HT distribution system.
12. The Commission has approved the transmission loss and distribution loss which is 4% at EHT and 8% at HT distribution system for FY 2010-11. The transmission charge approved by the Commission for FY 2010-11 comes to 23.5P/U. Due to separation of SLDC functions from transmission business, the Distribution licensees have to pay SLDC charges as prescribed in the order in the case No.146/2009 dt. 20.03.2010 over and above the transmission charges. For the year 2010-11, the Commission has approved the following Bulk Supply Price in respect of four distribution companies.

1. CESU	157.00 per KWH
2. NESCO	195.00 per KWH
3. WESCO	194.00 per KWH
4. SOUTHCO	90.00 per KWH
13. Besides above, Demand charge @ Rs.200/- KVA is payable if the DISCOMs exceed the approved permitted Simultaneous Maximum Demand (SMD) for them. The Permitted SMD would mean monthly SMD recorded upto maximum of 10% over and above the approved SMD in the current tariff order to take care of monthly variations in the demand. Any excess drawl over the permitted SMD will have to be paid back

@Rs.200 per KVA per month. This is again subject to the condition that the annual average SMD shall be limited to the SMD permitted in the Tariff Order. The details of approved SMD for 2010-11 for all the DISCOMs is given in the table below:

Table – 5

Name of the DISCOMs	SMD Approved for 2010-11 (In MVA)
CESU	972.00
NESCO	730.00
WESCO	971.00
SOUTHCO	377.00
Total (All Orissa)	3050.00

14. Further the wheeling charge has been calculated based on the figures approved by the Commission in the Order vide Case No. 140,141,142 & 143 on dt.20.03.2010. The calculation of wheeling charges pertaining to each DISCOM is tabulated below for ready reference:

Table – 6

	CESU	NESCO	WESCO	SOUTHCO
Purchase MU	6,420.00	5,122.00	6,244.00	2,368.00
Sale MU				
EHT	1,048.66	1,794.57	1,383.00	287.79
HT	863.28	750.02	1,563.00	238.84
LT	2,879.32	1,631.72	2,053.84	1,182.51
TOTAL	4,791.26	4,176.31	4,999.84	1,709.15
Energy Handled at HT MU	5,371.34	3,327.43	4,861.00	2,080.21
Cost (Rs in Crore)				
Total RR Excl. Mis Rec.	1,549.38	1,351.41	1,636.10	472.47
Less Cost of Power Purchase ,Transmission & SLDC Charge (Rs Crore)	1,159.95	1,120.07	1,359.18	269.19
Net Distribution Cost (Rs. cr.)	389.43	231.34	276.92	203.28
Wheeling Charge (P/U) for 2010-11 (Net Distribution Cost/ Energy handled at HT) (P/U)	72.50	69.53	56.97	97.72
SLDC CHARGES APPROVED BY THE COMMISSION FOR 2010-11				
SLDC Charge Payable by DISCOMs (Rs Crore)	1.14	0.91	1.11	0.42
SLDC charge P/U for DISCOMs (Calculated)	0.18	0.18	0.18	0.18

15. There are various consumer categories availing supply at HT & EHT from the DISCOMs but consumers only with contract demand 1 MW and above can avail the benefits of open access under the present Open Access Regime as per the phasing notified in the Open Access Regulation of OERC. In light of this, we will only be discussing about the applicable tariff for HT & EHT group of consumers.
16. The electricity tariff structure of Orissa has been fully rationalized voltage-wise. Essentially, it consists of two major components i.e. the demand charge which is Rs.200 per KVA per month both for EHT & HT class of consumers (excepting few small ones) in addition to energy charge expressed in paise per KWH.

17. The energy charges as applicable to HT & EHT class of consumers w.e.f 01.04.2010 are given below:-

Table – 7
Energy Charges for HT & EHT Consumers

Load Factor (%)	HT	EHT
up to 50%	375 p/u	370 p/u
>50% = <60%	330 p/u	325 p/u
>60%	280 p/u	280 p/u

18. In addition to the above charges, a customer service charge of Rs.250 and Rs.700/- per HT and EHT consumers respectively per month are levied by the DISCOMs.
19. The above tariff structure indicates that with a uniform demand charge, the rate per unit varies according to the extent of use i.e. as the load factor goes on increasing the demand charge per unit declines. Its impact is that, the overall per unit charge of a consumer goes on declining as his load factor increases more and more. This is irrespective of the category to which the consumer might belong. The comparative picture about the rates payable at different load factor assuming Maximum Demand equal to full contracted capacity is given in the tables below:-

Table – 8

LOAD FACTOR BASED TARIFF FOR CONSUMERS AT EHT FOR FY 2010-11						
	Demand Charge	Normal Energy Ch.<=50%	Energy ch.>50%<=60%	Energy ch.>60%	Power Factor	
	(Rs./KVA)	(P/KWH)	(P/KWH)	(P/KWH)	0.9	
EHT	200	370	325	280		
Actual CD in KVA	Actual L.F	Max. Units per month	L.F. Limit for incentive	Av. Energy Rate	Demand Component	Total Rate
				(P/KWH)	(P/KWH)	(P/KWH)
1	100%	657	50%	329.50	30.44	359.94
1	95%	624	50%	332.11	32.04	364.15
1	90%	591	50%	335.00	33.82	368.82
1	85%	558	50%	338.24	35.81	374.05
1	80%	526	50%	341.88	38.05	379.93
1	75%	493	50%	346.00	40.59	386.59
1	70%	460	50%	350.71	43.49	394.20
1	65%	427	50%	356.15	46.83	402.99
1	60%	394	50%	362.50	50.74	413.24
1	55%	361	50%	365.91	55.35	421.26
1	50%	329	50%	370.00	60.88	430.88
1	45%	296	50%	370.00	67.65	437.65
1	40%	263	50%	370.00	76.10	446.10
1	35%	230	50%	370.00	86.98	456.98
1	30%	197	50%	370.00	101.47	471.47
1	25%	164	50%	370.00	121.77	491.77
1	20%	131	50%	370.00	152.21	522.21

Table – 9

LOAD FACTOR BASED TARIFF FOR CONSUMERS AT HT FOR FY 2010-11						
	Demand Charge	Normal Energy Ch.<=50%	Energy ch.>50%<=60%	Energy ch.>60%	Power Factor	
	(Rs./KVA)	(P/KWH)	(P/KWH)	(P/KWH)	0.9	
HT	200	375	330	280		
Actual CD in KVA	Actual L.F	Max. Units per month	L.F. Limit for incentive	Av. Energy Rate	Demand Component	Total Rate
					(P/KWH)	(P/KWH)
1	100%	657	50%	332.50	30.44	362.94
1	95%	624	50%	335.26	32.04	367.31
1	90%	591	50%	338.33	33.82	372.16
1	85%	558	50%	341.76	35.81	377.58
1	80%	526	50%	345.63	38.05	383.68
1	75%	493	50%	350.00	40.59	390.59
1	70%	460	50%	355.00	43.49	398.49
1	65%	427	50%	360.77	46.83	407.60
1	60%	394	50%	367.50	50.74	418.24
1	55%	361	50%	370.91	55.35	426.26
1	50%	329	50%	375.00	60.88	435.88
1	45%	296	50%	375.00	67.65	442.65
1	40%	263	50%	375.00	76.10	451.10
1	35%	230	50%	375.00	86.98	461.98
1	30%	197	50%	375.00	101.47	476.47
1	25%	164	50%	375.00	121.77	496.77
1	20%	131	50%	375.00	152.21	527.21

20. As indicated in Tables - 8 and 9 in the rationalized tariff structure, there is a variation in rate payable by the consumers for operation at different load factors. Therefore, fixing a particular rate may be correct only for a particular load factor. To be fair to the distribution utility as well as to the consumer, it is necessary to determine the extent of loss of revenue that could occur due to the migration of consumer from an embedded utility for calculation of surcharge..
21. The rate per unit billed to a consumer, less the bulk supply price of a utility, less the transmission charge, is the marginal benefit in the form of cross subsidy from an EHT consumer.
22. Likewise the rate per unit billed to a HT consumer, less the bulk supply price of a utility, less the transmission charge, less the wheeling charge, is equal to the marginal benefit from a HT consumer. Of course, loss in HT Distribution system will have to be taken into consideration.
23. Suppose an embedded customer in a distribution system proposes to shift to another distribution licensee. Physically he remains connected to the incumbent licensee. Therefore, he is required to pay charges such as wheeling charges including losses in HT system and cross subsidy surcharge to the incumbent licensee. This is in addition

to transmission charges and losses along with other applicable SLDC charges payable to OPTCL and SLDC respectively.

24. For direct purchase from a Generator/Licensee, he has to pay to the Generator or the Licensee for energy charges depending upon the source to which he chooses to migrate.
25. The problem is, because he is connected to the incumbent license's system, his maximum demand gets recorded in the overall maximum demand of the incumbent licensee. The incumbent licensee pays for the demand charges to the bulk supply licensee. It is difficult to distinguish to the extent, the maximum demand of the consumer affects the overall maximum demand of the incumbent licensee due to diversity of consumers drawal in the system. Hence, it is difficult to ascertain the maximum demand component of this consumer in the recorded overall maximum demand of the incumbent licensee.
26. The system power factor may not be affected due to the shifting of large number of consumers from one utility to other but the recorded maximum demand for bulk purchase of the embedded licensee will continue to record the total Maximum Demand as before which is a reflection of both Active & Reactive Load. Hence the migration needs to be suitably compensated, so that the embedded licensee is not unduly burdened due to higher recording of Maximum Demand. As an example, if the migrating consumers were supplied power from other independent sources bereft of embedded licensee's distribution system, the recorded Maximum Demand for bulk purchase of the embedded licensee would have been lower. This is also to be noted that the revenue requirement of a DISCOM is determined based on an expected Maximum Demand, beyond which they are liable to pay a penalty to the Bulk Supplier.
27. The Act envisages reduction of cross subsidy and the National Tariff Policy envisages that the cross subsidy surcharge will be reduced in a linear manner to a maximum of 20% of its opening level by the year 2010-11. The reduction of transmission and distribution loss in four utilities is exhibiting an improved trend and there may be further improvement by the year 2011-12. We believe that improvement in loss reduction would, to some extent, be able to offset the impact due to withdrawal/reduction of cross subsidy.
28. In para 8.5.1 of the National Tariff Policy, it is stated that "when open access is allowed, the surcharge for the purpose of Sections 38, 39, 40 & sub-section (2) of Section 42 would be computed as the difference between (i) the tariff applicable to the relevant category of consumers and (ii) the cost of the distribution licensees to supply electricity to the consumers of the applicable class". In that context, we have explained the tariff applicable to EHT and HT category of consumers at a normative level of operation for different levels of load factors with 100% MD in tables 8 & 9.
29. The different applicable rates of surcharge both for HT & EHT consumers have been worked out below as per the principles stated in our previous orders on Cross subsidy Surcharge on Dt 29.03.2008 & 07.03.2009.

The surcharge formula prescribed in National Tariff Policy as stated earlier is again reproduced:

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

Where, the notations have their usual meaning as mentioned in Para 13 of this Order which are

S is the surcharge;

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

C is the Power purchase cost which is sum of BSP of the DISCOM and transmission including SLDC charges

D is the Wheeling charge;

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

For the purpose of above formula we adopt EHT transmission loss as 4% and HT wheeling loss as 8% as approved by the Commission in the tariff order for FY 2010-11.

Table - 10

Name of the licensee	Bulk supply price including transmission loss of 4.0% (P/U) (C)	Wheeling charges (p/u) for HT as per the nomenclature in the formula (D)	Transmission charges (p/u) for EHT as per the nomenclature in the formula (D)	SLDC approved by the commission Charges for 2010-11 (Calculated for DISCOMs P/U)
CESU	157.00	72.50	23.5	0.18
NESCO	195.00	69.53	23.5	0.18
WESCO	194.00	56.97	23.5	0.18
SOUTHCO	90.00	97.72	23.5	0.18

Accordingly, surcharge for different DISCOMs at different load factors at HT is worked out and presented in the table below:

Table - 11

Surcharge as per Tariff policy for FY 2010-11 at HT

Wheeling charge p/u	Load Factor %	100%	90%	80%	70%	60%	50%	40%	30%	20%
	Tariff (HT) p/u	363	372	384	398	418	436	451	476	527
	Surcharge P/U									
72.50	CESU	95	105	116	131	151	168	183	209	260
69.53	NESCO	57	66	78	93	113	130	145	171	222
56.97	WESCO	71	80	92	106	126	144	159	184	235
97.12	SOUTHCO	142	152	163	178	198	215	231	256	307

The Surcharge for different DISCOMs at different load factors at EHT is worked out and presented in the table below:

Table - 12
Surcharge as per Tariff policy for FY 2010-11 at EHT

Transmission Charge P/U	Load Factor %	100%	90%	80%	70%	60%	50%	40%	30%	20%
	Tariff (HT) P/U	360	369	380	394	413	431	446	471	522
	Surcharge P/U									
23.5	CESU	179	188	199	214	233	250	265	291	342
23.5	NESCO	141	150	161	176	195	212	227	253	304
23.5	WESCO	142	151	162	177	196	213	228	254	305
23.5	SOUTHCO	246	255	266	281	300	317	332	358	409

30. The fixation of the surcharge needs to be realistic so that the extent of compensation available to the DISCOMs do not reduce drastically so as to affect their financial viability and, at the same time, give a signal to the enterprising consumers that they can source their power from generators and other licensees for optimizing their efficiency.
31. As HT and EHT consumers are an enlightened group of consumers there should not be really any difficulty for them to forecast their own load factor of operation and carry out commercial negotiations with Generator /Licensee to whom they would be migrating. A linear approach for determining the exact rate in steps of 1% between 20% to 30% or 30% to 40% etc. can be worked out. For Load Factor below 20%, the surcharge at 20% shall apply. The surcharge shall be indicated in each monthly bill raised by the embedded licensee.
32. There are certain consumers for whom the above mentioned surcharges need not be applied. The provisions of Para 8.5.2 of the National Tariff Policy in this regard is quoted here under:
- “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 Section 43(A)(1)(c) of the Electricity Act, 1948 (now repealed) and on the electricity being supplied by the distribution licensee on the authorization by the State Government under Section 27 of the Indian Electricity Act, 1910, (now repealed), till the current validity of such consent or authorizations.*
33. The mode of recovery of surcharge has already been explained in Para 8.5.3 of the National Tariff Policy which is reproduced below and requires no elaboration:
- “The surcharge may be collected either by the distribution licensee, the transmission licensee, the STU or the CTU, depending on whose facilities are used by the consumer for availing electricity supplies. In all cases the amounts collected from a particular consumer should be given to the distribution licensee in whose area the consumer is located. In case of two licensees supplying in the same area the licensee from whom the consumer was availing supply shall be paid the amounts collected.*

Additional Surcharge :

34. The Electricity Act, 2003 envisages levy of additional surcharge under sub-section (4) of Sec. 42. According to this Section, a consumer opting to avail the facility of open access from a person other than the distribution licensee of its area of supply is liable

to pay an additional surcharge on the charges of wheeling to meet the fixed cost of such distribution licensee arising out of its obligation to supply. We are conceiving a situation where the consumer is embedded to a particular distribution licensee utilizing the physical infrastructure of the embedded licensee for drawing power from the system. In such a situation, the question of assets getting stranded does not arise.

35. This kind of additional surcharge can be levied when new infrastructure is created for the customer to receive supply from a system other than that of the embedded distribution licensee. For example, a CGP gives power supply directly to such a consumer through an independent feeder. In such a situation, the assets of embedded licensee may become stranded, that too if no new consumers are coming forward to utilize these assets. As long as the consumer remains connected to the embedded distribution licensee, it will only be a change of commercial principle and billing methodology. Hence, no additional surcharge over and above the billing charge needs to be given to the embedded licensee.
36. Para 8.5.6 of National Tariff Policy provides that in case outages of generator supplying to a consumer on open access, standby arrangements should be provided by the licensee on the payment of tariff for temporary connection to that consumer category as specified by the Appropriate Commission. In case of Orissa, tariff for temporary supply is applicable to the appropriate class to which a consumer belongs. Obviously, the same rate can be applied as per the prevailing tariff structure.
37. To sum up we decide and direct as under:
 - (i) The wheeling charge and surcharge as indicated in Tables-11 and 12 are applicable for the year 2010-11 w.e.f. 1.4.2010 and may undergo change from time to time as may be decided by the Commission.
 - (ii) The normative transmission loss at EHT (4.0%) and normative wheeling loss for HT level (8%) are applicable for the year 2010-11 and may undergo change as may be decided by the Commission from time to time.
 - (iii) The additional surcharge would be determined and guided as per the broad principles enumerated from para 34 to 36 above.
38. These charges will be notified for the FY 2010-11 and will remain in force until further order.
39. Accordingly the case Nos. 24, 25,26 & 27 of 2010 relating to Open Access proceedings are disposed off and the charges are approved in accordance with the relevant provisions of the Electricity Act, 2003 and OERC (Determination of Open Access Charges) Regulations, 2006.

Sd/-
(B.K.MISRA)
MEMBER

Sd/-
(K.C. BADU)
MEMBER