

BEFORE THE UTTAR PRADESH ELECTRICITY REGULATORY COMMISSION

Petition No. 1070/2015

Quorum

Shri Desh Deepak Verma, Chairman
Shri I. B. Pandey, Member
Shri S. K. Agarwal, Member

IN THE MATTER OF COMPLIANCE OF U.P ELECTRICITY GRID CODE, 2007 BY
U.P STATE LOAD DESPATCH CENTRE

AND IN THE MATTER OF

Rosa Power Supply Company Limited

.....PETITIONER

1. Uttar Pradesh State Load Despatch Centre
2. Uttar Pradesh Power Corporation Limited

..... RESPONDENTS

Present in the hearing:

1. Shri Vibhav Agarwal, Director, Rosa Power
2. Shri J. J. Bhatt, Sr. Advocate, Rosa Power
3. Smt. Anjali Chandurkar, Advocate, Rosa Power
4. Shri Sumeet Notani, General Manager, Rosa Power
5. Shri Himanshu Agarwal, Senior Manager, Rosa Power
6. Shri Santosh Singh, DGM, Rosa Power
7. Shri Ambuj Shukla, Sr Manager, Rosa Power
8. Shri C. K. Shukla, UPSLDC
9. Shri Mithilesh Kumar Gupta, UPSLDC
10. Shri Zahir Ahmad, UPSLDC
11. Shri Sanjay Kumar Singh, Dir (Com.), UPPCL
12. Shri V. P. Srivastava, CE (PPA), UPPCL
13. Shri Vivek Dixit, Executive Engineer attached to D(Com.)
14. Shri Sanjay Kumar
15. Shri Rahul Srivastava, Advocate, UPSLDC

Order

(Hearing on 20.01.2016)

Rosa Power Supply Company Limited, the Petitioner ("RPSCL") is a Generating Company within the meaning of Section 2 (28) of the Electricity Act, 2003 ("2003 Act"), a wholly owned subsidiary of Reliance Power Ltd., which has set up a 1200 MW coal fired thermal power generation station as an Independent Power Producer (IPP) at Rosa in District Shahjahanpur (Uttar Pradesh) consisting of four Units with a capacity of 4 x 300 MW in two stages of 600 MW each.

The petitioner in its petition has submitted the following:

1. As per Section 32 and 33 of the Electricity Act 2003, ("EA 2003") the State Load Despatch Centre is entrusted with the responsibility to undertake economic and efficient operation of power system in accordance with the State Grid Code. Further, Section 33 (4) states that in case of any dispute pertaining to State Grid, the Hon'ble State Commission may be approached.

The relevant sections of EA 2003 are reproduced below:

"Section 32. (Functions of State Load Despatch Centres): --- (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 –
(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."*

"Section 33. (Compliance of directions): --- (1) 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 power system in that State."

:

(4) If any dispute arises with reference to the quality of electricity or safe, secure and integrated operation of the State grid or in relation to any direction given under sub-section (1), it shall be referred to the State Commission for decision."

2. In accordance with Section 86(1) (h) of EA 2003, this Hon'ble Commission has notified the U.P Electricity Grid Code, 2007 (UPEGC) in consistent with the Indian Electricity Grid Code notified by the Central Electricity Regulatory Commission to facilitate efficient and economic operation of State Power Grid. Relevant section of UPEGC is reproduced below:

“1.2 Objective

The Grid Code is designed to facilitate the development, operation and maintenance of an efficient, coordinated, secure and economical State Power Grid. It accordingly provides the following:

- a) Relationship between the various Users of the Intra-State Transmission System (STS).*
- b) Technical Standards, Rules and Procedures (technical, operational and for information sharing) to be adopted by SLDC, STU and Users connected to the State Power Grid.*
- c) Common basis of operation of the Power System to facilitate Open Access and trading of electricity. “*

3. UPEGC is a comprehensive document which inter-alia contains the provisions related to planning, operation and procedural matters for efficient and economic operation of State Power System. Therefore, it is the responsibility for all users to abide by its provisions for secure and economic operation of grid. However, it is observed that certain provisions pertaining to scheduling, despatch and backing down of generating stations etc require more transparency, laid down code, guidelines, procedures and proper implementation in true spirit of the Act and the UPEGC so as to achieve the stated Objective of the Act and the UPEGC.
4. Section 1.5 of the UPEGC states that in case of persistent non-compliance by any user/ SLDC that matter shall be reported by any user/ SLDC to the Member Secretary, State Power Committee (SPC). However, there the SPC has not been yet operationalised in the State. The relevant Section of UPEGC is reproduced below:

“1.5 Non- Compliance

*In case of a persistent non-compliance of any of the stipulations of the UPEGC by any user, the matter shall be reported by any user/SLDC to the Member Secretary, SPC. The Member Secretary, SPC, shall verify and take up the matter with the defaulting agency for expeditious termination of the noncompliance. In case of inadequate response to the efforts made by the Member Secretary, SPC, the non-compliance shall be reported to UPERC. UPERC, in turn after due process, may order the defaulting user for compliance, failing which; the UPERC may take appropriate action. SPC shall maintain appropriate records of such violations. **In case of a non-compliance of any of the stipulations of the UPEGC by SLDC or SPC, the matter shall be reported to the UPERC.***

{Emphasis Applied}

5. Thus, this Petition is being filed by the Petitioner before this Hon'ble Commission for addressing the grievance of the Petitioner highlighting non-compliance of various provisions of UPEGC.

A. SLDC is not complying the following provisioning of UPERC

i) Non-Operational of State Power Committee as per Section 2.14

6. In accordance with Section 2.14 SPC is required to be constituted and operationalised to discharge the various stated functions pertaining to state level operation analysis for improving grid performance and to develop consensus on issues relating to economy and efficiency in the State power system. The relevant section of UPEGC stating function of the SPC is reproduced below:

"2.14.5 The Committee shall discharge following functions:

- i) To undertake State Level operation analysis for improving grid performance.*
- ii) To facilitate intra-State transfer of power.*
- iii) To facilitate all functions of planning relating to intra-state transmission system with STU and review of progress of crucial transmission projects.*
- iv) To coordinate planning of maintenance of generating machines of various generating companies of the State on annual basis and also to undertake review of maintenance programme on monthly basis.*
- v) To undertake planning of outage of transmission system on monthly basis.*
- vi) To undertake operational planning studies including protection studies for stable operation of the grid.*

vii) To undertake planning for maintaining proper voltages through review of reactive power compensation requirement and monitoring of installed capacitors.
viii) **To evolve consensus on all issues relating to economy and efficiency in the operation of power system in the state.”**

“2.14.7 The decisions of Committee arrived at by consensus regarding operation of the state power grid and scheduling and dispatch of electricity will be followed by SLDC subject to directions of the State Regulatory Commission, if any.”

{Emphasis Applied}

7. It is discernible from above that State Power Committee (SPC) plays a pivotal role in development and operation of State Power System. Despite such critical functions discharges by the SPC, the Chairman, SPC which is by-default the Head of UPSLDC has remained oblivious in operationalising the SPC. The Hon’ble Commission may appreciate the fact that eight years have elapsed since the notification of U.P Electricity Grid Code in the year 2007 and till now no State Power Committee has been operationalised to discharge its responsibilities.
8. The importance of State Power Committee has also been highlighted in the EA 2003 as well as in the Indian Electricity Grid Code. Non– constitution of SPC after eight years of notification of Grid Code is a non compliance of UPEGC and also the directions of Hon’ble Commission.

ii) **Non formulation of detailed internal operating procedure as per Section 5.1 (d)**

9. Section 5.1 (d) of UPEGC mandates U.P SLDC to develop a set of detailed internal operating procedure for State Power Grid in consultation **with all the users** according to the provisions of UPEGC and IEGC. The relevant section of the grid code is reproduced below:

“5.1 Operating Policy

(d) A set of detailed internal operating procedures for State Power Grid shall be developed by SLDC in consultation with all Users which shall be consistent with

the provisions of UPEGC and IEGC to enable compliance with the requirement of the Grid Code and IEGC.”

10. However, Petitioner is not privy to any such operating procedure prepared by U.P SLDC and neither Petitioner has been ever consulted on such operating procedure.
11. **In view of the above, Petitioner requests the Hon'ble Commission to direct U.P SLDC to develop internal operating procedure in consultation with all users of the system at the earliest in a time bound schedule .**

iii) **Non formulation of detailed Scheduling & Despatch procedure as per Section 6**

12. In accordance with Section 6.2, detailed procedure for scheduling and despatch is required to be developed, adopted and implemented. The relevant section is reproduced below:

“6.2 Objective

“The objective of this Code is to specify the procedures to be adopted for scheduling of dispatches from the SSGS and imports from Inter- State Generating Stations or any other person and net drawals by the beneficiaries on daily basis and also the modality of the flow of information between SLDC, RLDC, SSGS and the beneficiaries. The procedure for submission of capability declaration by each SSGS and submission of drawal schedule by each beneficiary is intended to enable SLDC to prepare the despatch schedule for each Intra-State Generating Stations and drawal schedule for each beneficiary. The provisions contained in this chapter are without prejudice to the powers conferred on SLDC under section 31 and 32 of the Electricity Act, 2003.”

{Emphasis Applied}

13. It is submitted that UP SLDC has not undertaken any step in the form of conducting deliberation or consultation with generating companies in preparation of **detailed operating procedure** entailing basis and rationale for scheduling and despatch of power from various power stations in a transparent manner.

14. The Hon'ble Commission may appreciate the fact that notification of detailed operating procedure for scheduling and despatch is necessary for UP SLDC to carry out the operation of the state grid in a safe, economical and transparent manner, with the co-operation and involvement of the licensees and generating companies.
15. Scheduling and Despatch procedure as per Section 6.5 of UPEGC are not comprehensive and does not cover the procedure on least cost despatches etc as are being followed in other states such as Maharashtra.
16. Petitioner submitted that the detailed operating procedure for scheduling and despatch must include the following principles to attain the above objectives:
 - a) Least cost despatch planning based on the 'Merit Order Stack' to be adopted based on the available capacity declaration furnished by all the generating sources including ISGS, SSGS, Co-Generation plants and interstate purchase on a day-ahead basis corresponding to each 15 min time block.
 - b) Co-generation plants shall be scheduled based on the 'Merit Order Stack'. As per CERC regulations, biomass based generating with an installed capacity of 10 MW and above and non-fossil fuel based co-generation projects are subjected to scheduling and despatch code as specified under Indian Electricity Grid Code (IEGC) and Central Electricity Regulatory Commission (Unscheduled Interchange and related matters) Regulations, 2009 including amendments thereto. U.P has around 800 MW Co-gen installed capacity which are considered as 'MUST RUN' and thus not subjected to scheduling and despatch code. Considering Co- gen as Must Run plants, UPPCL has to incur additional expenditure of around Rs 315 Cr annually in its power purchase cost. This additional power purchase cost can easily be curtailed by merely providing scheduling and dispatch to Co-gen plants as per Merit Order Stack. The illustration of additional expenditure incurred by UPPCL on account of treating Co-gen as Must Run is given in the table below:

Sr.	Particulars	Unit	Value	Source
1	Energy Purchase from Cogen/ CPP approved by UPERC for FY2015-16	MU	2865	UPERC Order for Determination of ARR and Tariff for FY2015-16
2	Power Purchase rate approved by UPERC from Cogen/ CPP for FY2015-16	Rs/ kWh	4.9	
3	Average Power Purchase cost approved by UPERC	Rs/ kWh	3.8	
4	Difference	Rs/ kWh	1.1	(4= 2-3)
5	Total Loss to UP Discoms by Scheduling Power from Cogen	Rs Crore	315	(5= 1*4)

- c) 'Merit Order Stack' shall be based non-discriminatory and on the energy charge inclusive of fuel cost adjustment charge, if any, of various generating stations contracted by State DISCOMs. The Merit Order Stack shall not be based on the provisional energy charge approved in the tariff order. If the Merit Order Stack is drawn up on the basis of provisionally approved energy charges, as may be the case in case of certain plants, and the same is used to schedule the despatch of power from them while leaving other plants from the schedule for despatch, it may result in undue burden and higher procurement cost of the utilities in the event of the final energy charges of such plants for such period is approved more than the provisional tariff and also more than the energy charges which were not scheduled during such period.
- d) Energy charge for the Merit Order Stack of respective month shall be as projected by the generator, based on the applicable normative parameters and landed cost of fuel, as is followed in other states such as Maharashtra.
- e) Merit Order Stack shall be prepared at the State periphery for IntraState and InterState Generation sources after appropriately grossing up for Transmission losses & charges wherever applicable. Overall resultant reduction in transmission losses of entire system due to injection of power therein from load centre plants must also be taken into account while Merit Order Stack is drawn up.
- f) All generating stations including co-generating station and gas based generating station must get scheduled as per Merit Order Stack and no preferential treatment should be given to any generating station whether owned by state, centre or private developer by declaring them as must run plants.

- g)Applying of Technical Minimum Criteria while backing down the generating stations on low demand must be followed in case of all the stations which are on bar and the quantum of Technical Minimum load shall be duly certified by an independent agency such as Central Power Research Institute.
- h) Hon'ble CERC has also adopted similar approach for the Merit Order Despatch principles for implementation of the CERC (Ancillary Services Operations) Regulations, 2015, the Regulation 6.2 is and Regulation 7.1 reproduced below for ready reference

“For Regulation-Up, the Nodal Agency shall prepare stack of un-requisitioned surplus capacities available in respect of Inter-State Generating Stations from lowest variable cost to highest variable cost in each time block, and taking into account ramp up or ramp down rate, response time, transmission congestion and such other parameters as stipulated in the Detailed Procedure. For Regulation-Down, a separate merit order stack from highest variable cost to lowest variable cost incorporating technical parameters as above shall be prepared.”

Regulation 7.1

“The RRAS Provider shall on monthly basis submit details of fixed charges and variable charges, and any other applicable statutory charges, to the Regional Power Committees.”

17. The Petitioner has Prayed the following:

- a. In view of above it is requested that Hon'ble Commission should direct UP SLDC to prepare detailed operating procedure for schedule and dispatch in consultation with generators and licensees and ensure its implementation with due approval of the Hon'ble Commission within 2 weeks
- b. Direct U.P SLDC to comply the provisions of U.P EGC at the earliest;
- c. Direct the concerned to operationalise the SPC at the earliest;

- d. In the interim, direct UP SLDC to consider Merit Order Stack:
- (i) Based on prospective energy charge for the month inclusive of fuel cost adjustment charge, if any, of all generating stations including Co-generation plants in transparent and non-discriminate manner with the immediate effect;
 - (ii) Based on prospective energy charge and not on the provisional energy charge approved in the tariff order.
 - (iii) And follow the uniform approach in backing down of stations in the event of low demand from utilities
- e. During the hearing the counsel for the petitioner submitted the following:
- (i) UPSLDC is not adhering to its scope and compliance as per the UPEGC and not following the merit order despatch, not following the standard procedure for issuing Backing Down instruction etc and to substantiate his argument he produced the reply of an RTI query.
 - (ii) In a reply to the RTI query, UPSLDC has admitted the following:
 - a. State Power Committee must have representation of all its members, but some of members have not sent the name of their representatives, so SPC is not constituted fully.
 - b. As soon as SPC will be fully constituted and functional, the name of the members will be displayed on the website.
 - c. For SPC function-office space, skilled manpower and infrastructure for meeting etc are basic requirement. As soon as all the minimum requirement are met the first meeting will be held immediately.
 - d. Grid operations are carried out as per provisions of UPERC Grid Code-2007 and IEGC copies of UPERC Grid Code-2007 and IEGC is available on their websites. At present periodic reports are not

being prepared due to shortage of man power and requisite infrastructure.

e. Economic merit order is drawn on the basis of fixed and variable charges of various generating stations, provided by commercial unit of UPPCL. Economic order is updated/revised as soon as above information is provided by UPPCL. In real time scheduling and despatch of power is done on the basis of economic merit order. grid safety and security and transmission constraints. However decision to shutdown running generating units is taken by the beneficiary .i.e. UPPCL/ Discom. UPSLDC issues necessary instructions to the generating stations according to the intimation received by the concerned unit of UPPCL.

(iii) State Power Committee has been constituted but is not functional even after eight years of notification which resulted in non Redressal of grievances of the generators (Petitioner).

(iv) There should be standard procedure for determination of MOD, Backing down and reserve shut down of plants.

(v) Scheduling and Despatch procedure as per Section 6.5 of UPEGC are not comprehensive and does not cover the procedure on least cost despatches etc as are being followed in other states such as Maharashtra.

18. UPPCL's submission:

a. In reply to petitioner's submission, Director Commercial UPPCL submitted that UPSLDC follows Merit order dispatch instead of economic order dispatch as stated in the RTI reply.

b. They further submitted that some of the plants despite having higher variable cost are not being backed down because of technical requirements of the grid.

- c. It is also submitted that the only variable charge as specified by the Commission for the generator is taken into account to decide the merit order and not the fuel cost adjustment and transmission charges.
- d. It is also submitted that they do not wish to violate any rules, regulations and procedure specified by the Commission to follow the merit order despatch.
- e. It is also submitted that they are ready to follow any instruction issued in this regard by the Commission.

Commission’s View:

- 19. After going through all the submissions this Commission observes that UPSLDC is not strictly adhering to UPEGC in scheduling and despatch. The Commission directs UPSLDC to submit the following data within fifteen days.

Sl No.	Name of Generation Station/Trader	Fixed Cost of the Generation Station/Trader	Variable Cost Proposed	Variable Cost after FPP CA	Total Energy Schedule by Generator	Total Energy Schedule by SLDC	Final Dispatch by SLDC	Technical minimum as specified by OEM

The above information shall be submitted for any one month in which the scheduled capacity is less than the declared capacity.

The Commission has entrusted IIT, Kanpur to study the merit order dispatch procedure followed by UPSLDC and give its recommendation. The Commission will deliberate over the recommendations with the stake holders and then will take the final decision. In the mean time, until the final order is passed the Commission further directs the following:

- 20. The Commission observed that currently UPSLDC is not following the principles enshrined in the Electricity Act 2003 and UP Electricity Grid Code for scheduling and despatch of power. These inconsistencies are resulting into overall sub-optimised procurement of power besides non-compliance to the UPEGC.

21. In view of above discrepancies, the Commission directs UPSLDC to immediately implement the following procedure for scheduling and despatch of power from the generating stations:

- a. MOD has to be strictly adhered to .MOD is to be given preference over RPO, after RPO Obligations are met.
- b. SLDC should draw up the Merit Order Stack based on Variable Charges of previous month as per actual invoices submitted by generator to UPPCL.
- c. Variable Charges should take into account the Transmission Charges and Transmission Losses caused by each station and Fuel Adjustment Charges, if any, for the previous month for drawing the MOD stack.
- d. Technical minimum for all the generating units should be followed.
- e. For ISGS, technical minimum for backing down should be taken based on total schedule of all beneficiaries as per technical minimum specified by the CERC.
- f. In the event of load crash or persistent low demand, before putting any unit on reserve shut down, it must be ensured that all units including storage based hydro plants, co-gen plants, thermal units and schedule of ISGS share are reduced to their respective technical minimum or the minimum capacity prescribed in the contract.
- g. If system conditions require reserve shut down of any unit, after achieving technical minimum of all the units, as specified in point (d) above, it should be done based on merit order stack subject to following:
 - (1) Any unit taken on bar after any shut down, shall not be taken for reserve shut down for the next 72 hours.
 - (2) At least one unit at each generating station shall be kept operational, unless the grid condition prohibits the running of such units.Note: If the two machines are in the same merit order stack then the machine with lower start up time should be preferred.

- h. When demand increase, the mirror mechanism of f and g shall be followed.
- i. All thermal ,hydro and co-generators (Except the RE) to fall in ABT regime.
The Commission shall issue orders in respect of ABT for RE Generators.
- j. The generators who are not falling under MOD stack will have the option of foregoing some part of their fixed cost for which credit will be given in their variable cost and their position in MOD stack will be revised accordingly. This will help the generators in scheduling their generation on day to day basis under MOD as well as in reducing the overall Average Power Purchase Cost (APPC) which would benefit public at large.
22. Further the Commission directs UPSLDC to operationalise State Power Committee and prepare detailed procedures for scheduling and despatch in consultation with all stake holders and submit to the Commission within two months for consultation and approval.
23. The Commission directs UPSLDC to implement this order with immediate effect and submit the report to the Commission on weekly basis.

(S. K. Agarwal)
Member

(I. B. Pandey)
Member

(Desh Deepak Verma)
Chairman

Dated: 21.06.2016