

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No.16/2010

**Coram: 1. Shri S.Jayaraman, Member
2. Shri M.Deena Dayalan, Member**

DATE OF HEARING: 29.4.2010

DATE OF ORDER: 16.12.2011

IN THE MATTER OF

Deduction of UI for excess generation beyond 105% for any block and/or 101% for the day from 1.4.2009 on alleged gaming certification by SRLDC/SRPC under Central Electricity Regulatory Commission (Unscheduled Interchange and Related Matters) Regulations, 2009 in respect of NLC TPS-I (Expansion) and NLC TPS-II.

AND

IN THE MATTER OF

Neyveli Lignite Corporation Ltd, Chennai
Vs

.... Petitioner

1. Tamil Nadu Electricity Board, Chennai
2. Kerala State Electricity Board, Thiruvananthapuram
3. Power Corporation of Karnataka Ltd, Bangalore
4. Puducherry Electricity Department, Puducherry.
5. Transmission Corporation of Andhra Pradesh, Hyderabad
6. Southern Regional Load Despatch Centre, Bangalore
7. Southern Regional Power Committee, Bangalore
8. NTPC Ltd, New Delhi

....Respondents

ORDER

The petitioner, NLC has filed this application praying for the following reliefs:

- (a) *To amend /clarify the present UI regulations in vogue with effect from 1.4.2009 concerning treatment of actual generation in excess of 105% of the declared capacity (DC) in a time block and 101% of DC in a day;*
- (b) *To give directions to refund the UI charges deducted from UI accounts of TPS-I (Expansion) and TPS-II on the grounds of alleged gaming retrospectively with effect from 1.4.2009; and*
- (c) *To pass such orders as deemed fit by the Hon'ble Commission.*



2. The thermal power generating stations of the petitioner namely, TPS-I (Expansion) comprises of two units of 210 MW and TPS-II comprises of 630 MW of Stage-I (Units I to III) and 840 MW of Stage-II (Units IV to VII) and supply of power from these generating stations are made to the beneficiaries of the Southern Region viz, respondents 1 to 5.

3. The petitioner has submitted that the declaration of availability from the said generating stations on a daily basis as per procedure are being communicated to the respondent No.6, SRLDC, declaring the maximum quantum of power that can be dispatched to the Grid, in compliance with the provisions of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004, the Indian Electricity Grid Code (IEGC), 2009 and the Central Electricity Regulatory Commission (Unscheduled Interchange and Related Matters) Regulations, 2009 (UI Regulations, 2009). The petitioner has also submitted that the incidents of actual generation falling below the declared capacity and/or exceeding the prescribed limits are communicated to the respondent No.6, SRLDC at the same point of time along with reasons and circumstances that led to the variations in actual generation. The petitioner has further submitted that in terms of clauses 3 and 4 of Regulation 6 of the UI Regulations, 2009 notified by the Commission on 30.3.2009, the respondent No.6, SRLDC had revised the procedure as regards finalization of UI accounts with effect from 1.4.2009 without any prior discussions with the generators/stakeholders. The impact of the revised procedure came to the notice of the petitioner when weekly UI accounts based on the UI regulations, 2009 was issued by the secretariat of the respondent No. 7, SRPC, wherein it had deducted the UI charges for the period from 1.4.2009 to 15.11.2009 (due to actual generation beyond 105% of DC in an individual time block whenever actual generation exceeds 101% of DC for the day) and kept the same in the "UI Pool Account



Fund". On a query by the petitioner, the respondent No.7 informed the petitioner that the refund or otherwise of the said deducted amount would be decided after receipt of the said amount.

4. The deduction of UI charges by the respondent No. 7, SRPC was objected to by the petitioner in the Operation Coordination Committee (OCC) meetings and the Commercial Committee meetings of the SRPC and clarification was sought for as to how normal load variations could be termed as 'gaming' and UI amount deducted. However, the respondent No.6, SRLDC issued certificates to the effect that the time block/days in which the actual injection exceeded 105%/101% would be termed as 'gaming' and the UI amount deducted was accordingly disbursed to the beneficiaries, notwithstanding the objections raised by the petitioner. The following are the details of the UI amount deducted from the petitioner by the respondent No.6, SRLDC on the ground of 'gaming' during the period from 1.4.2009 to 15.11.2009, which has been disputed by the petitioner.

(in Rs)

	UI amount deducted
TPS II Stage-I (3x210 MW)	3,21,371
TPS II Stage-II (4x210 MW)	2,35,438
TPS I Expansion (2x210 MW)	23,72,942
Total	29,29,751

5. The petitioner, in its petition has submitted the specific reasons (plant-wise) for the variation in actual generation above 105% for any time block and the constraints in maintaining the actual generation within 105% of the DC, in certain individual time blocks, and the same are highlighted in the subsequent paragraphs.

6. Normally the declared capacity is fully scheduled but it is not possible to stick to the schedule, particularly with lignite as fuel. It is very difficult to predict the quality of



lignite which varies widely during the day especially in the rainy season. Normally the actual generation of ISGSs closely follows the declaration. It falls below or above the declaration due to variation in the operating parameters. On few occasions, like ramping up / ramping down of load in case of tripping of/ bringing back the units, the actual generation exceeds the limits mentioned in the Regulations notified by the Commission. The incidents when the limits are crossed due to any reason are communicated to SRLDC then and there stating the reasons and circumstances that have led to such variations in actual generation.

7. The generator is expected to take corrective steps during real time operation of the generating station. This is practiced by revising the DC, once it is noticed that the load excursions which are taking place more on the positive side of DC would not come down, due to improvement in quality of lignite etc. Though it may not be possible during ramping up/ ramping down operations when control in load variations is difficult, the situation is managed by controlling the net injection to the extent possible by adjusting the load in the other running units of the generating station. This is however, difficult in case of TPS-I (Expansion) where there are only two 210 MW units. Further, any revision in schedule would take effect only after 5 time blocks. Thus, the load variations were due to the technical reasons which were beyond the control of the generator.

8. In case of TPS-II, the DC of the generating station is allowed to be given as ' Net of Mines', i.e. after taking into consideration the power consumption of mines. On account of this, the actual generation has to be varied depending upon the drawl of the mines. Though the estimated power drawl by the mines are fine-tuned on a continuous basis, which is indicated by the variation given in the day to day schedule, the actual



generation needs to be brought down when the Mines drawl becomes suddenly lower, and the generating station has to incur heavy UI penalty when the drawl by Mines is much higher than the estimated consumption, for any reason. Thus, the power drawl by the Mines of the petitioner also plays a part in deciding the actual injection into the Grid.

9. Some margins which are kept for meeting the unexpected rise in Mines power consumption leads to reduction in station availability. Generation has to be reduced during lesser drawl by mines due to constraints (actual generation should not exceed 105% of DC in an individual time block and 101% of DC for the day). Such reductions in generation are done even in low frequency conditions in order to avoid overshooting of the actual generation above the DC and are maintained within the limits of 1% and 5%. Even if it is a single time block in which the actual generation has exceeded the 105% limit, the same has been termed as 'gaming'.

10. The petitioner has submitted that despite the above difficulties faced by it, the variation in actual generation above 105% for any time block had occurred occasionally which was not intentional and that the actual generation in excess of 101% of DC was 'nil'. Thus, the petitioner has sought the intervention of the Commission with the prayers at paragraph I above.

11. The respondent No.1, TNEB in its reply dated 3.3.2010 has mainly submitted as under:

(a) RLDC needs to establish on a case to case basis that the occurrence of over injection beyond the specified limits were intentional or otherwise. There needs to be



transparency in the criteria to be followed to decide gaming or otherwise and the reasons taken may be spelt out by SRPC.

(b) SRLDC had agreed in the Special TCC meeting held on 4.11.2009 to consider certain cases as not involving 'gaming', which also include furnishing of reasons by it, while certifying 'gaming' to SRPC.

(c) The Commission may get the data of the total sale of power through UI and the contribution of SEBs in the UI. In case it is noticed that the central generating stations have under declared their capacity and generated more probably within the limits specified by the Commission, then the Commission may limit the tolerance to a lesser value, which will result in additional power to the grid at normal rates. The Commission may deter the generating stations from deliberate under declaration of its capacity with a motive to earn UI charges.

12. In its response to the above, the petitioner by its affidavit dated 5.4.2010 has clarified as under:

(a) SRLDC's stand on gaming did not reflect the views of CEA, the generators and the utilities during the Special TCC meeting held on 4.11.2009 and the decision taken in the said meeting has been applied only from 21.9.2009 onwards. The petitioner voiced its dissent in the said meeting and the issue came up for discussions in the 18th SRPC meeting, which was of no avail.

(b) The petitioner had submitted that excess generation was not intentional and only due to operational constraints such as ramping up and down of generation etc., and are beyond its control. These are to be analyzed on case to case basis.

(c) UI revenue accruing to the generator should not been seen in isolation and taken as yardstick while interpreting the UI Regulations, 2009. It is not fair to deny the generator the energy charges for excess generation over and above 105% of DC. The generator is denied UI charges and is made to supply free power to beneficiaries.

(d) Over injection and under-injection by the petitioner are only during constrained operating conditions and not due to deliberate under declaration. There is no malafide intention on the part of the petitioner and load variations are purely due to technical reasons and not intentional.

13. The respondent No. 6, SRLDC in its reply dated 1.4.2010 has mainly submitted as under:

(a) Clause 6.4.25 of the IEGC, 2009 and Regulation 6.4 of the UI Regulations, 2009 provide that RLDC shall investigate the instances of generation by the inter-State generating stations (ISGS) beyond the prescribed limits for 'no gaming' certification and in line within this, the ISGS are advised through OCC forum to furnish in writing to SRLDC the details of deviations, if any, along with reasons/justification for excess generation beyond prescribe limit. In the event of non-submission of information, the concerned generating stations, the instances were not considered for analysis since 'no-gaming' cannot be ascertained in the absence of reasons.

(b) The total number of instances wherein the petitioner generated in excess of prescribed limit is 223 and against these instances, SRLDC received in general, only qualitative and repetitive reasons from the petitioner for investigation without any quantified technical data like generator, turbine/boiler, control system parameters in

order to make a one-to-one relation of the instances and quantum of variation in generation.

(c) The number of time blocks corresponding to each of these categories of reasons assigned by the petitioner is tabulated as under:

Sl No.	Reason	TPS-II Stage I	TPS-II Stage II	TPS-I Expansion	Total
1	Mines consumption variation	6	5	0	11
2	Variation in Quality of Lignite/ Wet Lignite/ choking of Lignite	23	12	35	70
3	Ramping up during unit synchronization	12	3	64	79
4	Other reasons	4	1	19	24
5	No communication of reasons received	13	4	22	39
	Total	58	25	140	223

(d) It is noticed from the details of the declared capacity of the petitioner for the period from 1.4.2009 to 15.11.2009 that the average declared capacity is less than the normative declared capacity as well as actual injection is more than the actual declared capacity on most of the days. The reasons submitted by the petitioner in this connection are not reasonable.

(e) Since there were no standard guidelines developed for investigation, the issue of determining ' No gaming ' condition was discussed in various forum of OCC/TCC of SRPC, where the ISGS as well as beneficiaries are members. The guidelines proposed by SRLDC were reviewed and improved upon in monthly meetings and updated in the Special TCC meeting of SRPC held on 4.11.2009. The details of methodology evolved in different meetings are as under:

35 th OCC (15.5.2009)	UI charges during violation of 101% / 105 % norms shall be considered for investigation by SRLDC as 'gaming' or not, only if the concerned generating stations submit the details to SRLDC on the next working day subsequent to the day for investigation. Otherwise, UI for such blocks will be deemed as zero assuming the same as 'gaming'.
36 th OCCM (11.6.2009)	Any generation beyond 105% in block and 101% over a day would not be allowed during fuel deficit condition. The issue regarding surrender of share and technical minimum during fuel deficit condition should also be addressed.
37 th OCCM (10.7.2009)	SRLDC may consider, if at all, only two cases as "No Gaming" (a) During Ramping-up when unit is getting synchronized in consultation with SRLDC. (b) When frequency was low and SRLDC instructed the generator to generate more. SRLDC added that cushion of 105% in block and 101% over a day had already been given to generators for such contingencies.
40 th OCCM (13.10.2009)	Proposal made by SRLDC: Generation of ISGS in any time block exceeding 105% of DC while the SR grid frequency was less than 49.5Hz would not be considered as "Gaming" subject to the condition that the total generation for the day did not exceed 101% of the DC. The discussion was deferred to the proposed Special TCC meeting.
Special TCC (4.11.2009)	The following cases, if at all, may be considered as "No gaming" (a) During ramping up when unit is getting synchronized in consultation with SRLDC (b) When frequency was low and SRLDC instructed the generator to generate more (c) Generation of ISGS in any two continuous time block exceeding 105% of DC when the SR grid frequency is less than 49.5Hz will not be considered as "gaming" subject to the condition that either the DC would be revised or generation would be maintained in the specified limits in the consecutive third block and also that the total generation for the day does not exceed 101% of the DC

(f) The UI payment up to 105%/101% limit of DC were made to the petitioner even for all instances, as submitted by the petitioner, thereby ensuring that UI is not made 'zero' for the entire deviation.

(g) All possible measures are taken by SRLDC for rational investigation and no-gaming analysis/certification was made for blocks that convinced SRLDC as per the procedure



developed in consultation with the constituents, in the various forums. It would be very difficult to investigate and establish such incidents of violation of the relevant IEGC stipulation as 'no gaming'.

14. In response to the above, the petitioner vide its affidavit dated 19.4.2010 has clarified as under:

(a) The petitioner has also submitted that since the inception of ABT and up to 31.3.2009, none of the events of generation in excess of 105% of DC in a time block and in excess of 101% of DC over the day has been certified as 'gaming' by SRLDC. There is no change in the philosophy in the operation of the Units from 1.4.2009. It was noticed that the respondent No.7, SRPC, had changed the methodology only while releasing the first UI accounts on 22.4.2009. Moreover, SRLDC also declared all the events as 'gaming' without any details/explanations.

(b) The power stations are pit head stations using lignite on excavated basis and the unpredictable variation in quality of lignite have cascading effect leading to variation in actual generation. Out of 21984 time blocks of 15 minutes available for the period from 1.4.2009 to 15.11.2009, the actual generation exceeding 105% of DC in 140 time blocks in case of TPS-I Expansion is only 0.63% and in case of TPS-II, it is in only 0.37% (83 time blocks-58 time blocks, in Stage I and 25 time blocks in Stage-II) of the total available blocks of 21984. Thus, the extra injection was not intentional.

(c) Synchronization of the units with the grid and subsequent ramping up of generation is done in consultation with SRLDC through ABT scheduling. The variation of 5 to 10 MW on both sides during ramping up is unavoidable for lignite fired boilers and certifying each event as 'gaming' irrespective of its nature and despite the explanations



furnished by the petitioner is against the spirit of the regulations notified by the Commission.

(d) SRLDC has now accepted that the frequency was less than 49.5Hz during 89 blocks though it had declared the over injection by the petitioner when frequency was less than 49.5Hz, as 'gaming'.

(e) The instances of excess generation were only during constrained operating conditions like wet and poor quality lignite, ramping up after synchronization which is not intentional. The data given by SRLDC clearly indicate that the actual injection was less than actual DC for nearly 20% of the days and the generating stations of the petitioner had paid additional UI penalty to the UI pool account to the tune of ₹21.67 lakhs during the period from 1.4.2009 to 30.11.2009 for under injection when the grid frequency was below 49.5 Hz.

(f) Though the UI amount deducted is meager, the treatment of excess injection as 'gaming' is considered demeaning, as the petitioner has always endeavoured to adhere to the regulations notified by the Commission to the fullest extent.

15. Heard the submissions of the parties. Based on the submissions and the documents available on record, we proceed to examine the matter in the succeeding paragraphs.

16. Regulations 6.4.25 of the Indian Electricity Grid Code (Amendment) Regulations, 2009 and Regulations 6(3) and 6(4) of the Central Electricity Regulatory Commission (Unscheduled Interchange charges and related matters) Regulations, 2009, which were in force from 1.4.2009, provide as under:



“Any generation from the generating stations other than hydro generating stations up to 105% of the declared capacity in any time block of 15 minutes and averaging up to 101% of the average declared capacity over a day shall not be considered as gaming, and the generating station shall be entitled to UI charges for such excess generation above the scheduled generation.

For any generation from the generating stations other than hydro generating stations beyond the specified limits, the Regional Load Despatch Centre shall investigate so as to ensure that there is no gaming. Generating stations shall be entitled to recover the Unscheduled Interchange charges only if the investigation establishes that there is no gaming. If gaming is found by the Regional Load Despatch Centre, the corresponding Unscheduled Interchange charges payable to the generating station on account of such extra generation shall be reduced to zero and the amount shall be adjusted in UI pool account of the beneficiaries in the ratio of their capacity share in the generating station.”

17. The above said provisions made it mandatory for the respective Regional Load Dispatch Centers (RLDCs) to investigate any UI in excess of 105% of DC in a time block and 101% of DC over the day for ‘gaming’ and issue certificates to the effect that there was ‘no gaming’.

18. We have also examined the details of the incidents of excess generation over the specified limit of 105% of DC in a time block and 101% of DC over a day during the period 1.4.2009 to 15.11.2009 by the petitioner and our observations are as under:

- (i) The actual schedules given to both the generating stations in all the time blocks are equal to the DC given by the generating stations.
- (ii) In case of TPS-II-Stages I and II, in all the days when the generation was in excess of 105% of the DC in one or more time blocks, the actual generation over a day was less than the 101% of the DC.
- (iii) Such excess generation over 105% of the DC, in case of TPS-II Stages I and II did not continue for more than 2 to 3 time blocks except on 2.9.2009 (in the early morning from time block number 16 to 19) and in case of on TPS-II Stage I on 4.11.2009 (in the night from time block

number 89 to 96). The excess generation on 2.9.2009 was during the ramping up of Unit II after shutdown.

- (iv) In case of TPS-I (Expansion), in most of the days when the generation was in excess of 105% of the DC in one or more time blocks, the actual generation over a day was more than 101% of the DC. Such excess generation was during the ramping up of the units in most of the days. However, the petitioner had revised the DC which had taken effect only after 5 time blocks.

19. It has also been observed that the instances of excess generation over the specified limit of 105% of the DC in a time block and 101% of the DC over a day constituted only 0.63% in case of TPS-I (Expansion) and 0.37% in case of TPS-II. Thus, it cannot be held that the excess generation over the specified limit was a common feature on the part of the petitioner. We notice that the standard guidelines for the purpose of investigation had been in a state of development in the SRPC during the period of gaming. It would only be fair that the guidelines for establishing 'gaming' be finalized taking into consideration the operational requirements of generating stations based on reasonable technical considerations.

20. We find that the case of the petitioner is unique, since the schedule of NLC TPS-II is based on the 'Net of Mines' consumption. Therefore, any variation in Mines consumption needs to be adjusted through adjustments in the generation, in order to adhere to the schedules. If there is under-declaration of the DC, the petitioner stands to lose on its Availability, and if the DC declared is higher, the petitioner stands to be implicated for 'gaming'. Therefore, the petitioner is faced with the delicate task of balancing loss of availability *vis-a-vis* the risk of generation going beyond 105% of declared capability and be charged for 'gaming'. Despite this, the total number of blocks



for which there was excess generation over 105% of DC in a time block was only 0.63% of the total available blocks of 21984 for TPS II. Therefore, there is no basis for us to conclude that the petitioner had indulged in 'gaming'.

21. We are of the view that SRLDC should have devised guidelines/procedure for investigation on 'gaming' and made it known to all the parties concerned well in advance, prior to its implementation. It is also observed that in the present case, SRLDC has initially, while issuing certificate for gaming, did not consider as to whether the excess generation was at low frequency or high frequency. Later, SRLDC had changed its criteria for certification of 'gaming' by certifying that there was 'no gaming' when frequency was below 49.5 Hz, as the generator was helping the grid. Moreover, SRLDC has not considered the sudden change in quality of lignite, as a cause for the reduction of generation, as it could be noticed from the data/figures of generation from TPS I (Expansion) provided by the petitioner that there has been variation in the generation (between 95 MW and 149 MW) on 10.11.2009, between the time blocks 42 and 81, due to slushy lignite.

22. Regulation 6.5.20 of the IEGC, 2009 provides as under:

“Revision of declared capability by the ISGS(s) (except hydro stations) and requisition by beneficiary (ies) for the remaining period of the day shall also be permitted with advance notice. Revised schedules/declared capability in such cases shall become effective from the 6th time block, counting the time block in which the request for revision has been received in the RLDC to be the first one.”

23. In accordance with the above provision, the DC of an inter-State generating station can be revised only after six time blocks, counting the time block in which the request for revision has been received in the RLDC to be the first one. This, according to us prevented the petitioner from revising its capability, earlier than five time blocks. In order to overcome this difficulty, SRLDC has later agreed for revision of DC in two time



blocks. Prior to this, SRLDC was certifying gaming when the generation was above 105% of DC even in a single block and later the same was modified to generation above 105% of DC for two continuous time blocks. It is therefore clear that SRLDC had found it difficult to certify 'gaming' by the petitioner and had been revising the criteria for determination of 'gaming' based on the discussions in the OCC and TCC meetings.

24. Having concluded that the petitioner did not indulge in 'gaming', there is no reason for the petitioner to be penalized. However, taking into consideration that the beneficiaries are not burdened with financial liabilities, we are of the view that the petitioner should be allowed to recover its energy charges. Accordingly, we direct, the respondent No. 6, SRLDC to modify the UI accounts to the extent that UI charges for all generation of the petitioner in excess of 105% of the DC be refunded to the petitioner at the rate of Energy Charges only. Simultaneously, the UI accounts for the period from 1.4.2009 to 15.11.2009 be revised accordingly and the amounts be adjusted in the accounts of both the petitioner and the beneficiaries.

25. The petitioner has prayed for amendment of the UI Regulations, 2009 as regards the treatment of actual generation in excess of 105% of DC in a time block and 101% of DC in a day, considering the fact that it was difficult to certify 'gaming'. Taking note of this, the Commission has notified the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010 and the Central Electricity Regulatory Commission (Unscheduled Interchange charges and related matters) (Amendment) Regulations, 2010, which have come into force from 3.5.2010, wherein Regulations 6.4.25 of the IEGC, 2009 was amended and Regulations 6(3) and 6(4) of the UI Regulations, 2009 was omitted. We are of the view that the present regulations are



effective in dealing with instances of excess generation over 105% of the DC, through a commercial mechanism, in order that no generator is incentivized to indulge in 'gaming' in excess of generation over 105% of the DC.

26. Petition No. 16/2010 is disposed of in terms of the above.

Sd/-
(M.DEENA DAYALAN)
MEMBER

Sd/-
(S.JAYARAMAN)
MEMBER

