CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Coram:

Shri Bhanu Bhushan, Member

Petition No.32/2006

In the matter of

Recovery of energy charges for the energy supplied during the period 1.1.2000 to 30.6.2001-adjudication of disputes.

And in the matter of

NTPC Limited, New Delhi … **Petitioner**

Vs

1. Uttar Pradesh Power Corporation Ltd, Lucknow
2. Rajasthan Rajya Vidyut Prasaran Nigam Ltd., Jaipur
3. Delhi Transco Limited, New Delhi
4. Haryana Vidyut Prasaran Nigam Limited, Panchkula
5. Himachal Pradesh State Electricity Board, Shimla
6. Punjab State Electricity Board, Patiala
7. Power Development Deptt.,Govt. of Jammu & Kashmir, Srinagar
8. Power Deptt., Union Territory of Chandigarh, Chandigarh
9. Northern Regional Load Despatch Centre, New Delhi
10. Northern Regional Electricity Board, New Delhi **Respondents**

Following were present:

1. Shri S.N.Goel, NTPC
2. ShriS.K.Sumui, NTPC
3. Shri K.J.Singh, NTPC
4. Shri S.D.Jha, NTPC
5. Shri Rajesh, NTPC
6. Shri Manoj Saxena,NTPC
7. Shri A.K.Garg, NTPC
8. Shri H. Vyas, DTL
9. Shri V.K.Gupta
10. Shri T.P.S.Bawa, OSD, PSEB
11. Shri Mani, NRLDC
12. Shri S.R.Narasimahan, NRLDC
13. Shri M.P.Singh, NRPC
14. Shri Vikram Singh, NRPC
15. Shri A.K.Singh, NRPC
16. Shri S.P.Singh, NRPC

17. Shri Dinesh Chandra, NRPC
18. Shri R.P.Aggrawal, NRPC

ORDER
(DATE OF HEARING: 8.12.2006)

This petition has been filed for adjudication of the dispute arising between the petitioner and the respondents regarding payment of charges for energy supplied from various thermal generating stations of the petitioner in the Northern Region during the period 1.1.2000 to 30.6.2001. The petitioner has submitted that the respondents have not paid a part of the payable energy charges, on the alleged ground that the petitioner had generated and supplied (unwanted) electricity to the respondents under high frequency conditions during the above period.

2. The petitioner has stated that prior to introduction of Availability Based Tariff (ABT) on 1.12.2002 in Northern Region, the capacity and energy charges were payable on drawal basis, i.e. proportionate to energy drawn by the respective beneficiaries. Though there were many rounds of discussions on matters relating to backing down of the generating stations during high frequency conditions (a serious problem at that time), no consensus could be reached between the respondents on one side and the petitioner on the other. While NREB had envisaged a scheme of incentive and disincentive for curbing high / low frequency operation, and a mock exercise was also conducted in 1996, the petitioner found the scheme unfair and inequitable, and continuously kept opposing it.

3. However, in spite of the petitioner's protests, the above scheme was implemented by NREB (now NRPC) from 1.1.2000, and payment of energy charges to the petitioner was curtailed. According to the petitioner, an amount of Rs. 31.8 crore has been unjustifiably withheld by the respondents (the beneficiaries in NR) pertaining to the period 1.1.2000 to 30.6.2001, on account of alleged excess generation at high frequency. As the petitioner has not been able to resolve the dispute with the respondents, it has made the application to the Commission to adjudicate in the matter.

4. The petition was admitted by the Commission after hearing on 20.7.2006. A detailed reply dated 22.8.2006 was filed by NRPC Secretariat, which chronologically narrated the deliberations on this subject at NREB forum since early nineties. Some other respondents also filed their replies. Since a number of issues and complexities were involved in the dispute, the Commission decided that the issues should in the first instance be examined in detail by a one-member Bench of the Commission to make suitable recommendations to the Commission for its consideration. I was nominated to conduct further proceedings and make suitable recommendations to the Commission for this purpose.

5. In the first instance, I would draw upon the chronological narration in NRPC reply dated 22.8.2006, to put the matter in a proper perspective. The NR

grid had been experiencing sustained high frequency for prolonged periods since late Eighties. The grid frequency was above 50.5 Hz for 21.94%, 23.56% and 41.52% of time during 1988-89, 1989-90 and 1990-91 respectively. Frequent tripping of nuclear units was one of the many problems being faced due to such operation and the situation was getting worse year-by-year.

6. To curb the above, an “overlay accounting scheme” was agreed to in NREB and implemented w.e.f. September 1991. The scheme encouraged overdrawal by the States from the regional grid (by backing down their own generation) through application of a concessional rate for energy overdrawn during high frequency conditions. The overlay accounting scheme was meant to operate between the States only, with the underdrawing States compensating for the concessional supply to the overdrawing States. The central sector generators were not a party to the scheme, which remained in operation till 30.11.2002 in N.R.

7. As the high frequency problem continued despite implementation of overlay accounting scheme, NREB, in its 108th meeting in March 1996, felt the further need for penalizing excess generation at high frequency and overdrawals at low frequency. Such a scheme was then formulated by the NREB Secretariat, but the petitioner did not agree to it. However, a mock trial of the proposed scheme was conducted in July 1996, and results put up in NREB meeting held in October 1996. Once again the petitioner did not agree, and a Working Group

was constituted by NREB. The recommendations of the Working Group were put up in NREB meeting of May 1997. Since the petitioner had reservations on these recommendations as well, NREB, in January 1998, asked NRLDC to formulate an action plan (scheduling procedure), which was put up in NREB meeting of March 1999. The revised scheduling procedure was agreed, and implemented w.e.f. May 1999, as per NRPC Secretariat submission.

8. Meanwhile, RSEB had proposed in October 1998 that the petitioner should not be paid energy charges for generation in excess of quantum advised by NRLDC. The Commercial Committee was then asked to prepare the methodology for working out excess generation, which was put up in NREB meeting held on 3.12.1999. In spite of the petitioner's objections, NREB decided to implement the scheme from 1.1.2000, and NREB Secretariat has determined the excess generation, in accordance with the methodology devised by the Commercial Committee, which remained in force up to 30.11.2002.

9. I would now take up the arguments advanced by the petitioner for disagreeing with the beneficiaries and NREB/NRPC Secretariat, culminating in the present dispute. These, in a nut-shell, are:

(i) There was no equitable mechanism to deal with the implementation of backing down of the generating stations.

(ii) There was a lack of proper measurement of electricity generated at various State level generating stations, as also inability and / or unwillingness on their part.

(iii) The scheme should have included merit order scheduling of all generators, and backing down should have been strictly as per regional merit order both for Central and State generators.

(iv) The petitioner's generating stations were operating efficiently, and should not have been asked to back down.

(v) The scheme would have put restrictions only on the petitioner's generating stations (which constituted only one fourth of the total generation in the region), while ignoring the rest.

10. The petitioner has also claimed that it had always acted consistently with the scheduling of electricity, and the charges claimed from the beneficiaries were in accordance with the schedule given by the NRLDC. The petitioner has stated that it has not claimed any charges for any energy in excess of the scheduling. Further, according to the petitioner, it was not open to NREB to decide on backing down disregarding merit order principles, and such decisions were arbitrary, inequitable, unjustified, illegal and not enforceable.

11. The generating stations of the petitioner comprised of modern, large, and highly efficient units, most of which were also pit – head located. They naturally ranked high in regional merit – order, and should / would have been on base – load duty, with little backing down. However, the prevailing commercial arrangements prevented this from happening. It has been duly acknowledged, both by the petitioner and the respondents, and amply demonstrated by actual experience that the problem got addressed once the Availability Based Tariff (ABT) was introduced in the region w.e.f. 1.12.2002. The parties should therefore, have proposed/agreed on early implementation of ABT, for tackling the high/low – frequency problem. ABT had been recommended by a World Bank/ADB-sponsored consultant in 1994, and its implementation in N.R. with effect from 1.8.2000 had been stipulated by the Commission in its order dated 4.1.2000 in petition No. 2/1999. Both parties, the petitioner and the respondents, were already familiar with it, but failed to pursue it.

12. While the petitioner had a point in expecting that its pit – head generating stations should not be asked to back down, the way it went about trying to achieve it (by enforcement through a centralized regional merit – order based scheduling and dispatch, which the petitioner would have considered as an "equitable" mechanism) was not acceptable to anybody else. The petitioner's insistence on collection of data/status of SEBs' generating stations and their scheduling/monitoring by NRLDC, was also

perceived by the respondents as unreasonable. It is, however, noted that in the scheme of incentive / disincentive for curbing high / low frequency operation, the petitioner did get singled out when the hydro and nuclear generating stations owned by other central generating companies (NHPC and NPC) were exempted from the scheme.

13. The reasons given by the beneficiaries for rejecting the petitioner's stand can be found in the minutes of NREB meetings, and are consolidated in NRPC Secretariat's affidavit dated 22.8.2006. These mainly are:

(i) Over – generation by SEB's generating stations in high – frequency would reflect as under– drawal by the SEB from regional grid, and would get penalized in the "overlay accounting scheme". Therefore, no separate monitoring of the SEB`s generating stations was required.

(ii) The petitioner's insistence for incentive on over-generation during low-frequency, under the "incentive / disincentive scheme" was not justified since it was already getting an incentive under the prevailing tariff notifications, issued by Ministry of Power and because no penalty for under generation in low-frequency was envisaged in the incentive / disincentive scheme.

(iii) The petitioner's resistance to back down its generating stations in high – frequency was not justified, since it was already entitled to claim deemed generation, and backing down would not have resulted in a financial loss to petitioner.

14. The above reasons, prima facie, appear justified. However, two issues brought out by NRPC Secretariat are questionable. It has been highlighted that the SEBs' thermal generating stations were backing down to a larger extent (4.27% and 1.49% in 1998-99 and 1999-2000 respectively) than the petitioner's generating stations (2.87% and 0.64% in 1998-99 and 1999-2000 respectively), to disprove that the petitioner was being singled out in the matter. It is well known that most of the petitioner's generating stations were having a variable cost much lower than that of most of the SEBs' generating stations. The backing down of the SEBs' generating stations should, therefore, have been much higher. The figures given by NRPC Secretariat only indicate that the generation was not being optimized. It is another matter that the prevailing commercial mechanism did not induce the required optimization.

15. The other issue is a reference to the provisions under section 55(2) of the Electricity (Supply) Act 1948, to stress that the petitioner had to follow all the directions of the NREB. It appears that the respondents have not taken into account the amendment to the above Act carried out in 1998.

Section 55 of the Electricity (Supply) Act 1948, after the amendments of 1998, read as follows :

> "55. Compliance of directions of the Regional Electricity Board, etc., by licensees or generating companies. – (1) Until otherwise specified by the Central Government, the Central Transmission Utility shall operate the Regional Load Despatch Centers and the State Transmission Utility shall operate the State Load Despatch Centers.
>
> (2) The Regional Load Despatch Centre shall be the apex body to ensure integrated operation of the power system in the concerned region.
>
> (3) The Regional Load Despatch Centre may give such directions and exercise such supervision and control as may be required for ensuring integrated grid operations and for achieving the maximum economy and efficiency in the operation of the power system in the region under its control.
>
> (4) Subject to the provisions of sub-section (3), the State Load Despatch Centre in a State may give such directions and exercise such supervision and control as may be required for ensuring the integrated grid operations and for achieving the maximum economy and efficiency in the operation of the power system in that State.
>
> (5) Every licensee, transmission licensee, Board, generating company, generating stations, sub-stations and any other person connected with the operation of the power system shall comply with the directions issued by the Load Despatch Centers under sub-sections (3) and (4).
>
> (6) All directions issued by the Regional Load Despatch Centers to any transmission licensee of State transmission lines or any other licensee of the State or generating company (other than those connected to inter-State transmission system) or sub-station in the State shall be issued through the State Load Despatch Centre and the State Load Despatch Centers shall ensure that such directions are duly complied by the transmission licensee or licensee or generating company or sub-station.
>
> (7) Subject to the above provisions of this section, the Regional Electricity Board in the region from time to time may mutually agree on matters concerning the smooth operation of the integrated grid and economy and efficiency in the operation of the power system in that region and every licensee, transmission licensee and others involved in the operation of the power system shall comply with the decision of the Regional Electricity Board.
>
> (8) The Regional Load Despatch Centre or the State Load Despatch Centre, as the case may be, shall enforce the decision of the Regional Electricity Boards.

(9) Subject to regulations made under the Electricity Regulatory Commissions Act, 1998 (14 of 1998) by the Central Commission, in the case of Regional Load Despatch Centers or the State Commission in the case of State Load Despatch Centers, any dispute with reference to the operation of the power system including grid operation and as to whether any directions issued under sub-section (3) or sub-section (4) is reasonable or not, shall be referred to the Authority for decision:

Provided that pending the decision of the Authority, the directions of the Regional Load Despatch Centers or the State Load Despatch Centers, as the case may be, shall be complied with.

(10) Until the Central Commission is established, the Central Government and thereafter the Central Commission in the case of Regional Load Despatch Centre and until the State Commission is established, the State Government and thereafter the State Commission in the case of the State Load Despatch Centre of that State, may, by notification, specify the fees and charges to be paid to the Regional Load Despatch Centers and the State Load Despatch Centers, as the case may be, for undertaking the load dispatch functions entrusted by the Central Government or by the State Government, as the case may be.

(11) The provision of sub-section (3) of section 4B shall apply in relation to any notification issued by the Central Government or the Central Commission as the case may be under sub-section (10), as they apply in relation to the rules made by that Government under Chapter II."

16. It can be seen that under the amended Electricity (Supply) Act, 1948 (which was the ruling Act during the period of dispute), the REBs could "mutually agree" on matters concerning the smooth operation, etc. leading to decisions which had to be complied with by "every licensee, transmission licensee and others involved in the operation of the power system". Further, RLDCs and SLDCs were required to enforce the (mutually agreed) decisions of the REB. The direct implication of this is that a decision of the REB was enforceable only if it was based on mutual agreement. That does not seem to be the case in the present matter, as it is clear from the minutes of NREB meetings that the petitioner never agreed to join in the "incentive/ disincentive

scheme". This last fact was also confirmed by NRPC Secretariat during the hearing on 8.12.2006.

17. Now I take up the various issues/arguments raised during the hearing before the Bench on 8.12.2006 at NRPC office.

18. To start with, the petitioner and the respondents were told about my personal involvement in the NREB deliberations during the concerned period as a member of NREB, and in the drafting / finalization of the Indian Electricity Grid Code (IEGC) in my capacity as Director (Operations) of PGCIL. It was ascertained that none of the participants had any objection to my proceeding with the matter.

19. It was pointed out by the petitioner that the period of dispute (1.1.2000 to 30.6.2001) spans over two tariff periods, one up to 31.3.2001 and the other starting from 1.4.2001. During the first tariff period, the tariff for the petitioner's generating stations had to be according to the tariff notifications and orders issued by the Govt. of India, their validity having been extended up to 31.3.2001 by the Commission vide its order dated 21.12.2000 in Petition No. 4/2000 and other related petitions. In the second tariff period, it was governed by the regulations and orders issued by the Commission. During both of these periods (prior to ABT), variable charges were to be paid based on actual energy sold on ex-bus bar basis. Neither the Govt. of India

notifications / orders, nor the Commission's regulations / orders made any mention about curtailment of payments under high-frequency conditions. The petitioner has, therefore, contended that the NREB decisions in the matter were without any authority, and were illegal because NREB had no jurisdiction. There is a considerable merit in the above contention of the petitioner. NRPC Secretariat has sought to establish NREB's jurisdiction quoting some provisions in the Electricity (Supply) Act 1948 and the Indian Electricity Grid Code. I have already dealt with the former, and the latter has been dealt with in this order later on. Based on my analysis, I am unable to accept the contentions of NRPC Secretariat.

20. The petitioner mentioned that the issue of over-generation during high-frequency conditions had been raised by the beneficiaries with the Commission in the course of hearings on NTPC's petition on incentive for generating stations. The relevant order of the Commission however could not be produced during the hearing on 8.12.2006, and this aspect could not be examined further. The relevant order, dated 31.7.2001 in Petitions No. 5/1999, 96/2000, 112 to 117/2000 has been subsequently submitted by the petitioner through its affidavit dated 22.12.2006. The following extract of the order, issued after a hearing on 18.4.2001, is most crucial :

> "11. It appears that at NREB forum, it was decided that excess generation under high frequency shall not be taken into consideration for the purpose of incentive. Such an excess generation has been shown separately by the Member Secretary, NREB in the availability certificate, issued vide his letter dated 9.8.2000. NTPC, the petitioner, has pleaded that excess generation under these circumstances should

> earn incentive. On the contrary, it has been pleaded by the respondents that such generation cannot be taken into account since it does not benefit the system as a whole. We have considered the contentions raised on behalf of the parties. The beneficiaries have already paid variable charges for the power generated during high frequency. It is not desirable to burden the beneficiaries with incentive since they do not get any advantage in wasting fuel on excess generation at high frequency. We, therefore, direct that while considering liability of the respondents to pay incentive, the excess generation at high frequency shall be excluded for the purpose of calculation."

21. It is clear from the above that the Commission did not allow any incentive to the petitioner's generating stations for excess generation under high frequency, based on an understanding that the beneficiaries were paying the variable charges for such energy. It is pertinent that while the above understanding of the Commission was duly recorded in its order for generation incentives for the year 1999-2000, issued after a hearing on 18.4.2001, no party applied for its review. It thus appears that the parties at that time had reconciled to variable charges being paid for the alleged excess generation, and only incentive being disallowed, at least before the Commission. No party appears to have apprised the Commission about the NREB decision of 3.12.1999 that neither the variable charge nor the incentive would be paid to NTPC for the alleged excess generation. The Commission might have taken a different view at that time had it been told that the beneficiaries did not intend to pay the variable charges for such excess generation.

22. Another issue raised by the petitioner on 8.12.2006 was that of ad hoc and imprecise manner in which the “excess energy” was being determined by NREB Secretariat. I have not gone into this matter, since that is not of any consequence in my conclusion. I would only mention that schedules (which would have been taken as datum for determining the “excess” generation) had little sanctity prior to implementation of ABT.

23. The arguments listed in its affidavit of 22.8.2006 were reiterated by NRPC Secretariat on 8.12.2006 also. They have already been discussed in paras 13 to 16 above. It is my considered view that high frequency reflected generation in excess of consumer demand, and its correction required backing down of generating stations. For overall optimization in national interest, generating stations having a higher variable cost should have been backed down, so that generating stations of low variable cost could continue at full load. The onus was thus on the beneficiaries (whose plants generally have higher variable costs), and it was unreasonable on their part to be asking / expecting NTPC to back down its generating stations (which generally have lower variable costs). On the other side, the petitioner should have backed down its generating stations (may be after recording its protest from “national interest” angle) when asked to do so under high frequency conditions, since the beneficiaries (not the petitioner) would have borne the adverse financial impact of such non-optimal operation. The petitioner would

have still recovered its full fixed cost and incentive under deemed generation provision. As such, the petitioner too was not being reasonable.

24. During the hearing on 8.12.2006, Punjab State Electricity Board (PSEB), in its submissions dated 23.12.2006, laid much stress on various provisions under clause 7.4 (Demarcation of responsibilities) of the Indian Electricity Grid Code (IEGC) – December 1999 issue, which was the applicable grid code during the period of dispute. Quoting these provisions and banking on them, PSEB has sought to show that the petitioner's actions and contentions were not in accordance with the ruling grid code. I have to point out that the entire scheme of decentralized scheduling described in Chapter–7 of the IEGC (based on Option–C of market mechanism recommended in the ECE report, which has been referred to by some of the respondents) was premised on the complementary commercial mechanism (as per Annexure–1 to Chapter–7 of the IEGC) being in place. This should be amply clear from the clause 1.7 of the IEGC (December 1999 issue), which is reproduced below.

> "1.7 Commercial Mechanism
> The CERC shall separately announce the dates for implementation of the commercial mechanism mentioned in section 7.1(d), in different regions which is considered necessary to fully implement the provisions of sections 7.4, 7.5, 7.6".

25. Such a commercial mechanism (the ABT) was implemented in the Northern Region only on 1.12.2002. Prior to that, in the absence of the required complementary commercial mechanism, the decentralized

scheduling scheme was unworkable, as has actually been seen. This situation was foreseen, and covered by the clause 1.7 of IEGC quoted above. Accordingly, I must discount all arguments put forth by PSEB against the petitioner with reference to the IEGC provisions.

26. PSEB has also referred to the Commission's order dated 30.10.1999, which in turn has referred to the stipulations in the amended Electricity (Supply) Act, 1948. Section 55 of this Act, which is directly relevant, has been fully reproduced in para 17 above, and its import has also been discussed. In my view, therefore, PSEB's arguments have little weight.

27. The order dated 31.7.2001 referred to in paras 20 and 21 above also formed the basis for order dated 4.1.2002 in Petition No. 70/2001 and the order dated 23.1.2002 in Petitions No. 68, 69, 71 to 74/2001 for approval of incentive for the year 2000-01 for the generating stations of NTPC in the Northern Region. The following is stated in the order dated 4.1.2002 :

> "6. In our order dated 31.7.2001 in petition No. 5/99 and other petitions pertaining to stations in Northern Region, we have already directed that excess generation at high frequency shall not reckon for the purpose of claiming incentive. For the reasons stated therein, we reiterate those directions. Accordingly, the excess generation at high frequency shall be excluded for the purpose of incentive in respect of the station covered under this petition."

28. As mentioned earlier, the above decision of the Commission was premised on the understanding that variable charges for such excess generation were being paid. It would, therefore, be unreasonable at this

stage to accept a change in that premise. This apart, for reasons already detailed, I find the so-called NREB decision to be neither legally valid nor equitable.

29. I recommend that the petitioner should be paid full energy charges as per Govt. of India notifications/orders for the period up to 31.3.2001, and as per the regulations/orders of the Commission from 1.4.2001 and onwards. The amount remaining unpaid on account of the present dispute may be paid by the concerned beneficiaries in four (4) quarterly instalments starting from 31.10.2007.

30. Since petitioner too is somewhat responsible for the situation leading to the present dispute, I am deliberately not asking for payment of interest on the amounts withheld by the beneficiaries, in the present case. However, if payments are not made as per the previous paragraph, the concerned beneficiaries should be liable to pay interest @ 1.25% per month or part thereof for any further delay.

Sd-/
(BHANU BHUSHAN)
MEMBER

New Delhi dated 25th July 2007