

Ministry of Power
Central Electricity Authority
PSPA - II Division
Sewa Bhawan, R.K. Puram, New Delhi - 110066

No.56/20/2015-PSPA-III/ 346-350

Date: 17-Nov -2015

To

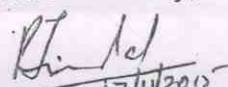
(As per AddressList)

Sub: Follow up actions subsequent to the Review meeting of Hon'ble MoSP(IC) with Govt of TN, held on 02-11-2015 at CEA, New Delhi- **Minutes of the meeting held on 2.11.2015**

Sir/Madam,

Please find enclosed herewith minutes of the meeting held in CEA, New Delhi on 02-11-2015, on follow up actions subsequent to the Review meeting of Hon'ble MoSP(IC) with Govt of TN.

Yours faithfully,


(Pardeep Jindal)
Director (PSPA-II)

List of Addressees :

Sl. No.	Address	Tele/Fax No./Email
1.	Executive Director Southern Regional Load Dispatch Center 29, Race Course Cross Road, Bangalore-560009	TEL.:080-22254525, 22351146, 22352850, FAX: 080 - 22259219, 22252612 spkumar@srlcdc.org pranghu@srlcdc.org
2.	The Member Secretary, Southern Regional Power Committee, 29, Race Course Cross Road, Bangalore-560009	Fax: 080-22259343 mssrpc@yahoo.com sudbhat@gmail.com
3.	COO (CTU Planning), Power Grid Corp. of India Ltd., "Saudamini", Plot No. 2, Sector-29, Gurgaon-122001	Fax: 0124-2571809 sgupta@powergridindia.com mkhanna@powergridindia.com

4.	The CEO, POSOCO B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi-110016	Fax: 011-26852747 sksoonee@gmail.com saxena.samir@gmail.com
5.	The Member (Distribution), Tamil Nadu Electricity Board (TNEB), 800 Anna Salai, 6th Floor, Eastern Wing, Chennai-600002	Fax: 044-28516362 sess@tnebnet.org cetr@tnebnet.org
6.	Shri V. Subramanian Indian Wind Energy Association 1st Floor, A – Wing, AMDA Building, 7/6, Siri Fort Institutional Area, August Kranti Marg, New Delhi-110 049,	Phone : 91-11-4652 3042 subram71@gmail.com
7.	Prof K Kasthurirangaian Indian Wind Power Association Door - E, 6th Floor, Shakti Towers-1 766, Anna Salai, Chennai – 600 002.	Phone: 044 - 4550 4036 Tele-fax: 044 - 4550 4281 iwpacno@windpro.org secretary.general@windpro.org
8.	Mr. Madhusudan Khemka, Chairman, Regen Powertech Pvt Ltd. 4th Floor, Samson Towers, 403L, Pantheon Road, Egmore, Chennai - 600 008.	Phone : 91-9952011777 madh...an.k@regenpower
9.	Mr. Chintan Shah Vice Chairman Suzlon Energy Limited, One Earth, Opposite Magarpatta City, Hadapsar, Pune- 411028.	Phone : 91-9922992870 cns@suzlon.com
10.	Mr. Ramesh Kymal Gamesa Wind Turbines Pvt. Ltd. # 334, 8th Floor, Block-B, The Futura Tech Park, Sholinganallur, Chennai-600119.	Phone : 91-0120-6149600 devansh.jain@gfl.co.in
11.	Mr. Amit Kansal Vestas Wind Technology India Pvt Ltd, 298, Rajiv Gandhi Salai, Sholinganallur, Chennai - 600 119.	Phone : 91-9962551947 krishnan@lsml.in

Minutes of the meeting as Follow up actions subsequent to the Review meeting of Hon'ble MoSP(IC) with Govt of TN, held on 02-11-2015 at Central Electricity Authority, New Delhi

1. A meeting to coordinate follow up actions subsequent to the Review meeting of Hon'ble MoSP(IC) with Govt of Tamil Nadu, was held at CEA, New Delhi on 02-11-2015. The meeting was chaired by Member (Power System), CEA and representatives from CEA, SRLDC, SRPC, POWERGRID, Suzlon Energy, INOX Wind and IWPA participated in the meeting. Member (PS) noted with concern that there was no participation from TNEB/ TANTRANSCO.
2. Director (PSPA-II) informed that during the review meeting, TN Govt had brought out difficulties being faced in evacuation of wind power from TN due to non-availability of transmission corridor. He stated that all stakeholders have been called up to assess the reality. It was also informed that the additional transmission system has already been planned to cater to a total of 12000 MW of RE power in Tamil Nadu. Further a number of transmission infrastructure facilities are under execution and are expected to be commissioned at the earliest such as; 400kV Kanarpatty SS, 400kV Rasipalayam SS, 400kV Anikadavu SS, 400kV Thappagundu SS, 400kV Kayathar- Karaikudi –II line, 400kV Karaikudi- Pugalur DC line.
3. Member Secretary, SRPC informed that constraints in wind power evacuation, is primarily an operational issue. He further said that IEGC provision of Deviation Settlement Mechanism restricts the drawl of power from the grid within the range of +150 MW(over drawl) to -150 MW (Under drawl). He also informed that out of the total wind capacity of 7500 MW, about 4500 MW is under captive PPA and is wheeled by TNEB under banking arrangement. He further said that there are issues in operating with thermal plants like Mettur, N. Chennai, at the technical minimum.
4. SRPC informed that as per wind producer's PPA with TNEB, only TNEB can sell their surplus power. As such TNEB may seek open access with CTU to arrange for transmission access if required. It was informed that Karnataka has shown willingness to avail all the power surrendered by other states in Central Sector Generating Station under the Unrequisitioned Surplus Power (URS) mechanism in real time grid operation. Therefore, if TN agrees to surrender their share from Central Generating Stations during the time blocks of high wind generation, they will be able to absorb more wind power in their states. It was also informed that Kerala is ready to buy this surplus power from Tamil Nadu.

5. It was also informed by SRPC during the meeting that Tamil Nadu in response to a parliament question, has submitted –“ Wind Power generated in Tamil Nadu is not wasted due to lack of infrastructure but the backing down is solely due to regulatory constraints to maintain Grid security and discipline as per IEGC 2014”.(Annex 1)

6. President, Indian Wind Power Association (IWPA) quoted PRDC report which reveals that there is no transmission constraints in wind power evacuation from Tamil Nadu. He said that Tamil Nadu have firm power from Mettur TPS, North Chennai TPS, Vallur TPP, Kudankulam U-1, Coastal Energen, NDPL, ILFS and the likes.

7. IWPA stated that demand in Tamil Nadu varies , at present, from 12500 MW to 9000 MW during a day. To manage this load variation, wind generation is backed down citing provision of DSM. President, IWPA informed that wind producers are not compensated for backing down. They suggested inclusion of compensation clause in regulations for backing down wind generation. They also suggested that to accommodate wind, DSM may be raised from 150 MW to 500MW.

8. IWPA stated that wind installed capacity has increased from 7132 MW in 2012-13 to 7345 MW in 2014-15 maybe. However, wind energy consumption in Tamil Nadu has decreased from 11368 MU to 8660MU during this period (Annex 2).

9. Wind Power Producer informed that preferential tariff for buying wind power in TN is 3.51 Rs/unit which is based on 100% grid availability. Due to non availability of 100% Grid this rate should be revised. Also, 1.25 Rs/unit is open access charge for transmission of wind to captive consumers

10. It was also brought out that Kadamparai 4x100MW Pump Storage Plant in Tamil Nadu is not being utilized to its full capacity. Only two machines out of four machines are being operated in pump mode. Prolonged non availability of Kadamparai pump mode operation is a matter of concern.

11. SRLDC cited the following issues:

- a. The 400 kV Network being constructed by TN (Salem – Rasipalayam - Tirunelveli System) to be expedited along with 230 kV and below system to ensure more reliable evacuation of Wind Generation. This 400 kV Network has been planned by TN and agreed in Standing Committee.
- b. TN needs to ensure availability of real time wind power generation data to SRLDC for better forecasting/scheduling.
- c. Provision of LVRT by wind generators is also a basic necessity to prevent large quantum of pull-out by Wind Generators on fault, thereby

endangering Grid security. The matter is pending before Honble CERC and an Order is expected shortly.

- d. Validation of wind forecast given by the wind generators is required. Two instances were cited when wrong forecast of wind availability by wind generators lead to Grid disturbance.

12. Meeting ended with the following note:

- i) It was brought out during discussions that curtailment in wind power in Tamil Nadu is an operational and regulatory issue.
- ii) Adequate 400kV and 220kV transmission system has already been planned for evacuation of 12000 MW of RE power in Tamil Nadu and in adequacy of transmission infrastructure is not the issue in evacuation of wind power from Tamil Nadu.
- iii) It was decided that TNEB must explore to operate all four units of Kadamparai 4x100MW Pump Storage Plant in Tamil Nadu for absorbing variability of wind.
- iv) It was informed that Deviation Settlement Mechanism has been revised from 150 MW to 250 MW and is applicable from 1st November, 2015 which would provide better relief for operational flexibility.
- v) TNEB / TANTRANSCO must ensure availability of Real time Renewable Energy generation data to SRLDC.
- vi) There was no participation from TNEB/ TANTRANSCO, and therefore, it was decided that they would be requested to send their inputs on the issue.

TAMILNADU TRANSMISSION CORPORATION LTD.
(Subsidiary of TNEB Ltd.)

From

P. Annadurai., B.E.,
Managing Director (i/c),
TANTRANSCO,
144, Anna Salai,
Chennai -2.

To

The Under Secretary (PG),
Ministry of Power,
Government of India,
Shram Shakti Bhavan,
Rafi Marg,
New Delhi,

Lr.No.CE/Plg.&R.C/SE/SS/EE1/AEE1/F.Rajya Sabha/2015 dt. 12-03-15

Sir,

Sub: Ministry of Power -Rajya Sabha provisionally admitted Unstarred question- "Improvement of power transmission network" - Reply submitted - Reg.

Ref: Under Secretary, Mop letter dated 04.03.2015 regarding Rajya Sabha question

Adverting to the letter under reference cited above, the following are stated.

- 2.1. Wind power generated in Tamil Nadu is not wasted due to lack of infrastructure, but the backing down is solely due to regulatory constraints to maintain grid security and discipline as per Indian Electricity Grid Code (I.E.G.C) 2014. The operating range of frequency to be maintained is between 49.90 and 50.05 Hz as per Indian Electricity Grid code (IEGC) from 17.2.2014 and to restrict the drawal of power from the grid within the range of +150 MW (Over drawal) to -150 MW (Under drawal). As the wind generation is highly infirm, variable, intermittent and its intraday variation itself ranges from 1000 MW to 2000 MW, with much difficulties grid regulations of Hon'ble CERC is being maintained.

- 2.2 The following wind power evacuation facilities have already been commissioned by TNEB successfully.

Green Energy Corridor Phase I:

1. 400 KV Kayathar SS
2. 400 KV Karaikudi – Kayathar circuit I
3. 400 KV Pugalur – Kalivantapattu circuits I & II

- 2.3 Further to the above, the following infrastructure facilities are under execution and expected to be commissioned at the earliest.

Sl.No	NEW SS/LINES	COMMISSIONING SCHEDULE
<u>Green Energy Corridor Phase I:</u>		
1.	400 KV Kayathar – Karaikudi circuit II	April 2015
2.	400 KV Karaikudi – Pugalur circuits I & II	April 2015
<u>Green Energy Corridor Phase II:</u>		
3.	400 KV Thoppakundu SS	September 2015
4.	400 KV Rasipalayam SS	September 2015
5.	400 KV Anaikadavu SS	September 2015
6.	400 KV Kanarpatty SS	March 2016

- 2.4 In addition, under Green Energy Corridor Phase III, creation of transmission infrastructure to facilitate the evacuation of renewable power, the following schemes have been approved under National Clean energy funding (NCEF) and the tender for awarding the work is under progress.

- 1 Pavoorchatram 400/230-110kV substation
- 2 Augmentation of transformers in six numbers 230kV substations.

- 2.5 The above works are being implemented for improving the infrastructure of the green corridor.

Sd/-
Chief Engineer/Planning & RC
for MANAGING DIRECTOR/TANTRANSCO

Copy to Energy Secretary, Government of Tamilnadu.

4.11.15

Average Wind Generation / Consumption Vs Total Consumption for 2012-13 to 2014-15

Month	Generation / Consumption Million Units in 2014 - 15			A	Generation / Consumption Million Units in 2013 - 14			Generation / Consumption Million Units in 2012 - 13			Dec / Inc in Evacuation (14-15 over 12-13)	Generation / Consumption Million Units in 2011 - 12		
	From WM	Total	WM %		From WM	Total	WM %	From WM	Total	WM %		From WM	Total	WM %
April	254	8167	3.1	% -27.4	350	7005	5.0	239	5914	4.0	% 6.4	150	6531	2.3
May	837	8146	10.3	-43.4	1478	7614	19.4	1491	6597	22.6	-43.9	858	6924	12.4
June	2045	8351	24.5	3.8	1970	7430	26.5	2054	6850	30.0	-0.5	1428	6821	20.9
July	2117	8454	25.0	45.2	1458	7791	18.7	2101	7228	29.1	0.8	1457	6945	21.0
August	1303	7995	16.3	2.8	1267	7436	17.0	2033	6705	30.3	-35.9	1172	6658	17.6
September	989	7913	12.5	12.9	876	7289	12.0	1708	6205	27.5	-42.1	1267	6488	19.5
October	290	7168	4.0	-57.4	681	7549	9.0	400	5549	7.2	-27.5	318	6234	5.1
November	149	6869	2.2	39.1	107	6436	1.7	187	5292	3.5	-20.0	221	5439	4.1
December	188	7164	2.6	-17.3	227	7219	3.1	450	6164	7.3	-58.3	275	5962	4.6
January	162	7574	2.1	-41.3	275	7577	3.6	291	6634	4.4	-44.4	189	5718	3.3
February	189	7366	2.6	-8.4	206	7048	2.9	243	5946	4.1	-22.3	262	5607	4.7
March	137	8591	1.6	-53.6	296	8118	3.6	172	6746	2.5	-20.2	181	5981	3.0
Average / Total	8660	93757	9.2	-5.8	9192	88512	10.4	11368	75829	15.0	-23.8	7777	75308	10.3
Dec/Inc in MU	-532	5245			-2176	12682								
Dec (-) / Inc in %	-6	6			-19	17								

Wind Installed Capacity in MW	7345	7230	7132	6008
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