KARNATAKA ELECTRICITY REGULATORY COMMISSION
No.9/2, 6th & 7th Floor, Mahalaxmi Chambers,
M.G.Road, Bangalore-560 001.

Present:	Shri K.P.Pandey	Chairman
	Shri H.S.Subramanya	Member
	Shri S.D.Ukkali	Member

In the matter of determination of Transmission Charge, Wheeling Charge and Cross Subsidy Surcharge under Open Access

ORDER

No.Q/01/1 Dated 9th June 2005

1. Pursuant to section 42 and all other enabling provisions under the Electricity Act 2003, the Commission had issued KERC (Terms and Conditions for Open Access) Regulations, 2004, which has been notified in the gazette of Karnataka on 16.12.2004. Clause 11(i) of the said Regulations provide that transmission charges as determined by the Commission shall be applicable from time to time and the Commission would follow the postage stamp method for determination of transmission tariff for the present. Clause 11(ii) of the Regulations specifies that the wheeling charges as determined by the Commission shall be applicable from time to time. Further, clause 11 (iv) specifies that the Commission would determine the surcharge based on cost of supply to various consumer categories. In this context the Commission had directed KPTCL/ESCOMs to file proposals for determination of these charges.

2. Under the above Open Access Regulations, the Commission has allowed in Phase-I open access to all HT consumers with Contract Demand of 15 MW and above and with voltage level of 66 kV and above, effective from 10.6.2005. Thus there is an urgent need to determine the transmission charges, wheeling charges and surcharge in order to implement the said regulations. Since there has been no response from KPTCL/ESCOMs to file necessary proposals to determine these charges, the Commission is constrained to determine these charges with the available information, as an interim arrangement, in order to give effect to the open access allowed in Phase-I.

3. For determination of the above charges the Commission had issued a detailed discussion paper inviting comments/suggestions from stakeholders, experts and others, vide Commission's letter dated 25th April 2005 and views were sought specifically on the following points:

(i) The methodology to be followed in determination of Transmission charges, wheeling charges and surcharge in Karnataka

(ii) Whether any preferential treatment is to be given for power supply from non-conventional sources under open access and if so to what extent?

(iii) Out of the Cross-subsidy determined, whether the cross subsidy surcharge for open access can be levied ranging from 50 to 90 % in order to encourage open access?

(iv) Whether commercial loss has to be allocated to all consumers including HT & EHT?

(v) Whether banking facility is to be provided under open access? If so, what type of generation facility should be provided banking and what should be the banking charges?

(vi) Other suggestions

4. The Commission has received written responses from 22 nos. of stakeholders/experts. A list of stakeholders/experts who have responded to the discussion paper is enclosed to this order vide Annexe-1.

5. There upon the Commission decided to hold public hearing in the matter on 25th May 2005. A notice to this effect was published in the following newspapers on 14th May 2005:

i)	The Hindu	(English Daily)
ii)	The Times of India	(-do-)
iii)	Kannada Prabha	(Kannada Daily)
iv)	Vijaya Karnataka	(-do-)

6. As scheduled, the hearing was held on 25th May 2005. A list of participants in the hearing is enclosed vide Annexure-2. In the said hearing, after presentation by various stakeholders/experts, MD/KPTCL sought time to present their views. The Commission permitted KPTCL to present their written comments by 31.5.05 and to make oral submissions in the hearing on 1st June 2005 Accordingly, MD/KPTCL has filed written comments on behalf of KPTCL/ESCOMs and presented their views on 1st June 2005.

7. A summary of the Commission's proposal, views/comments expressed by the stakeholders/experts in writing as well as during the hearings, and the Commission's decision thereon on each of the issues are given below:

7.01 **Methodology for determination of Transmission Charges::**

Commission's Proposal: In the discussion paper, the Commission had proposed to calculate transmission charges on postage stamp basis either on per unit basis or on per MW basis.

Comments received: Special Secretary (Reforms) GoK has opined that the methodology for determination of Transmission, wheeling charge and surcharge should take into account the capacity available in the system, nature of consumers, consumers who leave the grid and the new consumers who join the grid. KPTCL has stated that transmission charges should be determined on MW basis since energy based transmission charge may result in under recovery/over recovery of costs and also that the short tem open access customers may block the transmission path for others without paying any charges. KPTCL further stated that for calculating transmission charges on MW basis, available capacity should be considered as against the installed capacity. Indian Wind Power Association (IWPA) has suggested postage stamp methodology for determination of transmission charges. However for wind projects relaxation in methodology may be considered wherein the charges may be computed in both distance sensitive and distance neutral methodologies and least costs shall be arrived at based on these methods. Kalyani Steels has proposed that transmission charges be based on combination of distance sensitive slabs in steps of 25KMs/50 KMs with postage stamp based charges in a particular slab. Sri Govindappa former Technical Member, KEB, has stated that distance sensitive method shall be adopted for transmission charges. Sri B.G.Rudrappa former Chairman, KEB, has stated that open access customer should justifiably bear the proportionate cost of the transmission loss and also compensate the incremental transmission loss. He has further stated that in the present practice, the annual cost of transmission is divided by the units sold to the ESCOMs, which incidentally covers transmission loss also. It is difficult to determine the incremental line losses, as it is dependent on the location of consumer, location of supplier, hour of usage and season. Hence it is advisable to charge on per unit cost basis for open access customers also as is being followed now. Sri Venkata Subba Rao has opined that Transmission charges for the purpose of wheeling should be based on zonal stamp method, one for each ESCOM. Karnataka Working Group for Electricity has suggested to adopt postage stamp method for both transmission and wheeling charges. Some of the stakeholders have requested the Commission to adopt the methodology for computation of transmission charges as being followed by CERC. Sri Raghavendra Raju has also expressed the same views.

Commission's Views/Decision:

The Commission, in its Regulations has specified that it would adopt Postage Stamp method for determination of transmission charges as postage stamp method is simple and easy to implement, particularly in the absence of voltage-wise details of assets of transmission.

Regarding KPTCL's proposal to determine the charges on mega watt basis for open access customers, the Commission notes that the existing transmission charges for ESCOMs has been determined on energy basis since the formation of ESCOMs (In June 2002) considering the proposal of KPTCL. The Commission also notes that the allocation of PPAs by GoK in the order dated 10.5.05 is also based on energy input to ESCOMs. The Commission pointed out to KPTCL during the hearing that determination of transmission charges on MW basis to open access customers and on energy basis to ESCOMs would amount to discrimination. KPTCL has not proposed transmission charges on MW basis even in the ERCs for FY05 and FY06 which are before the Commission for disposal. While the proposal of KPTCL to determine the charges on MW basis is a welcome move, the methodology should be uniformly applied to the ESCOMs as well as open access customers. Therefore, till such time the KPTCL files its proposals for determination of transmission chargers on MW basis to ESCOMs and also to open access customers, it is appropriate to follow energy based transmission charges uniformly.

In view of the above the Commission proceeds with determination of transmission charges based on per unit basis instead of per Mega Watt basis for the present.

7.02 **Methodology for determination of wheeling Charges::**

Commission's Proposal:

The Commission has determined wheeling charges in the Tariff Order 2003. However as indicated in the discussion paper, several stakeholders/ consumers have represented to the Commission stating that the wheeling charges determined by the Commission are exorbitant. After examining the alternative methods such as Postage stamp method, License plate, Zonal stamp method, Highway-zone method and Distance Sensitive (MW-km) methods for computation of wheeling charges, the Commission had proposed in the discussion paper to adopt Licence plate methodology with certain modification to avoid pancaking. The Commission had proposed ESCOM wise wheeling charges based on Cost of Service (CoS) methodology using NCP method.

Comments received

As discussed earlier, Special Secretary (Reforms)/ GoK has stated that the methodology should take into account the capacity available in the system, nature of consumers, consumers who leave the grid and the new consumers who join the grid. HESCOM has preferred licence plate methodology for computation of wheeling charges and has stated that Cost to serve should not be used for wheeling charges. CESCO has stated that licence plate methodology proposed would not be fair to ESCOMs. Karnataka Working Group for Electricity has suggested to adopt postage stamp method. Bangalore Chamber of Industry and Commerce has stated that Wheeling charges should be based on distance of flow at the respective voltage class. Sri Venkata Subba Rao has stated that wheeling charges for distribution network should be worked out based on load research and further wheeling charges for urban network should be more than rural network.

Commission's views/decision:

The Commission had proposed ESCOM-wise wheeling charges based on CoS methodology using NCP method. Most of the stakeholders including KPTCL have expressed concern over the reliability of the data used for CoS methodology. It would not be out of context to mention here that the Commission has been insisting on conducting studies to implement Cost to serve methodology both for tariff determination as well for determination of wheeling charges. The Commission has also addressed GoK in the matter. Despite allowing sufficient time to the utilities, the Commission notes that even in the latest ERC the utilities have proposed fixation of tariff on average cost basis without any indication on the action plan to implement the CoS methodology. During the hearing, KPTCL have assured that they would work out the CoS in the ERC to be filed in FY07. Regarding suggestion to determine the charges based on distance of flow and separate charges for urban & rural networks, KPTCL/ESCOMs may examine and come out with specific proposal in future.

In view of the above, the Commission considers it appropriate to determine the wheeling charges based on the average network cost of the respective ESCOMs for the present.

7.03 **Methodology for determination of Surcharge:**

Commission's Proposal:
The Commission, in its discussion paper, had proposed computation of cross subsidy surcharge by applying CoS Model and further to allocate the costs involved in generation, transmission & Distribution of electricity under the alternative methods such as 1 CP method, NCP method, CP & NCP method & Average & Excess Method.

Comments received
Special Secretary (Reforms)/GoK has opined that the methodology should take into account the capacity available in the system, nature of consumers, consumers who leave the grid and the new consumers who join the grid. HESCOM opined that surcharge to be equal to the difference between average realisation per unit and purchase cost (BST) per unit. Reliance Energy has suggested that Demand related costs should be allocated based on co-incident peak for generation and transmission and on NCP for distribution. Kalyani Steels has opined that surcharge should be based on average and excess method and it should be at lower levels to make the open access viable. Karnataka Working Group for Electricity has suggested that allocation of demand charges should be based on NCP method. Bangalore Chamber of Industry and Commerce has stated that surcharge to be based on RoR of 12% post tax

on capital expenditure of T & D system less depreciation plus interest costs, manpower costs, R & M cost and working capital cost. Sri Venkata Subba Rao has stated that Surcharge shall be based on avoided cost of generation suggested by the Forum of Indian Regulators (FOIR) by suitably modifying the approach to calculate the avoided cost for Karnataka and he also suggested that average cost of supply could be adopted for the present as it would not be fair to follow different approaches for determining retail tariff and surcharge.

KPTCL have proposed to calculate surcharge as the difference between average realisation rate & Bulk Supply Tariff (BST) charged to ESCOMs. They have stated that CoS calculation in the discussion paper is based on earlier MECON reports which themselves are based on several assumptions and cannot be relied upon and therefore in the absence of load research, surcharge calculations based on assumptions would have far reaching impact. In the public hearing, this aspect was elaborately discussed and the Commission pointed out that according to section 61(g) of the Electricity Act 2003, the tariffs shall reflect progressively the cost of supply of electricity and further that cross subsidies shall be reduced and eliminated within the period to be specified by the Commission. Therefore the alternative methodologies that could be adopted for the present for determination of surcharge are (a) Average Cost of Supply and (b) CoS only and KPTCL's proposal to adopt BST for the purpose lacks rationale. After discussions, KPTCL had proposed in the hearing to adopt average cost of supply for the present for determination of surcharge expressing apprehensions about the reliability of data for using CoS.

Commission's views/Decision:
Regarding KPTCL's suggestions to adopt BST for calculating the surcharge, the Commission do not find any rationale in the proposal. The Commission is of the view that surcharge will have to be computed with reference to cost of supply only as contemplated in the Act in future when tariffs are determined on CoS. However the Commission finds merit in the argument that since average cost of supply has been considered for tariff determination, the same methodology shall be adopted for determination of surcharge also and it would be inappropriate to adopt different methodologies. Since KPTCL have expressed serious reservation on the reliability of data to be used for CoS methodology and since KPTCL itself has proposed to adopt the average cost of supply for the present, the Commission is inclined to agree to the proposal till such time KPTCL/ESCOMs come out with CoS methodology for tariff determination in their filings. Consequently necessary amendment to KERC (Terms and Conditions for Open Access) Regulations, 2004 will be incorporated.

For the reasons stated above, the Commission decides to adopt average cost of supply for the present for determining the cross subsidy surcharge

7.04 **Need for Preferential treatment for power supply from non-conventional sources:**

Commission's Proposal:

The Commission had observed that a concessional rate of wheeling charges has been levied for NCE sources of power in some states like AP – 2%, Tamilnadu-4%, and Kerala 5% in order to promote generation from renewable sources. The Commission had sought the views of stakeholders' whether the same confessional wheeling charges shall be extended in Karnataka also.

Comments received

Special Secretary (Reforms)/GoK has suggested that wheeling charges for NCE sources shall be so fixed that they are incentivised for supply to entities other than KPTCL and ESCOMs. ESCOMs in their written response have stated that no preferential treatment may be given for NCE projects. However, during the hearing, the MD/KPTCL who presented the views on behalf of KPTCL/ESCOMs stated that concessional wheeling charges extended in the neighbouring states could be extended in Karnataka as well to promote generation from NCE sources. IREDA has proposed that 2% wheeling charges as proposed by the MNES Guidelines may be retained for NCE sources and no other charges shall be levied so as to promote and develop renewable energy projects. Reliance Energy Limited has commented that preferential treatment should not be given to NCE sources of energy as they have the benefits of higher tariffs as well as mandatory purchase by ESCOMs under KERC Regulations. IWPA has stated that preferential treatment has to be given to renewables as it is justified by statutory substantiation, precedents and non-statutory aspects also. They further stated that by providing preferential treatment to wind projects, KERC is ensuring that its correlated mandate as per EA 2003, NCE Regulations and contractual protection and payment security mechanism are efficaciously implemented. All wind projects are locked in long term PPAs and in effect open access is applicable to new wind projects only and hence by conferring preferential treatment ESCOMs will not be affected. Also wheeled energy by these projects would be a very minute component of the total energy wheeled. IWPA has requested to fix wheeling charges at 4% for a fixed period of 10 years and further suggested that for captive loads wheeling charges should be 2%. They have also stated that no surcharge should be levied for wind projects under open access regime. Kalyani Steels Ltd have stated that no preferential treatment is required to be provided for the present. Most of the NCE developers have requested for preferential treatment to NCE projects in regard to open access charges. Some of the developers have proposed to levy wheeling charges in the range of 1 to 6% and such charges to be fixed for a period of 10 years. Karnataka Working Group, Bangalore Chamber of Commerce and Balekadarara Hitharakshaka Kendra are not in favour of providing any preferential treatment to NCE projects.

Commission's views/ Decision:

While the developers of the renewable energy sources have requested to extend concessions in wheeling charges, some of the stakeholders and experts have stated that renewable sources already enjoy preferential treatment such as minimum quantum of purchase, higher tariff etc., and extending further benefits would have adverse financial impact on the ESCOMs. However, during the hearing KPTCL/ESCOMs themselves have opined that preferential treatment needs to be extended to renewables keeping in view the benefits extended in the neighbouring states. MNES as well as Special Secretary/GOK have also suggested for extending concessional wheeling charges.

The Commission notes that the concept of open access has been introduced to bring in competition so that consumer can get power at competitive rates. Since, at present, projects based on renewable sources cannot compete with conventional sources of energy, the Commission decides that concessional wheeling charges needs to be extended to renewable sources of energy as in the neighbouring states in order to promote NCE sources under open access.

7.05 **Extent of Levy of cross subsidy surcharge for open access:**

Commission's Proposal:
The Commission had suggested that out of the Cross-subsidy determined under CoS methodology, whether the cross subsidy surcharge for open access can be levied ranging from 50 to 90 % in order to encourage open access?

Comments received
Special Secretary Reforms GoK has stressed that there is an urgent need for reduction of cross subsidy, which will increase consumption by subsidising categories. Further he has stated that while reducing cross subsidy KERC should consider reduction of subsidy burden on the GoK. KPTCL is of the view that Electricity Act does not permit to charge surcharge at a reduced rate as the surcharge is meant to meet the current level of subsidies. Similar views were expressed by Karnataka Working Group. Some of the ESCOMs have favoured charging 90% surcharge to encourage open access. However CESCO has stated that ESCOMs will lose by charging 50 to 90% as proposed by the Commission. Reliance Energy is in favour of charging 100% surcharge to ensure and protect financial viability of ESCOMs. Kalyani Steel is in favour of charging 25 to 30%, Balekadara Hitarakshaka Sangha have proposed 50 to 80%. Sri B.G.Rudrappa suggests levying 75% and Sri Venkata Subba Rao favours charging 90%.

Commission's views/Decision:
Regarding Special Secretary's suggestion to reduce subsidy burden on the GoK , the Commission notes that it has a mandate under EA 2003 to reduce and eliminate cross subsidies over a period of time. This phasing out of cross subsidy depends on the GoK's policy on tariff to subsidised category of consumers like BJ/IP sets. The Commission has addressed the GoK in the matter and the response is awaited.

As discussed earlier, the Commission will determine cross subsidy for open access customers based on the average cost of supply for the present. Therefore applying a percentage of cross subsidy under CoS methodology will not arise for the present. The suggestions made by the stake holders/ experts can be further examined while determining the cross subsidy based on CoS methodology in future.

7.06 **Banking facility to be provided for Renewable Sources of Energy:**

Commission's Proposal:
The Commission had observed that, due to the nature of electricity, it would be difficult to match the demand at the consumer end with that of the supply from the contracted source in real time operation under open access. Especially, in case of wind and mini hydel projects the generation is infirm and is dependent on nature such as wind or rainfall as the case may be and hence scheduling and balancing will not be practicable on a real time basis under open access. In this context commission had opined that in such cases banking facility for a period of 1 month needs to be provided without carry over to the next financial year.

Comments received
Special Secretary GoK is of the view that banking can be allowed only when both the input and drawal of energy is based on TOD meters and seasonal tariff. ESCOMs are not in favour of giving Banking facility to renewable sources of energy. KPTCL has stated that it is agreeable to provide banking facility to wind and mini-hydel projects on the condition that they pay the difference between the UI charge at the time of injection and the UI charge at the time of drawal without any time limit. IPPAI and IWPA also agreed to the said proposal of KPTCL. REDAK have suggested if banking is allowed, banking charges of 0.5% in kind shall be levied. Reliance Energy is in favour of providing Banking only for NCE and infirm sources of power. IWPA has stated that banking facility is bare necessity for the viability of the wind projects. Kalyani Steels is in favour of Banking facility at no or minimal charges. Similar views are expressed by Knowledge infrastructure & Energy Consulting Engineers. BEL states that for banking the charges should be 2%. Bangalore Chamber of Industry & Commerce states that banking facility should be based on commercial considerations. Sri Venkata Subba Rao is in favour of providing banking facility on a quarterly basis.

Commission's Views/Decision:
The Commission notes that most of the stakeholders including the GoK and utilities are in favour of banking to infirm sources of energy. After considering the above views, **the Commission hereby decides to allow banking facility in respect of wind and mini-hydel projects subject to payment of difference of UI charges between the time of injection and time drawal of the power from these sources, as suggested by KPTCL and also payment of banking charges @ 2% of the input energy.**

In case the UI charges are negative, KPTCL/ESCOMs are not liable to pay the difference in UI charges. KPTCL/ESCOM shall ensure that appropriate metering is provided both at injection and drawal points to facilitate computation of UI charges. However, merit order despatch and scheduling shall not be applicable for these sources of energy.

7.07 **T & D Loss and sharing of Commercial losses by Open access customers:**

Commission's Proposal:

The Commission in its discussion paper, for the purpose of determination of Transmission charge, wheeling charge and surcharge had proposed the following losses:

KPTCL:	Transmission loss	4.8%
BESCOM:	Distribution loss	21.35%
MESCOM:	"	20.63%
HESCOM:	"	27.71%
GESCOM:	"	27.05%
Total	T&D loss	26.97%

[Note: ESCOM losses are expressed as percentage of input to the respective ESCOMs& KPTCL loss as percentage of input]

The Commission had also proposed to levy of 50% of the loss at the injection point and 50% loss at drawal point, where the open access transactions are at different voltage levels.

Further, the Commission had requested for views on whether commercial losses should be loaded to HT/EHT consumers under open access.

Comments received

a. Transmission loss

Special Secretary (Reforms)/GoK has stated that T & D loss is a key parameter which affects transmission & wheeling charges and surcharge. As IP Sets and BJ consumption is being assessed, it is absolutely necessary that an independent agency take up the study of T & D Losses. The average consumption of BJ/KJ based on the meter reading for the past six months is about 8 units per month as against 18 units assessed by KERC. KPTCL has opined that transmission loss, as per the draft Tariff Policy, should be based on a benchmark data. Since benchmarking has not been done, average loss figures of 4.8% of the entire transmission system may be considered irrespective of the voltage level of injection or drawal. They have suggested that the same approach may also be followed while calculating the wheeling charges. Further it is stated that the methodology adopted by the Commission in the discussion paper is not acceptable as 110 KV system and 66 KV systems are radially operated and also electricity travels on lines with other voltage levels even though the voltage at the injection and drawal level are the same. It is further requested by KPTCL/ESCOMs to consider the actual losses in FY05 for determination of open access charges. CESCO has opined that the allocation of

50% loss at injection point and 50% at drawal point is not correct as the power transfer involves other voltage networks in addition to the voltage level of injection and voltage level of drawal. Therefore the average loss incurred in the system at injection and drawal points may be considered. Reliance Energy opines that allocating losses should be on a scientific basis and should provide correct signals for incentives. The transmission loss levels indicated at various voltage levels need to be looked into, as transmission losses should be lower at higher voltage levels. Kalyani steels has stated that, if transaction is at 66KV & above, the technical loss and commercial loss of the distribution licensee should not be considered. Dipkit Electrics Pvt. Ltd. have submitted that transformation losses from 66 kv to lower voltages should not be considered when the transaction is taking place at 66 kv and above. S.I.S Power Industries has expressed the same views. Karnataka working group has stated that system losses as proposed by the Commission are acceptable. Bangalore Chamber of Industry and Commerce has stated that open access is to provide competitiveness in the supply of power and therefore If the entire losses are passed on to open access consumers, it would amount to condoning the inefficiencies of KPTCL and ESCOMs and there will be no incentive or interest for KPTCL/ ESCOMs to reduce losses. Hence only 50% of losses for respective voltage class have to be considered. Sri B.G. Rudrappa has stated that the loading of loss (likely to be incurred while selling energy under social obligations) to EHT consumers should be worked out on rate per unit basis. Sri Venkata Subba Rao has stated that according to the discussion paper, losses at higher voltage levels are higher than lower level, which does not appear to be correct. While allocating losses, it would be better if 50% of the losses of lower and higher voltage transmission networks together with 100% losses of intervening transformation losses are considered in wheeling transactions.

b. Allocation of commercial loss:

Special Secretary, Reforms, GoK, has opined that commercial losses should not be allocated to those consumers who have accepted and implemented TOD tariff. KPTCL has stated that about 1 to 2% of the total commercial loss may be allocated to HT & EHT customers. Reliance Energy opines that commercial losses should be included while computing the wheeling charges or else it should be left out while calculating surcharge also. Kalyani Steels have stated that the commercial losses should not be allocated to EHT consumers. Dipkit has opined that commercial loss should not be loaded for transactions of 66 kv and above. S.I.S Power Industries has expressed the same views. Knowledge Infrastructure, Energy Consulting Engineers, Karnataka Working Group as also Balekadarara Hitarakshaka Sangha have opined that commercial losses should not be levied for drawal at EHT level. Sri Venkata Subba Rao has stated that commercial losses should not be loaded to HT and EHT consumers.

Commission's Views/Decision:

Regarding transmission loss in kind, the Commission had proposed in its discussion paper to charge 50% of the loss percentage at the injection point voltage level and 50% of the loss percentage at the drawal point voltage level. Several stakeholders including KPTCL have objected to the above allocation stating that such allocation would not consider the losses at intervening voltage levels and that the data on voltage wise losses as indicated in the discussion paper is not correct, as the losses at higher voltage levels are more than the losses at a lower voltage levels, which should not be the case. In view of this, stakeholders have proposed to either apply marginal loss or the average loss of the entire transmission system.

The Commission notes that there is discrepancy in the voltage level wise losses as furnished by KPTCL. However the Commission cannot replace these figures by its own figures. As regards the marginal loss, KPTCL in their written submission have illustrated that marginal losses would be positive. However depending upon injection point, drawal point and the real time system, the marginal losses may be negative also. As stated by some of the experts, it would be difficult to determine the marginal losses due to complexities involved. **In view of the above, although the Commission would prefer to allocate voltage-wise losses, it is constrained to apply average transmission loss for the present irrespective of the voltage level of Transmission.**

Regarding allocation of commercial loss under CoS methodology, the Commission notes that commercial loss, in addition to theft, involves billing and metering errors. Hence, to that extent these losses should be loaded to HT/EHT consumers also. However, in the present case the Commission is determining the charges payable in cash on average cost basis. This loss level includes both technical & commercial losses. However, for charges payable in kind only technical losses are considered.

Regarding the comments made by the Special Secretary (Reforms) on estimation of consumption in BJ & IP and consequent estimation of losses, the Commission would examine this matter while dealing with the ERCs.

c. Wheeling Charge in kind:
Commission's Proposal:
The Commission had proposed in the discussion paper that the losses to be borne in kind for various ESCOMs, where the voltages at point of injection and point of drawal are the same as follows:

		33/11 kV	LT	Total
BESCOM:	Distribution loss	6.12%	9.18%	15.30%
MESCOM:	"	5.80%	8.71%	14.51%
HESCOM:	"	9.21%	13.81%	23.02%
GESCOM:	"	6.39%	9.59%	15.98%

The above losses are only technical losses. The allocation to HT & LT is in the ratio of 40:60 based on the studies conducted by MECON & CPRI for the Commission. It was suggested that where the voltages at the point of injection and point of drawal are different, 50% of the loss % at the point of injection plus 50% loss % at the point of drawal shall be considered.

Comments received

The ESCOMs, in their comments have requested the Commission to consider actual loss levels for computing the wheeling charges as per FY05 figures. HESCOM has stated that distribution loss of 28.7% in HESCOM includes 4.87% commercial loss and for the purpose of wheeling, at the same voltage level, a loss level of 17.10% at HT level and 11.6% at LT level could be considered. For Transactions involving both HT & LT losses to be 14.35%, HESCOM has not made any study to allocate distribution loss category wise. Hence category wise loss allocation is not acceptable. GESCOM has stated that actual loss of 38.55% (22.77% technical loss & 15.78% commercial) need to be considered for computation of charges and for the purpose of wheeling, at the same voltage level, a loss level of 11.15% at HT level and 11.62% at LT level could be considered. For Transactions involving both HT & LT losses it shall be 11.39%. It is further requested that the commercial losses should also be loaded for open access customers, as otherwise the same has to be borne by the existing consumers. The utilities have requested to consider average losses instead of voltage wise losses. Further it is stated that the proposal to allocate 50% of losses at point of injection voltage and point of drawal voltage is not appropriate. On the other hand some of the experts/consumers have requested the Commission not to pass on the inefficiencies of the utilities on to the consumers. It is also stated by them that if the entire loss is loaded to the open access customers, there will not be any initiative on the part of utilities to reduce and eliminate the commercial losses.

Commission's Views/Decision:

The Commission is of the view that with proper and efficient management, commercial losses could be curtailed. The Commission appreciates the fact that while reduction of technical losses requires capital investment, reduction of commercial losses requires sincere and concerted efforts by the utilities. The Commission, therefore, agrees with the views expressed by the experts/consumers that passing on the inefficiencies of the utilities cannot incentivise the utilities to improve their performance. In respect of open access consumers, the Commission is of the view that commercial losses should not be loaded to open access customers, as they are in no way responsible for the commercial losses of the utilities. **Hence the Commission decides to allocate only technical losses to the open access customers for computing losses in kind.** Further, the allocation of distribution losses to HT level and LT level is based on studies instituted by the Commission earlier. The Commission had proposed

50% allocation criteria at the distribution level when the voltage level of injection and drawal is different. Since, the Commission is allocating only technical losses for open access transactions, it is considered appropriate to allocate average distribution loss in such cases.

7.08 **Other Charges:** KPTCL has stated that without determining other charges such as backup charge, grid support charge, reactive power charge, transaction charge etc as specified in Open Access Regulations, implementation of open access would not be feasible. The Commission is of the view that KPTCL/ESCOMs should have taken advance action for determination of these charges to implement the phase-I of open access from 10.6.05 and for that reason implementation of open access can not be postponed. The Commission's views on each of these charges are as follows:

a) Back up charges: The Commission in its regulations has specified that the same have to be mutually agreed between the parties. Accordingly, the parties may negotiate and mutually agree to these charges and a copy of the agreement shall be filed with the Commission. In case the parties are unable to agree mutually, either party may approach the Commission for determination of these charges.

b) Grid support Charges: KPTCL/ESCOMs have not filed their proposals for determination of grid support charges before the Commission in spite of directions from the Commission. The utilities may file their proposals early and if required on a case-to-case basis. These charges would be made applicable to open access customers only after the KPTCL/ESCOMs file their proposal and the same is determined by the Commission.

c) Reactive Power Charges and Transaction Charges: The utilities shall file suitable proposals for determination of these charges before the Commission at the earliest and the same shall be applicable to open access customers after the same is determined by the Commission.

8. Other Issues:

8.01 Regarding the suggestion of GOk on metering, the Commission agrees that metering and online reading of meters is essential for proper accounting of wheeled energy. Hence the Commission hereby directs the KPTCL and ESCOMs to ensure that suitable TOD meters are installed and read for open access transactions.

8.02 KPTCL has suggested prescribing a minimum period of one year for short-term open access. This matter was deliberated during the public hearing. Some of the experts opined that if minimum period is not prescribed, it is likely that such short-term users may block the transmission system. IPPAI opined that open access transactions normally take place on hour ahead/day ahead/week ahead basis. Further as per the Act, power exchanges are contemplated to facilitate real time competition in power trading. In such a situation, prescribing a minimum period would not be conducive to introduction of real-time competition in trading. Sri Jagannatha Guptha and Sri Venkata Subbarao also pointed out during the hearing that the ESCOMs are also open access customers under the Act and imposing any such restriction would not be in the interest of the ESCOMs as they may have to resort to short term purchases when the need arises.

The Commission, keeping in mind the objectives of the Act to introduce competition, is of the view that the present provision as specified in the open access regulations is appropriate.

8.03 The Commission in its discussion paper had used FY05 data as per the ERCs filed by the utilities to illustrate the impact of using different methodologies on open access charges. However, the Commission had earlier rejected the ERCs of ESCOMs for FY05 and KPTCL's ERC for FY05 is yet to be approved. The only validated data available with the Commission is that of FY04 as approved in its Tariff Order, 2003 and Tariff Amendment Order, 2003. Since ERCs for FY06 have since been filed by KPTCL and ESCOMs along with tariff filings, the Commission would be determining BST, transmission charges, wheeling charges and retail tariff after following the due process of validation and hearings. Therefore, the open access charges being determined in the present order would be applicable only for a few months till the new tariff order is in place. Hence, **the Commission considers it appropriate to adopt the data as approved in Tariff Order 2003 and Tariff Amendment Order, 2003 for determining the charges under open access in the present order purely as an interim arrangement.**

8.04 In the Tariff Order 2003, the Commission has determined transmission charges and also wheeling charges and it was indicated that the order would not be applicable to captive power plants. Since open access has been allowed to captive power plants under section 9 of the Electricity Act 2003, it is made clear that the charges determined in this order shall be applicable to all open access customers including captive power plants.

8.05 The Commission notes from the ERCs of KPTCL/ESCOMs that they have appealed to the Hon'ble High Court of Karnataka against certain expenses and losses not allowed by the Commission in the tariff orders. Therefore, this order shall be subject to outcome of the appeals pending in the Hon'ble High Court.

8.06 The Commission is aware that some of the generating companies have challenged the orders of KPTCL in respect of wheeling charges fixed by KPTCL earlier and the Hon'ble Court has passed interim orders. This order of the Commission shall not be applicable to such cases and also cases of concluded contract where specific provisions in respect of wheeling charges are made during the currency of such contracts.

8.07 Subsequent to the hearing held by the Commission on 1.6.05, KPTCL and IWPA have made certain written submissions on their own. The Commission is unable to consider these submissions since these aspects were not put before the stakeholders for discussions in the public hearing held by the Commission.

9. Based on the discussions and conclusions arrived above, the Commission determines the various charges applicable to open access customers as detailed below:

9.01 **Wheeling Charges:**

I) The wheeling charges payable by Consumers availing open access under phase-I are as follows:

a. Transmission charges in cash as determined in Para 9.02 below Plus
b. Transmission charges in kind as determined in para 9.03 below

II) The charges applicable to Captive power plants wheeling energy for its own use under open access are as follows:

i. In case wheeling transaction involves only Transmission:

a. Transmission charges in cash as determined in Para 9.02 below Plus
b. Transmission charges in kind as determined in para 9.03 below

ii. In case the wheeling transaction involves only one ESCOM:

a. Network cost in cash of the ESCOM based on point of injection and drawal as determined at para 9.04 below plus
b. Network cost in kind of ESCOM based on point of injection and drawal as determined at para 9.05 below

iii. In case the wheeling transaction involves (i) transmission and one or more distribution network or (ii) involves more than one ESCOM

a. Transmission charges in cash as determined in Para 9.02 below Plus
b. Transmission charges in kind as determined in Para 9.03 below Plus
c. Network cost in cash (both HT & LT cost) of the drawal ESCOM (where the energy is consumed for end use) as determined at para 9.04 below
Plus

d. Network cost in kind (both LT & HT loss)of drawal ESCOM as determined at para 9.05 below

9.02 **Transmission Charge payable in cash:**

18.67 paise per unit as determined in Tariff Order 2003.

9.03 **Transmission Charge payable in Kind:**

6% transmission loss as approved in Tariff Order 2003/Tariff Amendment order 2003.

9.04 **Distribution network cost in cash:**

(i) The wheeling charges as determined by the Commission in Tariff Order 2003 for using HT network:

Licensee	**Wheeling charge-HT Paise per unit**
BESCOM	10.58
MESCOM	16.44
HESCOM	13.35
GESCOM	13.58

The above charges shall be payable if the point of injection and point of drawal both are at HT level (33 kV/11 kV)

(ii) Wheeling charges for the LT network as worked out from Tariff Order 2003 is:

ESCOMs	**Wheeling charge-LT paise per unit**
BESCOM	24.68
MESCOM	38.37
HESCOM	31.15
GESCOM	31.70

The above charges shall be payable if the point of injection and point of drawal both are at LT level

iii) In case the both HT and LT network for wheeling of energy is used, the Captive Power Generator shall be liable to pay wheeling charges for LT network in addition to wheeling charges for HT network as determined above.

9.05 **Distribution network Charges in kind:**

The Commission had allowed the following loss levels for FY04, ESCOM wise in its Tariff Order 2003:

		(%)
BESCOM: Distribution loss		21.35
MESCOM:	"	21.28
HESCOM:	"	27.71
GESCOM:	"	27.05

As per Tariff order 2003, the commercial losses as declared by the ESCOMs for FY03 are as follows:

	%Commercial loss
BESCOM:	9.09
MESCOM:	6.45
HESCOM:	7.00
GESCOM:	12.05

The Commission in order to estimate technical loss, has arrived at the commercial losses for FY04 on prorata basis as follows:

BESCOM: 7.59%
MESCOM: 5.68%
HESCOM: 6.24%
GESCOM: 11.04%

After deducting the commercial loss as above, the technical loss applicable for the purpose of wheeling would be as follows:

		33/11 kV	**LT**	**Technical loss-Total**
BESCOM: Distribution loss		5.50	8.26	13.76
MESCOM:	"	6.24	9.36	15.60
HESCOM:	"	8.59	12.88	21.47
GESCOM:	"	6.40	9.61	16.01

i. If the point of injection & point of drawal are both at 33 kV/11 kV, only 33 kV/11 kV loss is payable in kind.

ii. If the point of injection & point of drawal are both at LT level, only LT loss is payable in kind.

iii. In case of transactions involving both HT & LT network, the open access customer shall bear the total technical losses indicated above.

9.06 **Cross subsidy surcharge:**

Average cost of supply as per Tariff (Amendment) Order, 2003: Rs. 3.62 per unit

Average billing demand for HT consumers in FY05 as per actuals Rs. 4.77 per unit

Hence, the Commission decides that the cross subsidy surcharge applicable shall be Rs. 1.15 per unit.

9.07 **Wheeling charges for NCE projects:**

Considering the discussions at Sl.No.4 above, the Commission determines the overall wheeling charges payable by NCE sources as 5% of the energy input into the system. Other than this wheeling charge, they shall not be liable to pay any transmission charges or wheeling charges either in cash or kind as determined in the preceding sections of this order. However, surcharge shall be payable where the wheeling of energy is other than for their own use.

This order is signed dated and issued by Karnataka Electricity Regulatory Commission on this 9th day of June 2005.

Sd/-	Sd/-	Sd/-
K.P.Pandey **Chairman**	**H.S.Subramanya** **Member**	**S.D.Ukkali** **Member**