CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Coram:

1. Shri Bhanu Bhushan, Member
2. Shri R. Krishnamoorthy, Member
3. Shri Rakesh Nath, Member (EO)

Petition No.85/2007
(suo motu)

In the matter of

Proposed Approach for Sharing of Charges for and Losses in inter-State Transmission system.

ORDER
(Date of public hearing : 10.8.2007)

The Central Electricity Regulatory Commission (hereinafter referred to as "the Commission") has been mandated under Section 79 of the Electricity Act, 2003 (36 of 2003) (hereinafter referred to as "the Act") to determine tariff for inter-State transmission of electricity in such manner as may be specified and shall be guided by the National Electricity Policy. The National Electricity Policy issued by the Central Government vide Resolution dated 12th February 2005 in para 5.3.5 enjoins upon the Commission to implement a national transmission tariff framework to facilitate cost effective transmission of power across the regions. In due discharge of its statutory responsibility, the Central Commission floated a Discussion paper titled "Proposed Approach for Sharing of Charges for and Losses in inter-State Transmission System" (hereinafter referred to as discussion paper) in February 2007, inviting comments/suggestions from the stakeholders and the interested parties/person. Over 40 sets of written comments were received by the Commission in April-May 2007 from the stakeholders and interested parties and persons. Based on these, the entire proposal was reviewed, and a revised approach was proposed through the order dated 2.7.2007 in Petition No. 85/2007 (suo-motu), to serve as the base paper for an open-house discussion/public hearing on this subject. Based on the discussions in the day-long hearing held on 10.8.2007, the Commission has finalized the approach for sharing of charges for and losses in the inter-State transmission system, as detailed herein.

2. In para 10 of its interim order dated 2.7.2007, the Commission had clearly indicated its intention to continue with the existing scheme of sharing of transmission charges for the existing inter-State transmission system (ISTS), except for step down transformers and downstream systems and certain inter-regional links. This proposal has generally been supported. No significant objections to this approach i.e. continuation of the existing scheme of sharing of charges for the existing regional ISTS, have been raised, either in the written submission or during the hearing on 10.8.2007, except as discussed below.

3. CEA suggested adoption of the “zonal postal stamp” scheme proposed by it earlier, which was referred to in para 6.17 of the February 2007 discussion paper and enclosed therein as Annexure-1. However, objections to the CEA proposal were expressed by WBSEB during the hearing. We have already proposed that the scheme could be taken up for consideration later on for adoption as a long-term approach. It would require detailed studies and prolonged discussion on various aspects, and necessary consultation process may be initiated by CEA. As of now, the Commission’s priority is to address the more urgent issues, and also not to destabilize the system presently in operation.

4. It was also suggested by CEA that instead of segregating only the step-down transformers and downstream systems, the entire 400 kV substations be segregated. We are not able to accept this suggestion since the existing line bays are a part of the 400 kV mesh, transmission charges for which are proposed to be continued to be shared by regional beneficiaries on pooled basis. There being no other objection from any quarter, the Commission hereby confirms that transmission charges for the existing regional ISTS, including the step down transformers and downstream systems (as discussed in subsequent paragraphs), shall continue to be pooled and shared by the regional beneficiaries as per the existing practice.

5. Regarding the proposal for segregation of step down transformers (ICTs) from the existing pooling system, PSEB have opposed it on the ground that CTU should deliver power at the receiving voltage level. They are also apprehensive that artificial splitting of cost of common facility would lead to commercial dispute. UPPCL have asked for equity in segregation of the transmission charges for the step down transformers and downstream system of an ISTS, which is a valid point. The issue needs to be considered in the overall context of transmission pricing. Chhattisgarh SEB, GRIDCO and ERPC Secretariat have endorsed the proposal. DVC has also supported it with a rider that it should be done judiciously.

6. The segregation of step-down transformers and downstream systems has been proposed by the Commission on the guiding criterion that they primarily serve the local beneficiary only. The segregation is considered as the first step in the direction of rationalization of transmission charge sharing, in line with the mandate for bringing in distance and direction sensitivity. At the same time, the Commission is

conscious of the difficulties in segregation of transmission charges for the existing assets, and has been persuaded that the required effort may not be worthwhile. Taking all relevant aspects into account, it has been decided to let all step down transformers (ICTS) and downstream systems presently in commercial operation or in the pipeline continue on pooled basis as presently agreed and in vogue. However, transmission charges for all such transformers and down stream systems under the inter-State transmission schemes yet to be brought under commercial operation shall be segregated from the rest of the scheme, and shall be payable only by the beneficiary directly served.

7. Regarding the inter-regional links, the Commission had proposed in its interim order dated 2.7.2007 that 100% of the transmission charges for all the ER-NR, ER-WR and ER-SR links be paid by the downstream region. Many respondents have strongly opposed this proposal on the ground that these links have benefited the ER as well (by enabling ER States to export surplus power and to draw reliability support). The Commission has therefore collected the energy exchange data for these links from the RLDCs, and the same is tabulated in Annexure-1. The figures are monthly summation of authentically recorded 15-minute import and export energy flows. It would be seen that power flows and their future trend in these links are substantially uni-directional (the reverse flow being less than about 2%). As for reliability support and benefits to ER by exporting surplus power, the UI mechanism already provides the required framework. The reliability support would normally be drawn in a deficit situation, and ER would be paying for it at the high UI rate then prevailing. An attempt by ER to export surplus power would automatically raise the grid frequency, and ER would get only a comparatively low UI rate for it. When this mechanism was not there

(pre-ABT era), asking ER to share the transmission charges for these links was justified. It is no longer the case.

8. UPPCL, PSEB, MPP Tradeco, Chhattisgarh SEB, PTC and GUVNL have opposed the changes proposed by the Commission in sharing of charges for inter-regional links, on grounds similar to those given in responses to our discussion paper of February 2007. We have already considered these arguments in our interim order dated 2.7.2007, and a repetition appears unnecessary. Bihar SEB has reiterated its views on ATS of Tala HEP, and ER-NER links. These have also been covered in our order of 2.7.2007, and are therefore not being repeated.

9. Justification for payment of 100% of the transmission charges for 2x500 MW Gazuwaka HVDC link by SR have been adequately explained in para 37 and 38 of our order dated 2.7.2007, and need not be repeated. Similarly, para 39 to 41 of that order contain the justification for payment of 100% of transmission charges of all the ER-WR links by WR. The existing links would work in parallel with and complement the other ER-WR links under construction, i.e. Ranchi – Sipat and the second Rourkela – Raipur, for which WR has already agreed to bear the entire transmission charges. There is thus hardly any justification for ER to continue sharing the charges for the existing ER-WR links.

10. The 400 kV D/C Rourkela-Raipur line has hitherto been considered as an inter-regional link, with ER and WR sharing the transmission charges in 50:50 ratio. A LILO of this line has recently been carried out at Raigarh, as part of ATS of Vindhyachal-III, and WR beneficiaries have agreed to pay the entire transmission charges for LILO. This is an anomalous situation, which would get set right when 100% of the

transmission charges for the 400 kV Rourkela-Raipur line are paid by WR beneficiaries, as proposed.

11. 400 kV D/C Muzaffarpur – Gorakhpur, an ER-NR link, is a part of ATS of Tala HEP (in which NR has now been allocated shares directly), and it would also carry power allocated to NR from ER stations in lieu of their original allocation in Tala HEP. It thus benefits NR directly, and its entire transmission charges should be paid by NR. As for the 500 MW Sasaram HVDC, it now complements the Tala ATS, and is carrying surplus ER power to NR (e.g. DVC to Delhi). Its full transmission charges should therefore be paid by NR, till its proposed relocation as a WR – SR link.

12. The Commission considers its proposal on inter-regional links as an easily implementable measure totally in line with the mandate for distance and direction sensitivity, particularly in view of the picture emerging from Annexure-1. Taking into consideration all these factors, we confirm our proposal as per para 37 to 47 of the interim order dated 2.7.2007, except that the implementation date would now be 1.4.2008. Para 48 of the interim order dated 2.7.2007 would no longer be relevant (in view of the new implementation date).

13. Regarding the new Associated transmission systems, CEA has expressed serious reservations on Commission's proposal of pooling being voluntarily agreed. According to CEA, prior agreement with beneficiaries should not be a pre-condition for network expansion, and transmission charges for the new ATS should be automatically pooled with those of the existing regional ISTS. PTC and NPCIL also insisted on continuation of the pooling concept. It was clarified by the Commission

during the hearing that as per its proposal, commercial pooling of the new ATS with the existing regional ISTS shall still be possible if all regional beneficiaries agree on it. We consider it important that the parties who have to pay for a transmission system when it comes up know about it upfront, i.e. before the system is taken up for construction, and have some say in the matter. In case a party is being unreasonable, and is found to be blocking a beneficial / necessary transmission system, the matter could be brought before the Commission. With these provisions, we confirm the proposal in para 23 of the interim order dated 2.7.2007, except that the threshold date shall now be 1.4.2008. Sharing of transmission charges for new ATS which are not agreed to be pooled shall be as agreed between the transmission owner and the system's beneficiaries. Each case would need to be treated independently for the present.

14. It is understood that ATS for Ultra-Mega Power Projects (UMPP) are presently being planned and discussed with the general consensus that transmission charges for one part of the ATS would be shared by the respective UMPP beneficiaries, and transmission charges for the remaining part would be pooled with those of the existing regional system. The proposed approach would enable formalization of the above consensus, to which the Commission would have no objection, and let the concerned agencies proceed with the ATS.

15. With reference to para 27 of interim order dated 2.7.2007, PGCI, CEA and Shri R.K. Narayan have expressed strong reservations on the Commission's proposal regarding deferred recovery of investment in extra transmission capacity built for future. The Commission realizes that it is a crucial issue, which would need further

deliberation. For the present, we would only stipulate that it must be settled upfront between the planners, transmission owners and the beneficiaries (who have to pay for it). It would need to be done project-by-project, for the present, i.e. till a long-term approach has been finalized. While on this subject, we have also to point out that the complexion of power flows on a national basis could significantly change depending on location and timing of new generation addition actually materializing, which may require adoption of a different approach in sharing of transmission charges after 3-4 years. We are not precluding the same.

16. Sh. P.C. Verma, Member (Tech) JSERC suggested during the hearing that the process of prior bulk power transmission agreement for developing transmission corridor should be totally done away with. The actual charges should be shared according to the actual use of transmission system by the beneficiaries. The monthly pooled transmission charges should be shared in proportion to the actual gross drawal in each time block averaged over the whole month. The Commission has already considered all these aspects, and no fresh deliberation appears necessary.

17. PSEB proposed that STOA charges be reduced from 25% to 5% of long term open access i.e. to retain a nominal charge instead of making it zero. It further proposed to retain the Rs./MW/per day or per hour model instead of paise/unit model, as the latter will make congestion management difficult. PSEB also submitted that in case of energy banking between two States within a region which are connected through STU line, the transaction should be exempted from STOA charges.

18. As discussed at para 51 of the order dated 2.07.2007, we have taken cognizance of the views of the stakeholders, and have decided to continue with the concept of levying transmission charges for short term open access. The Commission has already simplified the procedure for open access in separate proceedings.

19. It was observed under para 65 of our order dated 02.07.2007 that State owned lines like 220 kV D/C Auraiya-Malanpur and 220 KV D/C Ujjain-Kota can reinforce NR-WR interconnection. Shri S.K. Soonee, ED, NRLDC during the hearing on 10.08.2007 pointed out that these and many other such lines can reinforce inter-regional links. RPCs are directed to identify such lines and take necessary action to convert them into synchronous links.

20. TATA Power has suggested that ATS of merchant power plant be treated akin to 'existing transmission system and shared by all beneficiaries'. We feel that if a merchant power plant does require a transmission system augmentation, the latter's capital cost or transmission charges should be borne by the plant owner. Goa has raised the issue of high wheeling charges being levied by some intervening States. This could be looked into separately.

21. M/s ENERCON India Ltd., submitted that National RPO (renewable purchase obligation) in the form of reduction in the ISTS charges needs to be implemented. The States having the capacity addition by wind energy which are helping to meet the National RPO targets should be given the benefit by reduction in ISTS charges. We feel that this issue has to be dealt with separately, and it has little bearing on the matter in hand. MCX pleaded for 'point of connection' scheme both for STOA charges

and losses, lowering of security margins and reservation of capacity for PX on congested corridors. It was proposed that each State could be specified as a 'point'. The suggestions would be considered in due course.

22. Doubts have been expressed by some respondents regarding implementability of the Commission's proposal on sharing of transmission losses. Although Prof. Khaparde and Prof. Soman of IIT, Bombay made presentations during the hearing to convey their readiness with power tracing based solutions, Shri S.K. Soonee (speaking on behalf of the RLDCs) wanted more time to be allowed for the proposal's implementation. We are fully aware that dispute-free implementability is a key requirement in this matter. We are also convinced that power tracing is the appropriate approach. We would therefore encourage / urge the RLDCs to start working seriously, with the target date extended to 1.10.2008. Their progress shall be reviewed by the Commission in July 2008, to decide the actual implementation date.

23. Judicious allocation of transmission losses is important on many counts, e.g. (i) as input for optimal dispatch, (ii) as a signal for siting of new generation and load, (iii) for equity between widely-spaced beneficiaries. Further, it has to be done for the total system in operation on date (without differentiating between the old and the new systems), for which power tracing appears to be the practical mechanism. Its introduction would also be a pre-requisite for implementation of incremental loss concept for short-term open access and for introducing locational bias in the frequency-linked UI rates, which have been proposed by the Commission. Hence, an urgency in the matter.

24. This order conveys the conclusions of the Commission on the main / urgent issues concerning the sharing of charges for and losses in the inter-State transmission system. The Commission reserves its right to elaborate on the various aspects, and to make any course correction, if and when found necessary.

25. The Commission has also received a copy of the Ministry of Power's communication dated 24.8.2007, and the observations therein have been duly taken into account. In particular, the observation that "the existing transmission tariff system need not be disturbed till a better alternative emerges on which there is a broad consensus in the stakeholders" has been substantially adopted in the Commission's approach : The transmission charges and their sharing for the existing regional ISTS shall continue as at present. Sharing formula for inter-regional links is being changed only where the present formula is no more justifiable.

26. In view of the above conclusions, following changes shall be incorporated in the Approach Paper on sharing of charges for and losses in the inter-State transmission system, in addition to those listed in the interim order dated 2.7.2007 :

(i) Paras 46, 47, 48 and 49 shall stand deleted.

(ii) Before the last sentence of para 5.4, the following shall be inserted : "A part of the new transmission system could be treated as ATS and its transmission charges paid by the identified beneficiaries of the new generating capacity, and the remaining part of the new transmission system could be pooled with the existing regional ISTS."

(iii) The following item shall be added in the list of inter-regional links in para 6.1:

" (xiv) 400 kV D/C Biharshariff – Ballia line between ER & NR".

(iv) First sentence of para 6.4 shall be amended as follows :

"After formalization of "Open access" in 2004, a part of the charges for the above inter-regional links have been paid by the "Open access" customers utilizing these links, and the liability of regional beneficiaries comes down correspondingly."

(v) The following item shall be added in the list of inter-regional links in para 6.15 :

"(xiv) 400 kV D/C Biharsharif-Ballia line : by NR".

(vi) A new para shall be inserted in section-9 as follows : "The Commission would also examine in the coming months whether a nominal transmission charge should be levied for energy drawal as a deviation from schedule (UI)."

27. Dates of implementation of various proposals specified in para 5.3, 6.16, 8.5, 9.7 and 12.2 of the Discussion Paper shall be amended as per the foregoing discussion.

28. The Commission has basically proposed only one imminent change in transmission charge sharing, i.e. the one in respect of certain inter-regional links w.e.f. 1.4.2008. The current tariff regulations, i.e. the CERC (Terms and Conditions of Tariff) Regulations, 2004, provide as follows under Regulation 59 :

> "The transmission charges of the inter-regional assets shall be shared as under, except as specifically decided otherwise by the Commission, -------."

In view of this flexibility already available, it is not necessary to make any changes in the above regulations immediately. The provision quoted above will enable the proposed change to be effected even without a change in the above regulations. It is therefore specified that in respect of all inter-regional links between ER and NR, between ER and WR, and between ER and SR, their transmission charges shall be merged with the transmission charges of intra-regional systems of NR, WR and SR respectively, and shared in the same manner as the latter, with effect from 1.4.2008.

29. This order shall be read along with the Discussion Paper titled Proposed Approach for Sharing of Charges for and Losses in Inter-State Transmission System issued by the Commission in February 2007, and the order dated 2.7.2007 in Petition No. 85/2007 (suo-motu). Petition No. 85/2007 (suo-motu) hereby stands disposed of.

Sd/-	Sd/-	Sd/-
(RAKESH NATH)	**(R. KRISHNAMOORTHY)**	**(BHANU BHUSHAN)**
MEMBER (EO)	**MEMBER**	**MEMBER**

New Delhi dated the 28th March 2008

Annexure-I

Import/Export of Energy on Inter-Regional links for the period July 2006 to June 2007

Name of link	IMPORT (MU)	EXPORT (MU)	IMPORT (%)	EXPORT (%)
400 kV Rourkela-Raipur D/C	43	5019	0.85	99.15
220 kV Budhipadar-Korba S/C	5	574	0.86	99.14
220 kV Budhipadar-Korba D/C	91	418	17.88	82.12
Total ER-WR	**139**	**6011**	**2.26**	**97.74**
400 kV Muzaffarpur-Gorakhpur D/C	295	4274	6.46	93.54
400 kV Patna-Balia D/C	4	295	1.34	98.66
HVDC Sasaram BtB *	356 *	2313	13.34	86.66
220 kV Pusauli-Sahupuri S/C	0	1380	0.00	100.00
Total ER-NR	**655**	**8262**	**7.35**	**92.65**
HVDC Gazuwaka BtB (ER-SR)	0	3955	0.00	100.00

* Sasaram HVDC BtB has been deliberately set for reverse flow for control of voltage on Muzaffarpur-Gorakhpur line under light load conditions.