

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Coram : Dr. Pramod Deo, Chairperson  
Shri S Jayaraman, Member  
Shri V.S.Verma, Member  
Shri M. Deena Dayalan, Member**

Date of Hearing: 27.3.2012  
Date of Order: 30.3.2012

**Petition No. 209 of 2011(Suo Motu)**

In the matter of

Implementation of Renewable Regulatory Fund Mechanism under Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010

**And**

In the matter of

1. EE (SLDC-EO), U.P. Power Corporation Ltd., Lucknow
2. DGM (SO)SLDC, PITCUL , Rishikesh
3. SE (SLDC) Haryana Vidyut Prasaran Nigam Ltd, Panchkula,
4. General Manager (SLDC) Delhi Transco Ltd, New Delhi
5. Director (PR & CERC) Himachal Pradesh State Electricity Board, Shimla
6. Chief Engineer (SO & C) State Load Dispatch Centre, PSTCL,Patiala
7. Chief Engineer (S&F) SLDC, Jammu
8. Chief Engineer (LD) Electricity Department, UT of Chandigarh, Chandigarh
9. Chief Engineer, SLDC, Rajasthan
10. Chief Engineer (LD), SLDC, Madhya Pradesh Power Transmission Company Ltd. Jabalpur,
11. Chief Engineer (LD) SLDC, MSETCL, Mumbai
12. Chief Engineer (LD) SLDC, Gujarat Energy Transmission Corporation .Ltd, Vadodara
13. Chief Engineer (LD), Chhatisgarh State Power Transmission Co. Ltd., Raipur
14. Chief Executive Engineer, Goa Electricity Department, Panaji, Goa
15. Executive Engineer, Electricity Department, Daman & Diu, Nani Daman
16. Executive Engineer (LD), Electricity Department, Dadar & Nagar Haveli, Silvassa
17. Chief Engineer (Electricity), Karnataka Power Transmission Corporation Ltd. SLDC,Bangalore
18. SE (LD) SLDC, TANTRASCO, Chennai
19. Chief Engineer (System Operation), Kerala State Electricity Board, Ernakulam, Kerala
20. SE (GO) Transmission Corporation of Andhra Pradesh Ltd., SLDC, Hyderabad
21. Executive Engineer (System Control Centre) Electricity Department, Puducherry

22. Chief Engineer, SLDC, Bihar State Electricity Board, Patna
  23. Chief Engineer, West Bengal State Transmission Corporation Ltd. Howrah
  24. Chief General Manager, SLDC, Orissa Power Transmission Corporation Ltd., Bhubaneswar
  25. General Manager-cum-CE(SLDC) Jharkhand State Kusai Colony, Ranchi
  26. Chief Engineer, Power Deptt. Govt. of Sikkim, Gangtok
  27. Chief Engineer, (CLD) SLDC, Damodar Valley Corporation, Dhanbad,
  28. Chief General Manager, SLDC, AEGCL, Guwahati
  29. Superintending Engineer (SLDC), Electricity Department, Govt. of Manipur, Imphal
  30. Superintending Engineer (SLDC), Power & Electricity Department, Govt. of Mizoram, Aizawl
  31. Executive Engineer, (SLDC), Electricity Department, Govt. of Nagaland, Dimapur
  32. CMD, TSECL, Govt. of Tripura, Agartala
  33. Executive Engineer, SLDC, Department of Power, Govt. of Arunachal Pradesh, Itanagar
  34. Superintending Engineer (SLDC), Director Distribution office, Shillong
- .....Respondents

And  
**Petition No.2/MP/2012**

**In the matter of**

Petition under clause (1), (2) and (4) of Part 7 of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010 and section 94(1)(f) of the Electricity Act, 2003 for removal of difficulty in respect of order dated 18.2.2011 for approval of detailed procedure for the implementation of the mechanism of Renewable Regulatory Funds as per clause(9) of Annexure-1 of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010.

And

In the matter of

Indian Wind Energy Association (InWEA), New Delhi.....Petitioner

Vs

National Load Despatch Centre  
Northern Regional Load Despatch Centre, New Delhi  
Western Regional Load Despatch Centre, Mumbai  
Southern Regional Load Despatch Centre, Bangalore  
Eastern Regional Load Despatch Centre, Kolkata  
North-eastern Regional Load Despatch Centre, Shillong  
Northern Regional Power Committee, New Delhi  
Western Regional Power Committee, Mumbai  
Southern Regional Power Committee, Bangalore  
Eastern Regional Power Committee, Kolkata  
North-Eastern Regional Power Committee, Guwahati .....Respondents

**Counsels/parties present:**

- (1) Ms. Minaxi Garg, NLDC
- (2) Shri V.K. Agrawal, NLDC

- (3) Shri Shailendra Verma, NLDC
- (4) Shri H.K. Chawla, NRLDC
- (5) Shri A.H. Pandit, InWEA
- (6) Shri Mukesh Vipradas, InWEA
- (7) Shri Vikas Vati, InWEA
- (8) Shri Padmanabhav, InWEA
- (9) Shri G. Upadhyay, MNRF
- (10) Shri Anurag Misra, MP SLDC
- (11) Shri K. Amarsunar, APTRANSCO
- (12) Shri Deepak Sharma, SLDC
- (13) Shri K.J. Bhuvra, GETCO
- (14) Shri S. Bhatia, VESTAS
- (15) Shri Jami Hossan, Wind Force
- (16) Shri Ashwani, Wind Force

## ORDER

Clauses (5) and (7) of Complementary Commercial Mechanism at Annexure-I to the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010, as amended from time to time (hereinafter "Grid Code") provide as under:

"5. The wind generators shall be responsible for forecasting their generation upto an accuracy of 70%. Therefore, if the actual generation is beyond +/- 30% of the schedule, wind generator would have to bear the UI charges. For actual generation within +/- 30% of the schedule, no UI would be payable/receivable by Generator, The host state, shall bear the UI charges for this variation, i.e within +/- 30%. However, the UI charges borne by the host State due to the wind generation, shall be shared among all the States of the country in the ratio of their peak demands in the previous month based on the data published by CEA, in the form of a regulatory charge known as the Renewable Regulatory Charge operated through the Renewable Regulatory Fund (RRF). This provision shall be applicable with effect from 1.1.2011, for new wind farms with collective capacity of 10 MW and above connected at connection point of 33 KV level and above , and who have not signed any PPA with states or others as on the date of coming into force of this IEGC. Illustrative calculations in respect of above mechanism are given in Appendix.

6. A maximum generation of 150% of the schedule only, would be allowed in a time block, for injection by wind, from the grid security point of view. For any generation above 150% of schedule, if grid security is not affected by the generation above 150%, the only charge payable to the wind energy generator would be the UI charge applicable corresponding to 50-50.02 HZ .

7. In case of solar generation no UI shall be payable/receivable by Generator. The host state shall bear the UI charges for any deviation in actual generation from the schedule. However, the net UI charges borne by the host State due to the solar generation, shall be shared among all the States of the country in the ratio of their peak demands in the previous month based on the data published by CEA, in the form of regulatory charge known as the Renewable Regulatory Charge operated through the Renewable Regulatory Fund as referred to in clause 5 above.. This provision shall be applicable ,with effect from 1.1.2011, for new solar generating plants with capacity of 5 MW and above connected at connection point of 33 KV level and above and , who have not signed any PPA with states or others as on the date

of coming into force of this IEGC. Illustrative calculations in respect of above mechanism are given in Appendix.”

2. As per the above quoted provisions, the UI charges borne by the host State due to wind generation within certain limits and due to solar generation shall be shared among all the States in the country in the ratio of their peak demands in the previous month based on the data published by the Central Electricity Authority in the form of regulatory charge known as Renewable Regulatory Charge operated through the Renewable Regulatory Fund (RRF) w.e.f. 1.1.2011. The Commission vide Notification No. No. L-1/18/2010-CERC dated 14.1.2011 specified the revised date of implementation of Renewable Regulatory Charge and Renewable Regulatory Funds with effect from 1.1.2012 in order to put in place the procedure and mechanism required for their implementation. The Commission in its order dated 18.2.2011 had accorded approval to the "Procedure for implementation of the mechanism of Renewable Regulatory Fund" submitted by the National Load Despatch Centre in compliance with the provisions of clause 9 of Annexure 1. In the said order, the Commission had directed National Load Despatch Centre to arrange for mock exercise as per the Detailed Procedure.

3. The Detailed Procedure provides that the wind farms and solar generating plants shall furnish the information regarding their connectivity to the Regional Power Committee, Regional Load Despatch Centres and National Load Despatch Centres through their respective State Load Despatch Centres in accordance with the provisions of para 2.1 and 3.2 of the Detailed Procedure. Para 8.2 of the Detailed Procedure further provides that the State Load Despatch Centres/Control Centres of the States where the wind farms or solar generators are located shall submit 15

minute block-wise data of scheduled and actual generation from the wind farm/solar generating plants as recorded in the Special Energy Meters to the concerned Regional Load Despatch Centre or Regional Load Despatch Centres on weekly basis which shall be processed and furnished to the respective Regional Power Committee for preparation of energy accounts related to accounting of energy from wind farm and solar generation on a weekly basis.

4. National Load Despatch Centre (NLDC) in its letter 13/10/2011 brought to our notice that despite the communications sent to the SLDCs through the respective RLDC to furnish details regarding connectivity declaration from Wind farms/Solar generating plants, contract details and processed data i.e. Schedule generation and deviations of generation within different blocks to RLDCs /NLDC, the requisite details had not been received which seriously affected the schedule of mock exercise as directed by the Commission in order dated 18.2.2011. Accordingly, NLDC sought issue of directions to the State Load Despatch Centers to submit the requisite data to the RLDCs/NLDC immediately.

5. The Commission vide order dated 30.11.2011 in suo- motu petition No. 209/2011, directed all SLDCs to submit the requisite data to NLDC by 15.12.2011 and NLDC was directed to submit the compliance position in this regard to the Commission. NLDC in its reports submitted that SEM meters, Forecasting facilities and Data Acquisition Systems have not been installed in all the Renewable Energy Projects coming under RRF mechanism. Moreover, renewable generators are required to take initiative to provide requisite information and necessary facilities for metering, forecasting and data acquisition to enable NLDC to start mock exercise for implementing RRF mechanism. However, many SLDCs had not submitted any data

and the data submitted by most of other SLDCs were not the requisite data as per the format provided by the NLDC/RLDCs.

6. Since SLDCs, wind energy generators and solar energy generators were not taking adequate steps required for implementation of the RRF Mechanism, Ministry of New and Renewable Energy (MNRE) was impleaded as a party to the proceedings to facilitate implementation of the mechanism. The SLDCs which had not filed the information as specified by NLDC were directed to furnish the information in specified format to NLDC before 16.01.2012.

7. NLDC in its letter dated 02.02.2012 submitted the latest status regarding the information supplied by SLDCs in compliance with our order. Gist of submission of NLDC is as under:

(a) Total Wind Power Installed Capacity in the country is approximately 15,880 MW and Solar Power is approximately 310 MW.

(b) Out of 34 SLDCs which were issued notices, only 27 SLDCs had submitted some information to NLDC and responses from 7 SLDCs were still awaited.

(c) Eight major wind power generating States in the country such as Tamil Nadu, Maharashtra, Gujarat, Karnataka, Rajasthan, Madhya Pradesh, Andhra Pradesh and Kerala are having more than 100 MW installed wind generation capacity and responses have been received from these States.

(d) Out of 6 major Solar Power Generating States, details have only been received from Gujarat, Rajasthan and Andhra Pradesh.

(e) On the basis of information received, it can be inferred that approximately 1700 MW out of 15880 MW of wind power installed capacity and 210 MW out of 310 MW Solar Power installed capacity are covered under the RRF

Mechanism.

(f) Meters have been installed in most of the major wind generating states. In none of the states, the Data Acquisition System (DAS) and forecasting facility is available except DAS for 2 wind generation plant in Gujarat.

8. During the Hearing on 07.02.2012, we had reviewed the position of implementation of RRF mechanism by the SLDCs. SLDC, Madhya Pradesh submitted that it had taken up the matter with MPERC to make forecasting of wind generation obligatory. SLDC, Gujarat submitted that only two wind developers had submitted the details and started forecasting, but none of the solar generators had submitted the details. It also raised the issues of combination of wind developers with different contract rates and sale of wind power at preferential tariff. SLDC, Tamil Nadu submitted that due to lack of clarity, they had reported to NLDC that there was no wind generation under RRF in Tamil Nadu. SLDC, Maharashtra submitted that no wind developer had supplied requisite data. The issue of different mechanism in Maharashtra for settlement of deviation from schedule was also raised. SLDC, Karnataka submitted that two wind power developers coming under RRF were in process of installing software for forecasting. SLDC, Andhra Pradesh submitted that two wind farms and two solar developers covered under RRF mechanism had submitted the initial data but they were yet to submit the schedule. SLDC, Rajasthan submitted that no generator had forecasting tool. However, these renewable sources were being scheduled. The commission directed to submit the existing settlement procedure for these generators. The representative of Indian Wind Energy Association (InWEA) raised certain issues connected with the implementation of RRF Mechanism.

9. Since RRF mechanism requires coordination among the States and the wind power and solar power generators, we were of the view that MNRE being the nodal Ministry for the development of renewable energy could play a significant role in the implementation of RRF Mechanism and accordingly directed MNRE to convene a meeting of the NLDC, SLDCs, wind and solar developers and to suggest any regulatory requirement or changes required in the existing procedure for the successful implementation of the RRF Mechanism.

10. Indian Wind Energy Association (InWEA) in its Petition 2/MP/2012 filed on 27.12.2012 has brought out a number of difficulties experienced by the members of the association for operationalising the provisions for scheduling of Wind Power Plants under the Grid Code and the Procedure for implementation of mechanism of Renewable Regulatory Fund (RRF). The following issues have been raised InWEA:

(a) Clarification regarding applicability of RRF Procedures and scheduling requirement for Wind Power Plants wheeling power under captive Open Access and Third Party Open Access: InWEA has submitted that there can be three options available for any wind power projects for sale of its power, such as (i) sale to distribution licensees, (ii) third party sale through open access, and (iii) open access under captive Consumption. While Option -1 and 2 would require execution of PPA, there is no requirement for execution of PPA for Option 3 as captive generator and captive user are the same legal entity (except for Group Captive). Thus, the relevance for requirement of a PPA is only applicable for wind power projects having contractual agreement with distribution licensee or sale to third party. Even in case of many third-party open access transactions, there may not be an elaborate PPA with contracted rate clearly spelt out but only a



commercial arrangement or letter /MOU with contract price as discount to prevalent retail tariff (e.g discount to HT Industrial Tariff). InWEA has submitted that in the absence of contracted rate information, it would not be possible to operationalise RRF procedures in respect of such captive open access and third party open access wheeling transactions of wind power generators. Moreover, if wind project has contracts with multiple third parties under open access with different contract prices, then deriving single contract price for the purpose of RRF operationalisation would be a complex exercise. While such market conditions are already under operation, these case scenarios are not addressed under RRF procedures.

(b) Clarification regarding the terms 'Old Wind Projects' and 'New Wind Projects' as referred under Grid Code: The term 'Old Wind Projects' and 'New Wind Projects' have not been defined in the Grid Code or Detailed Procedures, leading to ambiguity for operationalising the applicability of relevant clauses.

(c) Clarification regarding 'Applicable Reference Date' for operationalising scheduling requirement and RRF Procedures for Captive Wind Wheeling Transactions: InWEA has submitted that clarity is required in respect of nature of agreement and reference date to be considered in case of captive wind power wheeling transactions for the purpose of applicability of scheduling requirement as per Regulations 6.5.23 of the Grid Code. Moreover, there may not be any PPA in respect of captive wind wheeling transactions, and hence, the question of date of signing of PPA would not arise in case of captive wind wheeling transactions. Under the circumstances, it needs to be clarified which date would be taken as reference date for the purpose of operationalising of scheduling requirement under Regulation 6.5.23 of the Grid Code.

(d) Treatment of partial scheduling for some wind projects at existing substations,

wherein wind farms having a mix of wind power projects commissioned prior to May 3, 2010 and post May 3, 2010: For wind power projects, pooling substation which connects all individual wind projects to concerned host transmission or distribution network has been defined as connection point. In view of development of wind projects in stages, there are cases where the pooling substations having 10 MW or above generation have been set up prior to notification of Grid Code with effect from 3.5.2010 and new wind generators have been added after 3.5.2010. As the schedules/forecasts at common connection point (pooling substation) are to be provided on collective basis, unless schedule of all the WTGs connected at common connection point is available, it would be difficult to operationalise scheduling requirement and RRF procedure thereof since the meter data information about actual generation at connection point would represent total generation of all WTGs at such connection point measured through single meter. On the other hand, the WTGs who have signed PPAs prior to 3.5.2010 cannot be forced to provide schedules since the same are exempted from such scheduling requirement and as per the Grid Code, the same has to be evolved through mutual discussions. At present, the Detailed Procedure has not addressed such case scenarios of mix of WTGs fulfilling different conditions (prior to May 3, 2010 and after May 3, 2010) and yet connected to common connection point.

(e) Declaration of responsibility between Wind Turbine Generator and Wind Farm Developer: The terms "Wind Developer" and "Wind Generator" under the Grid Code have not been defined which is posing major challenge in operationalising this clause and unless the same is clarified, it would lead to litigation/disputes among stakeholders.

(f) Clarification regarding multiple Contracted Rate(s) for Collective Wind turbine

Generators connected at a common connection point (i.e. Wind Farm): As per Clause 5 and Case Examples elaborated under Detailed Procedures, the information regarding Contract Rate is critical for operationalising the RRF Mechanism. Depending on whether the contract rate is greater than or lower than UI rate, the State pays into or receives money from the RRF Fund, depending upon whether it is case of under-generation or excess generation from the schedule. The difficulty arises when there exist multiple contract rates. If WTGs have multiple open access wheeling transactions (intra-State) with different contract rate for each case, it is possible that Contract Rate > UI Rate in one case whereas Contract Rate < UI Rate in other case, then, it would be difficult to operationalise the rule for the State to receive money from or pay money to the RRF since the schedule v/s actual is not tracked separately for each transaction. Similarly, a situation of different contract rates could also occur when multiple WTGs are connected to common connection point. Under such scenario as well, Contract Rate > UI Rate in some cases and Contract Rate < UI Rate in other cases would lead to difficulty to determine the receivable from or payable to the RRF by a State since Schedule/Actual is not tracked separately for each WTG at common connection point.

11. During hearing of these petitions on 27.03.2012, the representative of InWEA submitted that to resolve the problem of connection of old and new wind generating station at a single connection point, to begin with, all the wind generators connected to a pooling sub-station commissioned after 3.5.2010 may be considered under RRF. In this case, about 2000 MW capacity of wind generation would come under RRF Mechanism and for these generators, the RRF mechanism can be started first. The

representative of Gujarat SLDC stated that two wind generators were supplying data of schedule and generation to SLDC. He requested the Commission to direct other wind generators also to provide requisite data to SLDC to enable them to be familiar with the data and to be prepared for the process of mock exercises. The representative of Madhya Pradesh SLDC submitted that wind generators in the State are not forecasting. He further submitted that as per directions of the Commission, it has approached MP State Electricity Regulatory Commission (MP SERC) to issue amendment order and MP SERC has issued the draft amendment.

12. The representative of Ministry of New and Renewable Energy (MNRE) submitted that as per the directions of the Commission, the Ministry had convened a meeting on 23.03.2012, in which almost all the stakeholders were present. After detailed deliberations, it emerged that that scheduling and forecasting are essential for wind generation and it was agreed that some issues like treatment of partial scheduling for some wind projects at existing substation wherein Wind farm have a mix of wind power projects, i.e. wind generators commissioned prior to and after 3.5.2010, multiple contract rates etc. are required to be resolved to remove difficulties in implementation. The representative of MNRE submitted that to resolve the issues, MNRE has decided to constitute a Task Force under chairmanship of Mr. S.K. Soonee, CEO, POSOCO. We had directed the representative of MNRE to ensure that the terms of reference for the Task Force are clearly defined with a target date for submission of report, as the wind generators are not able to inject power in some States in view of different practices adopted by State Utilities, in absence of RRF Mechanism. The Task Force report should contain an implementation plan of the RRF mechanism with responsibility assigned to each agency. MNRE in its letter No. 66/153/2011-WE dated 28.03.2012 has informed that vide enclosed Office

Memorandum dated 28.03.2012 the Task Force has been constituted under Chairmanship of M. S.K. Soonee, CEO Power System Corporation (POSOCO) with members from Ministry of Power, MNRE, CERC, CEA, NLDC, NRPC, SRPC, PGCIL, CWET, representatives from SLDCs/STU of Gujarat, Tamil Nadu, Karnataka, Rajasthan, Maharashtra and representatives State Nodal Agencies of Maharashtra, Gujarat and Karnataka. The terms of reference of the Task Force are as under:

- a) Issue regarding metering and definition of connection point.
- b) Scheduling and treatment of multiple commercial / sale arrangement at single connection point.
- c) Treatment of wind energy generators selling power through different options/ contract rates.
- d) Accounting philosophy and roles and responsibilities of various institutions .
- e) Entity accountable of variability.
- f) Institutional arrangements for implementation of RRF.
- g) Any other issue with regard to the implementation of RRF.

The Task Force has been mandated to submit the report within three months.

13. Taking into consideration the issues raised by the stakeholders and the steps taken by MNRE, we are of the view that immediate action on the part of wind generators, STUs, DISCOMs and SLDCs are required to install the requisite facilities i.e. forecasting tools, proper Communication and Data Acquisition System etc. for implementation of the RRF Mechanism. We direct the wind generators, STUs, DISCOMs and SLDCs to take immediate action in this regard. The Wind generators are directed to provide the requisite data as per direction by the NLDC/RLDC/SLDC.

14. We appreciate the steps taken by MNRE. We direct that the report of the Task

Force along with the suggested measures to deal with the issues related to successful implementation of RRF Mechanism be submitted to the Commission by 30.6.2012.

15. The petition No.209/2011 and 4/MP/2012 are disposed of in terms of the above. Based on the recommendations of the Task Force, the Commission shall issue suitable directions and if need be, make appropriate provisions in the Grid Code to facilitate operationalisation of the RRF. In case InWEA or SLDCs face any further problem after implementation of the recommendations of the Task Force, they are granted liberty to approach the Commission for suitable directions.

sd/-  
**(M Deena Dayalan)**  
**Member**

sd/-  
**(V S Verma)**  
**Member**

sd/-  
**(S Jayaraman)**  
**Member**

sd/-  
**(Dr Pramod Deo)**  
**Chairperson**