

CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

Petition No: 122/MP/2018

Coram:

**Shri P.K. Pujari, Chairperson
Shri A.K. Singhal, Member
Shri A.S. Bakshi, Member
Dr. M.K. Iyer, Member**

Date of Order: 23rd of July, 2018

In the matter of

Petition for seeking declaration that the Petitioner can declare and schedule power on the basis of its actual Auxiliary consumption as per the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010 as amended from time to time, for fulfilling its obligations under two different Power Purchase Agreements.

And

In the matter of

Lanco Anpara Power Ltd.
411/9, Riverside Apartments,
New Hyderabad, Lucknow,
Uttar Pradesh- 226007.

.....Petitioner

Vs

1. Northern Regional Load Despatch Centre
18-A, Shaheed Jeet Singh Sansalwal Marg,
Katwaria Sarai, New Delhi -110016
2. U.P. State Load Despatch Centre,
UPSLDC Complex, Vibhuti Khand -II,
Gomti Nagar,
Lucknow- 226010.

... Respondents

Parties Present:

1. Shri Gaurav Dudeja, Advocate, LAPL
2. Shri Arun Tholia, LAPL
3. Shri Sidharth Jalali, LAPL
4. Shri Rahul Srivastava, Advocate, UPSLDC
5. Shri Ashok Rajan, NRLDC
6. Shri Rajiv Porwal, NRLDC



7. Shri S.C. Gautam, UPSLDC
8. Shri Piyush Sukhlal, UPSLDC

ORDER

The Petitioner, Lanco Anpara Power Ltd. has filed the present Petition, seeking declaration that the Petitioner can declare and schedule power on the basis of its actual auxiliary consumption as per the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010 as amended from time to time (hereinafter referred to as "Grid Code), for fulfilling its obligations under Power Purchase Agreements. The Petitioner has made the following prayers:

"(a) Declare that LAPL's Anpara Power Plant is allowed to declare and schedule net-capacity at ex-bus on the actual basis i.e. considering actual auxiliary consumption;

(b) In the alternate to prayer (a), declare that LAPL's Anpara Power Plant is allowed to declare and schedule net-capacity at ex-bus on the basis of normative auxiliary consumption @ 5.75%, as prescribed by this Commission in its Tariff Regulations;

(c) Direct UP SLDC to allow LAPL's Anpara Power Plant to declare and schedule 100% of net-capacity at ex-bus without referring to commercial arrangement between LAPL and the procurers;

(d) Ad-interim ex-parte injunction thereby restraining the Respondents from restricting LAPL's Anpara Power Plant's declared capacity at 1110 MW and allow it to declare 1131 MW or at least 1117.5 MW (1017.5 MW to UP Discoms and 100 MW to TANGEDCO) till final disposal of present Petition, to full fill its obligation under PPAs."

2. The Petitioner has set up a 1200 MW (2x600 MW) coal fired power plant (hereinafter referred to as the 'generating station') near Anpara in the State of Uttar Pradesh. The Petitioner has entered into the following Power Purchase Agreements ("PPA") for sale of power:

(a) PPA dated 12.11.2006 read with supplementary PPA dated 31.12.2009 executed on the basis of Case-2 based competitive bidding process ("UP PPA") between the Petitioner and UP Discoms for sale of maximum net capacity of 1017.5 MW (Gross 1100 MW with normative auxiliary of 7.5%);



(b) Sale of 100 MW net power to Tamil Nadu Generation and Distribution Corporation Limited (“TANGEDCO”), based upon Case-1 competitive bidding process, through the following back-to-back arrangements:

- (i) Agreement dated 19.1.2012 between National Energy Trading and Services Limited (“NETS”) and TANGEDCO read with addendum-1 dated 27.9.2017; and
- (ii) Back-to-Back PPA dated 25.1.2012 between NETS and LAPL with amendment dated 27.9.2017 (“TN PPA”).

Brief Facts of the Case:

3. On 1.10.2004, Uttar Pradesh Rajya Vidyut Utpadan Nigam Limited (hereinafter referred to as “UPRVUNL”), a designated Nodal Agency for facilitating the process of procurement of power on behalf of the State of Uttar Pradesh, initiated a competitive bidding process for inviting pre-qualification bids under Section 63 of the Electricity Act, 2003 (Act) for development, construction, commissioning, owning, operation and maintaining of 2x500 MW Anpara 'C' project at Anpara, District Sonbhadra, Uttar Pradesh.

4. Pursuant to the bidding, on 12.11.2006, the Petitioner and UP Discoms executed a PPA on the basis of Case-2 bidding. As per the PPA, the Petitioner was required to set up a 2x500 Power Plant MW on Build, Own, Operate and Maintain basis. Subsequent to execution of the PPA, Government of Uttar Pradesh permitted the Petitioner to enhance capacity to 2x600 MW instead of 2x500 MW. Accordingly, the Petitioner and UP Discoms executed supplementary PPA dated 31.12.2009.

5. Since, as per the PPA read with Supplementary PPA, the Petitioner was required to supply maximum net capacity of 1017.5 MW to UP Discoms (i.e. Contracted Capacity of 1100



MW less the Normative Auxiliary Consumption @ 7.5% as defined under PPA), the Petitioner was entitled to sell the balance net capacity to third party. Accordingly, on 25.1.2012, the Petitioner executed a PPA with NETS for sale of 100 MW to TANGEDCO.

6. The Petitioner through NETS made application to UP SLDC for grant of open access for supply of 100 MW power to TANGEDCO and UP SLDC granted NOC in this regard. Pursuant to the above PPAs, the Petitioner achieved a very efficient auxiliary of around 5.75% and was supplying power up to 1017.5 MW to UP Discoms as per PPA and balance power to other parties.

7. On 12.4.2017, the Commission issued the Central Electricity Regulatory Commission (Indian Electricity Grid Code) (Fifth Amendment) Regulations, 2017 (Fifth Amendment to the Grid Code), which came into force from 1.5.2017 which inter-alia, provides that RLDCs/ SLDCs shall not schedule the generating station or unit thereof beyond ex-bus generation corresponding to 100% installed capacity and the generating station shall not resort to Valve Wide Open operations of a unit and ensure that there is margin available for providing Governor action as primary response. Pursuant to the Fifth Amendment to the Grid Code, NRLDC vide its letter dated 29.4.2017 issued direction to all the utilities including the Petitioner to the effect that generating company shall ensure that Declared Capacity (hereinafter referred to as 'DC') on bar does not exceed the capacity on bar less normative auxiliary consumption and NRLDC restricted the generating company from declaring and scheduling of power up to 100% of its capacity in case auxiliary consumption is less than the normative auxiliary consumption considered by the authorities.

8. Pursuant to the above direction, UP SLDC vide its letter dated 4.5.2017 requested UPRVUNL with copy to the Petitioner, to ensure that DC of generating station does not exceed



the installed capacity of generating station less normative auxiliary consumption. On 23.5.2017, UP SLDC further requested UPRVUNL, with a copy to the petitioner, to intimate normative auxiliary energy consumption of generating units approved by the Uttar Pradesh Electricity Regulatory Commission (hereinafter referred to as 'UPERC') so that ex-bus capacity of generating units may be calculated for the purpose of scheduling and despatch of power.

9. Based on NRLDC's direction dated 29.4.2017, UP SLDC is considering the generation at ex-bus corresponding to 100% installed capacity of the Petitioner's generating station by considering auxiliary consumption as 7.5% which is not only substantially higher than actual auxiliary consumption but is also higher than the levels prescribed by the Commission or UPERC in its Tariff Regulations i.e. 5.75%.

10. The Petitioner vide its letter dated 25.5.2017 intimated UP SLDC that as per the Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions of Generation Tariff) Regulations, 2014, norms for auxiliary energy consumption, for coal based generating station having capacity 500 MW and above with steam driven boiler feed pumps and with induced draft cooling tower, is 5.75% and requested UP SLDC to consider normative auxiliary of 5.75% for purpose of scheduling and dispatch of power from its generating station. However, from 1.7.2017, UP SLDC has been restricting the DC by considering normative auxiliary consumption of 7.5%.

11. On 12.1.2018, the Petitioner further informed UP SLDC that as per the Grid Code, the generator is required to declare ex-bus generation corresponding to 100% of installed capacity but UP SLDC is restricting the Petitioner from declaring 100% capacity. The Petitioner also informed that as per the PPA, maximum power for UP is 1017.5 MW and the Petitioner is free to sell balance power to the third party. UP SLDC vide its letter dated 28.3.2018 informed the



Petitioner that it is beyond its understanding that while computing net ex-bus capacity, auxiliary consumption of 6.5% is considered but while allocating power to UP Discoms as 11/12 times of available capacity, auxiliary consumption of 7.5% is considered.

12. Accordingly, the Petitioner has filed the present petition challenging the above direction/decisions of NRLDC and UP SLDC.

Submissions of the Petitioner:

13. The Petitioner has submitted that its generating station can declare capacity corresponding to 100% of installed capacity minus auxiliary consumption. The Petitioner has submitted that restriction imposed by NRLDC and UP SLDC to consider net generation at bar on normative basis is in contravention of the Grid Code. NRLDC and UP SLDC have misinterpreted the amendment in Regulation 5.2 (h) of the Grid Code. The objective behind restriction is to have margin for the generating station to instantaneously pick up generation (upto 105% or 110%) when the frequency falls suddenly. The said Regulation does not anywhere provide for a normative restriction/ceiling to generation or declaration of capacity. The Commission in its order dated 31.7.2017 in Petition No. 84/MP/2015 observed that Fifth Amendment to the Grid Code provides for load margins by not scheduling units beyond 100% of MCR.

14. The Petitioner has submitted that even if the Petitioner considers higher auxiliary consumption of 6.5%, as provided by the Commission in 2009 Tariff Regulations, against lower auxiliary consumption being achieved by the Petitioner in actual, there is loss of around 12 MW capacity due to the following reasons:

- a) Net capacity at Ex Bus considering auxiliary at 7.5%
Installed Capacity: 1200 MW
Auxiliary Consumption: 7.5% (as per PPA signed with UP Discoms)



Total Net Capacity at Ex-Bus: $1200 * (1-7.5\%) = 1110$ MW

b) Net capacity at Ex-Bus considering auxiliary at 6.5%

Installed Capacity: 1200 MW

Auxiliary Consumption: 6.5% (as per Tariff Regulation 2009-14)

Total Net Capacity at Ex-Bus: $1200 * (1-6.5\%) = 1122$ MW

c) Net capacity at Ex-Bus considering auxiliary at 5.75%

Installed Capacity: 1200 MW

Auxiliary Consumption: 5.75% (as per Tariff Regulation 2014-19)

Total Net Capacity at Ex-Bus: $1200 * (1-5.75\%) = 1131$ MW

15. The Petitioner has submitted that due to such high normative auxiliary (7.5%) being considered by UP SLDC, the Petitioner is being forced to resort to declare inefficient capacity. Therefore, said restriction is not only contrary to Grid Code but also to the objective of the Act. The crucial objectives of balancing appropriate consumer friendly tariff with adequate rates of return to encourage efficiency in the generation business has been repeatedly emphasised in the National Electricity Policy dated 12.2.2005. The Petitioner has submitted that considering net capacity on the basis of normative auxiliary as against actual auxiliary amounts to absurdity. The Petitioner has submitted that a power plant with higher auxiliary consumption than the normative will be allowed to declare capacity by functioning at more than 100% capacity. For example, if the Petitioner's actual auxiliary is 8.5% then it can declare capacity of 1110 MW by running the plant at more than 100% of MCR and the same is against the objective of Fifth Amendment to the Grid Code.

16. The Petitioner has submitted that without prejudice to above, the normative auxiliary consumption to be considered while calculating generation at ex-bus corresponding to 100% of installed capacity should not be 7.5% i.e. normative auxiliary consumption provided in UP PPA



for commercial purposes only. According to the Petitioner, UP PPA was executed pursuant to competitive bidding on case-2 basis where the bidders were required to quote only capacity charges and net quoted heat rate. The Petitioner has submitted that RFP and the PPA provides for normative auxiliary consumption and not actual auxiliary consumption to the generating station. The purpose of said normative auxiliary consumption was to calculate availability and PLF under the PPA. Bidder/Seller is obliged to supply only available capacity, as calculated by using normative auxiliary of 7.5% to UP Discoms. Therefore, normative auxiliary provided in the PPA is for the said limited purpose and cannot be considered for the purpose of declaring and scheduling of power into the grid. In view of above, normative auxiliary consumption of 7.5% mentioned in UP PPA is only for the sole purpose of the said PPA, for calculating availability and tariff under the PPA.

17. The Petitioner has submitted that scheme of the PPA, including definition clause, clause 4.3.1, schedule 6 along with supplementary PPA provide normative availability to calculate maximum net capacity entitlement of the UP Discoms which is 1017.5 MW. As per the PPA, the Petitioner is liable to supply maximum up to 1017.5 MW to UP Discoms. The Petitioner has submitted that as per DC, available capacity and clause 4.3.1 of the PPA, the Petitioner is liable to sell 11/12 of its available capacity up to maximum of 1017.5 MW (i.e. $11/12 * 1110$ MW) to UP Discom.

18. The Petitioner has submitted that the purpose of the considering a parameter on normative basis is that any additional cost over and above the normative figure will be borne by the generating company and any gain achieved due to efficiency above normative level must go to the benefit of the generating company. The Petitioner has submitted that it is liable to supply 1017.5 MW even if its actual auxiliary falls below 7.5%. Similarly, the Petitioner may benefit if actual auxiliary consumption falls below 7.5%. In support of its contention, the Petitioner has



relied upon the Judgment of Hon'ble Appellate Tribunal of Electricity in 'North Delhi Power Ltd. Vs. DERC reported as [2010 ELR (APTEL) 891].

19. The Petitioner has submitted that it has incurred huge costs by making additional capital expenditure for achieving auxiliary consumption lower than 7.5% as provided in the PPA. The above Capex can be recovered only by selling the additional power to a third party. The Petitioner has submitted that normative auxiliary consumption considered by this Commission and UPERC is 5.75%. Considering normative auxiliary consumption higher than the norms prescribed by this Commission and UPERC is erroneous.

20. The Petitioner has sought interim relief that it be allowed to declare 1131 MW till final disposal of the Petition or at least 1117.5 MW (1017.5 MW to UP Discoms and 100 MW to TANGEDCO) to enable it to fulfil its obligations under the respective PPAs. The Petitioner has submitted that it has a good prima-facie case as the Petitioner was declaring and scheduling 1017.5 MW + 100 MW prior to impugned directions/decisions of NRLDC and UP SLDC.

21. Notices were issued to the respondents to file their replies to the petition. Replies to the petition have been filed by the NRLDC vide affidavit dated 9.5.2018 and UP SLDC vide affidavit dated 14.5.2018. The Petitioner vide its affidavit dated 24.5.2018 has filed its rejoinders to the replies of NRLDC and UP SLDC. The Petitioner and UP SLDC have also filed their written submissions dated 5.6.2018 and 21.6.2018 respectively.

Submissions of the Respondents:

22. Northern Regional Load Despatch Centre (NRLDC) vide its affidavit dated 9.5.2018 has submitted as under:



(a) Since, the generating station is UP State control area embedded State entity generator, its scheduling is being carried out by UP SLDC. The DC and auxiliary consumption of the generating station is neither submitted nor taken into account by NRLDC. Therefore, the dispute regarding quantum of normative auxiliary consumption is between the Petitioner and UP SLDC.

(b) The Ex-bus or 'Ex-Power Plant' has been defined in the Grid Code as "net MW/MWh output of a generating station, after deducting auxiliary consumption and transformation losses". 2014 Tariff Regulations uses 'normative' auxiliary consumption for defining 'Plant Availability Factor' or '(PAF)', 'Plant Load Factor', 'Normative Energy Charge Rate', etc. All norms are also calculated based on normative parameters only. Since scheduling process is ex-ante, values available and reconciled shall only be used. Therefore, using normative values of Auxiliary consumption is in order.

(c) The Commission in the SOR to the Fifth Amendment to the Grid Code has clarified that actual auxiliary consumption would be considered only after actual operation of machines and that schedule restriction has to be based on normative auxiliary consumption.

(d) Fixation of 'normative' auxiliary consumption is in the domain of Regulatory Commissions and for the same, process could take into account the actual auxiliary consumption etc.

(e) Use of 'normative auxiliary consumption' in the scheduling process for ex-bus electricity from a plant is in accordance with the harmonious interpretation of the regulations.



23. Uttar Pradesh State Load Despatch Centre (UP SLDC) vide its affidavit dated 14.5.2018 has submitted as under:

(a) The Petitioner in the PPA executed with the U.P. Discoms has agreed for fixing normative auxiliary consumption at 7.5%. The total capacity of the generating station is 1200 MW (2 x 600) and if the normative auxiliary consumption is taken as 7.5% which has been agreed by the Petitioner, then net generating capacity of the Petitioner will be as $1200 - 7.50\% \text{ of } 1200 = 1200 - 90 \text{ (auxiliary Consumption)} = 1110 \text{ MW (Injectable power)}$.

(b) Since, the Petitioner has itself admitted that it has executed the PPA for sale of 100 MW to the TANGEDCO, power remaining with the Petitioner for sale to the UP Discoms will be $1110 - 100 = 1010 \text{ MW}$ whereas the Petitioner has executed a PPA with the UP Discoms for sale of $11/12$ (eleven divided by twelve) of the installed capacity and remaining $1/12$ of the installed capacity to the third party. Therefore, share of the UP Discoms and TANGEDCO will be as (i) with UP Discoms $1110 \times 11/12 = 1017.5 \text{ MW}$ and (ii) with TANGEDCO $1110 \times 1/12 = 92.5 \text{ MW}$.

(c) Either the Petitioner has to calculate the sale of 1017.5 MW power to the UP Discoms and rest 92.5 MW to TANGEDCO or in second situation 100 MW to TANGEDCO and remaining 1010 MW to UP Discoms and in that case, the share of the UP Discoms will be reduced from $11/12$ of the installed capacity (1017 MW to 1010 MW) which will be against the condition of the supplementary PPA dated 31.12.2009. However, in the PPA executed by the Petitioner with TANGEDCO defined the 'Aggregate Contracted Capacity' as 'Aggregate Contracted Capacity' with respect to the seller, shall mean the aggregate capacity of 100 MW contracted with the buyer for the supply at the interconnection point from the power station net capacity.'



(d) Since, the Petitioner has conceived through competitive bidding process, its tariff is not being decided by the State Electricity Regulatory Commission. Therefore, the normal auxiliary consumption @ 7.5% is binding upon the Petitioner and there is no mistake on the part of UPSLDC for taking the same for the scheduling of the power of the generating station of the Petitioner. Accordingly, the prayer made by the Petitioner in this regard is not maintainable.

(e) Since the Petitioner did not challenge the direction of NRLDC, the Petitioner is not entitled to question the same. Therefore, the present petition is not maintainable before this Commission and the Petitioner has to approach the State Commission as scheduling of the generating station is being done by the UPSLDC, and not by the NRLDC.

(f) The Petitioner was required to amend its PPA with regard to achievement of auxiliary of around 5.75% and substitute the auxiliary consumption as 5.75% instead of 7.5%. However, the same was not done by the Petitioner. Therefore, the prayer made by the Petitioner for taking its auxiliary consumption as 5.75% is not acceptable. The Petitioner in its letter dated 12.2.2018 has itself informed the UP SLDC that auxiliary consumption of the unit is 6.5% of the installed capacity whereas in the present petition, the Petitioner has prayed that its auxiliary consumption should be treated as 5.75%.

(g) From the above facts, it is clear that while computing the net ex-bus capacity, auxiliary consumption of 6.5% has been considered by the Petitioner but by allocating the power to UP Discoms as 11/12 times the available capacity, auxiliary consumption of 7.5% is considered and it is beyond the understanding that for the same power generating station, the Petitioner is taking auxiliary consumption at different rate with the



different power purchasers. Therefore, UPSLDC vide letter dated 28.3.2018, requested the Petitioner to consider the same auxiliary consumption for all the computations.

(h) As per proviso of Section 32 of the Act, SLDC is responsible for optimum scheduling and dispatch of electricity within a State, in accordance with the contracts entered into with the licensees or the generating companies operating in that State. Therefore, SLDC is rightly taking the normative auxiliary consumption of the Petitioner's generating plant at the rate of 7.5% which is agreed between the Petitioner and the State Discoms in the agreement (PPA) executed between them.

24. The Petitioner vide its rejoinder affidavit dated 24.5.2018 to the reply of NRLDC has mainly submitted that considering the normative auxiliary consumption does not ensure grid safety and in certain cases leads to wastage of useful capacity. The Fifth Amendment to the Grid Code does not provide for "normative" auxiliary consumption. At best, it may be said to provide for "actual" auxiliary consumption. In cases where actual auxiliary consumption is more than normative auxiliary consumption, allowing DC to a generating station by using normative auxiliary consumption will defeat the purpose of the Fifth Amendment to Grid Code. For example, if a generating station having installed capacity of 100 MW has actual auxiliary consumption of 9.5% and it is allowed to declare capacity of 92.5 MW (considering normative auxiliary of 7.5%), then the above generating station is being allowed to run at more than 100% of its exportable capacity. The same is ex-facie contradictory to the Fifth Amendment to the Grid Code. In cases where actual auxiliary consumption is less than normative auxiliary consumption, restricting generating station to declare capacity by using normative auxiliary consumption leads to waste of useful capacity. Like in the present case, the Petitioner is being forced to waste more than 21 MW of useful capacity.



25. The Petitioner vide its rejoinder affidavit dated 24.5.2018 to the reply of UP SLDC has submitted as under:

(a) Without prejudice to the contention that the present Petition relates to interpretation and enforceability of Regulation 5.2(h) of the Grid Code, the UP PPA clearly provides that the Petitioner is liable to supply maximum of 1017.5 MW to UP Discoms from the generating station.

(b) As per definition of Declared Capacity, Available Capacity and clause 4.3.1 of the PPA, the Petitioner is liable to sell 11/12 of its Available Capacity up to maximum of 1017.5 MW (i.e. $11/12 * 1110$ MW) to UP Discoms and they have never contended that they are entitled to net capacity of more than 1017.5 MW from the Petitioner's generating station.

(c) UP PPA talks about normative auxiliary consumption of the generating station and not actual auxiliary consumption. The purpose of considering a parameter on normative basis is that any additional cost over and above the normative figure will be borne by the generating company and any gain achieved due to efficiency above normative level must go to the benefit of the generating company. Therefore, purpose of having normative auxiliary consumption under the UP PPA is to calculate Availability, PLF and net capacity to be supplied to UP Discoms. Accordingly, the Petitioner is liable to supply 1017.5 MW even if its actual auxiliary consumption falls below 7.5%. Similarly, the Petitioner may benefit on account of actual auxiliary being lower than 7.5%.

(d) There is no possible reason for the UPSLDC to ignore TANGEDCO PPA which provides for a normative auxiliary consumption of 6.5% or as may be specified by the CERC from time to time (5.75% as per current Tariff Regulations).



(e) If any “normative” auxiliary consumption has to be reckoned at all, a “norm” cannot be derived from a contract, it has to be derived from an instrument having the force of law, i.e. either the Regulations or order of the Commission.

(f) Available capacity to be supplied by the Petitioner to UP Discoms under the PPA is required to be calculated on the basis of the normative auxiliary consumption and the same cannot be considered for calculating net capacity at ex-bus of the generating station. The purpose of calculating net capacity at ex -bus of the generating station is to provide grid security so that the power plant operates at or up to 100% of its MCR and shall have capability of picking up to 105% of its MCR. The actual auxiliary consumption of the generating station is lower than 5.75% (as prescribed by this Commission). Since, the Commission, after considering standard Industrial Practice and duly confirmed by CEA in its recommendations on Operation Norms for Thermal Power Station for Tariff Period 2014-19, has prescribed normative auxiliary of 5.75%, the Petitioner is considering the same to calculate net capacity at ex-bus.

(g) The Petitioner has challenged impugned directions of NRLDC and UP SLDC of considering (a) normative auxiliary consumption for calculating net capacity at ex-bus that can be declared by a generating station; and (b) consideration of 7.5% as normative auxiliary consumption for calculating net capacity at ex-bus that can be declared by a generating station. The present Petition has been filed before this Commission since, the issue in the Petition relates to (a) direction to NRLDC; and (b) applicability of Grid Code specified by this Commission.

Analysis and Decision:

26. The issue in the present petition is with regard to the consideration of Auxiliary Energy Consumption (AEC) by UP SLDC for the Petitioner’s generating station after issuance of Order in Petition No. 122/MP/2018



Regulation 5.2 (h) of the Fifth Amendment to the Grid Code which came into force from 1.5.2017.

27. After considering the submissions of the parties, the following issues arise for our consideration:

(a) Whether the Regulation 5.2 (h) of the Grid Code which provides for scheduling by RLDCs/ SLDCs based on ex-bus generation, considers the normative AEC or the actual AEC?

(b) If the normative AEC is required to be considered, then what will be the normative AEC for plants like LAPL whose tariff is discovered through competitive bidding under Section 63 of the Act and where the separate PPAs provide for separate AEC supply to the respective procurers?

The above issues have been dealt with in the succeeding paragraphs.

Issue No. 1: Whether the Regulation 5.2 (h) of the Grid Code which provides for scheduling by RLDCs/ SLDCs based on ex-bus generation considers the normative Auxiliary Energy Consumption (AEC) or the Actual AEC?

28. The Petitioner has submitted that pursuant to the Fifth Amendment to the Grid Code, NRLDC vide its letter dated 29.4.2017 directed all utilities including the Petitioner to ensure that DC on ex-bus does not exceed the installed capacity less normative auxiliary consumption. Based on the above direction of NRLDC, UP SLDC vide its letter dated 4.5.2017 requested UPRVUNL to ensure compliance with the above direction of NRLDC. The Petitioner vide its letter dated 25.5.2017 requested UP SLDC to consider normative auxiliary of 5.75% for the purpose of scheduling and despatch of power from its generating station since as per UPERC (Terms and Conditions of Generation Tariff) Regulations, 2014, norms for AEC for coal based generating station having capacity of 500 MW and above with stream driven boiler feed pumps and with inducted draft cooling, is 5.75%. The Petitioner has submitted that despite above request, UPSLDC is restricting the DC of the generating station by considering normative auxiliary consumption of 7.5% from 1.7.2017 which resulted in damage to the Petitioner.



29. UPSLDC has submitted that in the PPA executed between the Petitioner and UP Discoms, the Petitioner has itself declared its auxiliary consumption as 7.5% of the installed capacity whereas in the PPA executed between the Petitioner and TANGEDCO, the Petitioner has declared auxiliary consumption as 6.5% of the installed capacity. UP SLDC has submitted that the Petitioner vide its letter dated 12.2.2018 informed the UP SLDC that auxiliary consumption of the unit is 6.5% of the installed capacity. However, in the present petition, the Petitioner has prayed that its auxiliary consumption should be treated as 5.75%. Therefore, for the same generating unit, the Petitioner has declared different rates of auxiliary consumption before the different authorities. According to UP SLDC, there is nothing on record that the Petitioner has achieved the auxiliary consumption of around 5.75%. Moreover, if such assertion on the part of the Petitioner is taken as correct, then the Petitioner should amend its PPA entered into with UP Discoms and substitute the auxiliary consumption as 5.75%. Since, no amendment has been carried out in this regard, the Petitioner's prayer to take its auxiliary consumption as 5.75% is not acceptable.

30. We have examined the matter. Pursuant to Fifth Amendment to the Grid Code, NRLDC vide its letter dated 29.4.2017 informed all regional entities including the Petitioner that the generators shall ensure that the DC on bar does not exceed the capacity on bar less normative auxiliary consumption and in case the generator gives the DC value higher than the above, the same shall be restricted to the capacity on bar less normative auxiliary consumption. Regulation 5.2 (h) of the Grid Code provides as under:

"5.2 System Security Aspects

(h) All coal/lignite based thermal generating units of 200 MW and above, Open Cycle Gas Turbine/Combined Cycle generating stations having gas turbines of more than 50 MW each and all hydro units of 25 MW and above operating at or up to 100% of their Maximum Continuous Rating (MCR) shall have the capability of (and shall not in any way be prevented from) instantaneously picking up to 105%, 105% and 110% of their MCR, respectively, when the frequency falls suddenly. After an increase in generation as above, a generating unit may ramp back to the original level at a rate of about one percent (1%) per minute, in case continued operation at the increased level is not sustainable. Any generating unit not complying with the



above requirements, shall be kept in operation (synchronized with the Regional grid) only after obtaining the permission of RLDC.

For the purpose of ensuring primary response, RLDCs/SLDCs shall not schedule the generating station or unit(s) thereof beyond ex-bus generation corresponding to 100% of the Installed capacity of the generating station or unit(s) thereof. The generating station shall not resort to Valve Wide Open (VWO) operation of units whether running on full load or part load, and shall ensure that there is margin available for providing Governor action as primary response. In case of gas/liquid fuel based units, suitable adjustment in Installed Capacity should be made by RLDCs/SLDCs for scheduling in due consideration of prevailing ambient conditions of temperature and pressure vis-à-vis site ambient conditions on which installed capacity of the generating station or unit(s) thereof have been specified:

Provided that scheduling of hydro stations shall not be reduced during high inflow period in order to avoid spillage:

Provided further that the VWO margin shall not be used by RLDC to schedule Ancillary Services.”

As per the above provisions, RLDCs/SLDCs are required to restrict the scheduling of units/stations to ex-bus capability corresponding to 100% MCR for ensuring proper primary response from the generating units. However, the term “Ex-bus generation” has not been defined in the Grid Code. Rather the term “Ex-Power Plant” has been defined which means “net MW/MWh output of a generating station, after deducting auxiliary consumption and transformation losses”. From the definition of Ex-Power Plant, it can be inferred that auxiliary consumption of the generating station or unit needs to be deducted along with transformation losses to get the Ex-Power Plant capacity. However, the consideration of ‘auxiliary consumption’ has not been specified, whether it will be on actual basis or on normative basis.

31. The Amendment in the Regulation 5.2 (h) of the Grid Code was necessitated for ensuring that the margins for primary response in case the DC is above 100% of installed capacity corrected to auxiliary consumption. This has also been made amply clear in the Statement of Reasons to the Fifth Amendment to the Grid Code which was issued on 13.4.2018. Relevant Portion of the SOR is extracted as under:

“13.2.4 POSOCO has suggested that in view of the fact that Installed capacity and MCR are defined at generator terminal, whereas RLDCs prepares schedule at the ex-bus of generators and therefore in order to have clarity on the maximum power to be scheduled and the power to



be kept for primary response, ex-bus generation schedule ceiling corresponding to 100% of the Installed capacity less normative auxiliary consumption may be specified. In this regard, it is clarified that since actual auxiliary consumption would be known only after actual operation of machines, it is implied that schedule restriction has to be based on normative auxiliary consumption. Accordingly, the explicit mentioning of the word "normative" before auxiliary consumption is not required."

From the above, it is observed that POSOCO has suggested considering the ceiling of ex-bus generation schedule corresponding to 100% of the installed capacity less normative auxiliary consumption. However, in clarification, the Commission has made it clear that auxiliary consumption means "on normative basis", and not "on actual basis" since actual auxiliary consumption would be known only after actual operation of machines.

32. In the light of above, it is clearly understood that "Ex-bus generation", for the purpose of implementation of Regulation 5.2 (h) of the Grid Code, can only be calculated by considering the AEC on normative basis, and not on actual basis. Therefore, in our considered view, the direction issued by NRLDC vide its letter dated 29.4.2017 pursuant to the Fifth Amendment to the Grid Code, wherein all the stakeholders were directed to implement Regulation 5.2 (h) of the Grid Code to ensure that schedule of the generating stations does not exceeds the 100% of installed capacity less normative AEC, appears to be in order.

Issue No. 2: If the normative AEC is required to be considered, then what will be the normative AEC for plants like LAPL whose tariff is discovered through competitive bidding under Section 63 of the Act and where the separate PPAs provide for separate AEC supply to the respective procurers?

33. It has already been decided above that ceiling "Ex-bus generation" schedule has to be on the basis of normative AEC for implementation of Regulation 5.2 (h) of the Grid Code. However, in case of the Petitioner's generating station, the plant has separate AECs as per separate PPAs i.e. 7.5% for UP Discoms PPA and 6.5% for TANGEDCO PPA.



34. On 1.10.2004, UPRVUNL issued RfQ for seeking private sector participation to Build, Own, Operate and Maintain the 2x500 MW Anpara 'C' Thermal Power Project and for the same, RfP with detailed terms and conditions was issued on 20.2.2006 for inviting bids for procurement of power by competitive bidding process under Section 63 of the Act on the basis of 'Guidelines for Determination of Tariff by Bidding Process for Procurement of Power by Distribution Licensee' issued by the Ministry of Power, Govt. of India on 19.1.2005. Lanco emerged as a successful bidder and on 12.11.2006, PPA was executed between UP Discoms and Lanco Anpara Power Private Limited, a wholly owned subsidiary of Anpara 'C' Thermal Power Project for a contracted capacity of 1000 MW (2x500 MW) which was also the total initial installed capacity of the generating station. UPERC vide order dated 31.12.2007 approved the PPA dated 12.11.2006 and adopted the tariff under Section 63 of the Act. Government of Uttar Pradesh vide its order dated 20.8.2007 accorded the consent to increase the installed capacity of generating units to 2X600 MW instead of 2X500 MW at Anpara 'C' Thermal Power Project and the same was approved by the UPERC vide its order dated 13.8.2008 in Petition No. 538/08. Subsequently, supplementary PPA dated 31.12.2009 was executed for supply of additional 100 MW by the Petitioner to UP Discoms from the increased capacity of 200 MW at the same rate as was arrived through competitive bidding, which was approved by UPERC vide its order dated 12.3.2010 in Petition No. 564/08. Certain major salient features of the supplementary PPA are as under:

- “1. The capacity of the Power Station may now be read as 2x600 MW in place of 2x500 MW wherever applicable;
2. The words “500 MW” and “1000 MW” used in the definition of Installed Capacity in Article 1.1 of the PPA is here by substituted as “600 MW” and “1200 MW” respectively;
3. The definition of Contracted Capacity in Article 1.1 of the PPA is here by substituted as “Contracted Capacity means 11/12 (eleven divided by twelve) times the Installed Capacity”;
4. Due to difference between Contracted Capacity and Installed Capacity, the term “Contracted Capacity” wherever used in the definition of Declared Capacity in Article 1.1 and also wherever used in Article 4.7.1, Article 4.7.2, Article 6.3.1 (ii), Article 6.3.4, Article 6.3.5, Article 15.1 (g), Paragraph 2.1 (e) of Schedule 5, Paragraph 2.2 (d) of Schedule 5 and Paragraph 6 of Schedule 6 of the PPA is here by substituted as “Installed Capacity”;



6. The following new Article 4.3.4 be and is hereby added in Article 4.3 of the PPA.

“4.3.4 The Seller shall be entitled to sell the Scheduled Generation and Electrical Output attributable to 1/12 (one divided by twelve) times the Available Capacity to third party(s);”

Perusal of the above provisions reveals that after increase in installed capacity of the generating station, the contracted capacity under UP Discoms PPA stands revised to 11/12 times the installed capacity i.e. 1100 MW gross from the total installed capacity of 1200 MW and the rest electrical output attributable to 1/12 times the available capacity can be sold to third party. It is therefore inferred that the third party sales specified in the UP Supplementary PPA dated 31.12.2009 is either equal to or less than 100 MW gross capacity out of total installed capacity of 1200 MW. Thus, the petitioner could have entered into PPA with other party(ies) to the extent of 100 MW gross capacity only.

35. Clause 1 of the UP PPA defines the ‘Declared Capacity’ as under:

Article 1

1.1 Definitions

...

“**Declared Capacity** means the a) capability of the Power Station (or the Unit, if the Power Station has not been Commissioned) to deliver Electrical Output in MW at the Interconnection point, declared by the Power Station (or the Unit, if the Power Station has not been Commissioned), as per the requirements of the SLDC, in relation to any Settlement Period of the day or whole of the day, duly taking into account the availability of Fuel or b) the Contracted Capacity less Normative Auxiliary Consumption Rate, whichever is lower;”

Further, Clause 1 of the UP PPA defines the ‘Normative Auxiliary Consumption Rate specified as under:

1.1 Definitions

...

Normative Auxiliary Consumption RateFor the purpose of this Agreement, Normative Auxiliary Consumption rate shall be the auxiliary power consumption factor used to calculate Availability and PLF, which shall be 7.5%.”



Conjoint reading of the above provisions reveals that for 'Declared Capacity', the definition specifies as under:

(a) Capability of the generating station to deliver electrical output in MW at the Interconnection point, declared by the generating station, as per the requirements of the SLDC, in relation to any Settlement Period of the day or whole of the day, duly taking into account the availability of Fuel.

(b) The contracted capacity less Normative Auxiliary Consumption Rate.

Based on the above provisions, it can be said that even if the generating station declares the capacity at the interconnection point under the definition of DC as per 1.1 (a) above after considering much better AEC (less than 7.5%), then also the provision of "whichever is lower" [between 1.1 (a) and 1.1 (b)] has to be considered and ultimately the DC to be considered shall be "the Contracted Capacity less Normative Auxiliary Consumption Rate" as per the PPA. Therefore, in any case when the generating station considers AEC lesser than normative AEC of 7.5%, the DC shall be equal to the contracted capacity minus normative AEC only which in this case is 1017.5 MW (1100 MW – 7.5% of 1100 MW).

36. Further, apart from Availability and PLF, normative AEC of 7.5% needs to be considered for the consideration of DC against the contracted capacity for UP Discoms under the PPA dated 12.11.2006 and supplementary PPA dated 31.12.2009. UP SLDC being the apex body to ensure integrated operation of the power system in a State is bound by its role and responsibilities specified under the Act and the Grid Code. Regulation 2.7 of the Grid Code specifies the role of SLDC as under:

"2.7 Role of SLDC

2.7.1 In accordance with section 32 of Electricity Act, 2003, the State Load Despatch Centre (SLDC) shall have following functions:



(1) The State Load Despatch Centre shall be the apex body to ensure integrated operation of the power system in a State.

(2) The State Load Despatch Centre shall –

(a) be responsible for optimum scheduling and despatch of electricity within a State, in accordance with the contracts entered into with the licensees or the generating companies operating in that State;

(b) monitor grid operations;

(c) keep accounts of the quantity of electricity transmitted through the State grid;

(d) exercise supervision and control over the intra-State transmission system; and

(e) be responsible for carrying out real time operations for grid control and despatch of electricity within the State through secure and economic operation of the State grid in accordance with the Grid Standards and the State Grid Code.”

As per the above provision, SLDC is responsible for the optimum scheduling and despatch of electricity within a State based on the contracts entered into with the licensees or the generating companies operating in that State. In this case, the contract i.e. the PPA dated 12.11.2006 has been entered into between the Petitioner and UP Discoms. Therefore, in accordance with terms and conditions of PPA, 7.5% normative AEC shall be considered by SLDC for declaration of DC of the petitioner’s generating station for optimum scheduling and despatch. Needless to say, the DC will take into account availability of fuel as provided for in the definition.

37. The Petitioner has further submitted that this Commission and UPERC in their Tariff Regulations have considered the normative auxiliary consumption as 5.75%. Therefore, considering normative auxiliary consumption higher than that by UP SLDC is erroneous on this ground alone. According to the Petitioner, the tariff of the Petitioner’s generating station has been discovered through an international competitive bidding based on the MoP “Guidelines for Determination of Tariff by Bidding Process for Procurement of Power by Distribution Licensees” issued on January 19, 2005 and adopted by UPERC under Section 63 of the Act. The PPA dated 12.11.2006 entered into between the parties specifically provides the normative AEC as



7.5%. Petitioner has argued that since 2014 Tariff Regulations of CERC provides the normative AEC of 5.75%, UP SLDC should consider the normative AEC as 5.75%. In our view, the provisions of 2014 Tariff Regulations or UPERC Tariff Regulations can't be applied to the instant case since the Commission's Regulations for Multi Year Tariff is provided only for the generating stations whose tariff is decided under Section 62 of the Act.

38. In our considered view, the practice followed by UP SLDC in restricting the DC net of 1100 MW (7.5% of 1100 MW) for energy scheduling by UP Discoms appears to be in order keeping in view the provisions of the PPA, Grid Code and the Regulations under which the SLDCs are governed.

39. As regards the TANGEDCO PPA, the relevant provisions are extracted as under:-

1. ARTICLE 1: DEFINITIONS AND INTERPRETATION

1.1 Definitions

...

Aggregate Contracted Capacity: With respect to the Seller, shall mean the aggregate capacity of 100 MW contracted with the Procurer for supply at the Interconnection Point from the Power Station's Net Capacity.

...

Power Station's Net Capacity shall mean 1122 MW, being Installed Capacity of the Power Station measured at the bus-bar, reduced by the normative auxiliary power consumption as prescribed by CERC from time to time;

In case of a dedicated transmission line connecting the bus-bar and the Interconnection Point, the Power Station's Net Capacity shall be 1122 MW, being the Installed Capacity of the Power Station measured at the Interconnection Point and reduced by the normative auxiliary power consumption and losses, if any, of such dedicated transmission line;

...

Interconnection Point shall mean the point where the power from the Power Station switchyard bus of the Seller is injected into the interstate/intra-state transmission system (including the dedicated transmission line connecting the Power Station with the interstate/intra-State transmission system);

...



Delivery Point shall mean the STU Interface as specified in Schedule 1 of this Agreement (i.e. Tamil Nadu Periphery).”

The Power Station’s Net Capacity has been defined as 1122 MW. The said 1122 MW has been derived by reducing the installed capacity at the bus bar by the normative auxiliary power consumption as prescribed by CERC. On the date of the execution of TANGEDCO PPA on 19.1.2012, Tariff Regulations, 2009 were in operation which provided for the AEC of 6.5%. The capacity of the generating station is 1200 MW and after considering 6.5% of AEC, the net capacity works out to 1122 MW (1200 MW- 6.5% of 1200 MW). Since a derived figure of 1122 MW has been used to define the Station’s net capacity, the same shall remain unchanged throughout the life of the PPA. Change in the rate of auxiliary consumption during the tariff period 2014-19 will not affect the defined net capacity of 1122 MW. We are therefore of the view that the AEC of 6.5% shall be considered for declaration of DC for ex-bus supply under the TANGEDCO PPA.

40. It is noticed from the letter of UPSLDC dated 28.3.2018 (Annexure A-2 of the reply of UPSLDC) that UPSLDC has considered 7.5% of AEC in case of the TANGEDCO PPA. Last para of the said letter is extracted as under:-

“In view of above, you are requested to consider same Auxiliary Consumption for all the computations and accordingly ensure the share of UPDISCOM as 11/12 times the available capacity under Long Term Access with the balance power for third party sale to TANGEDCO (Tamil Nadu) under inter-State MTOA. In light of this, ex-bus DC for UPDISCOMS shall be 1017.5 MW under LTA whereas for TANGEDCO, it shall be 92.5 MW under inter-State MTOA.”

In the light of our discussions in para 39 above, we are of the view that the AEC considered by UPSLDC for scheduling of power of TANGEDCO PPA cannot be sustained and AEC for TANGDECO PPA shall be 6.5%.

41. In the light of above discussions, the normative AEC to be considered by UP SLDC for 11/12 times the installed capacity for UP Discoms share shall be 7.5% and for 1/12 times the



installed capacity for TANGEDCO share, the normative AEC shall be 6.5%. Accordingly, we direct UP SLDC to consider normative AEC of 7.5% in case of ex-bus declaration for UP Discoms corresponding to 1100 MW of contracted capacity and 6.5% for TANGEDCO share corresponding to 100 MW of contracted capacity.

Scheduling of Power from the Station as a whole

42. Regulation 2 (1) u) of the Grid Code provides as under:

u) “**Despatch Schedule**” means the ex-power plant net MW and MWh output of a generating station, scheduled to be exported to the Grid from time to time;

As per the above provision, the generating station is required to provide its schedule to SLDCs/ RLDCs based on the ex-power plant output from time to time.

43. The installed capacity of the Petitioner’s generating station is 1200 MW and out of this, the contracted capacity is 1100 MW with UP Discoms at normative AEC of 7.5% and 100 MW with TANGEDCO at normative AEC of 5.75%, and the scheduling of the generating station needs to be carried out as a whole on ex-bus basis. Therefore, the following procedure shall be followed in this regard:

Procurer	Contracted Capacity (MW)	AEC	Ceiling ex-bus schedule (MW)
UP Discoms	1100	7.50%	1017.50
TANGEDCO	100	6.5%	93.50
Station as a whole	1200	7.416%	1111.00

44. UP SLDC shall schedule the power accordingly.

45. Petition No. 122/MP/2018 is disposed of in terms of above.

Sd/-
(Dr. M.K.Iyer)
Member

sd/-
(A. S. Bakshi)
Member

sd/-
(A. K. Singhal)
Member

sd/-
(P.K. Pujari)
Chairperson

