



REPORT
ON
RENEWABLE ENERGY CURTAILMENT
IN
TAMIL NADU

(For the period 01.03.2017 TO 30.06.2017)
IN COMPLIANCE TO THE DIRECTIONS
OF THE HON'BLE APTEL
VIDE ORDER DATED 26.08.2020
IN APPEAL NO. 197/2019

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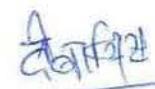
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List Of Acronyms

1. ACE: Area Control Error
2. CERC: Central Electricity Regulatory Commission
3. CPP: Captive Power Plant
4. DSM: Deviation Settlement Mechanism
5. IEGC: Indian Electricity Grid Code
6. IPP: Independent Power Provider
7. ISGS: Inter State Generating Station
8. ISTS: Inter State Transmission System
9. POSOCO: Power System Operation Corporation Ltd.
10. LTA: Long Term Access
11. MU: Million Units
12. MW: Megawatt
13. MTOA: Medium Term Open Access
14. NLDC: National Load Despatch Centre
15. NSEFI: National Solar Energy Federation of India (Appellant)
16. RE: Renewable Energy
17. RLDC: Regional Load Despatch Centre
18. RSD: RESERVE SHUTDOWN
19. SCADA: Supervisory Control and Data Acquisition
20. SLDC: State Load Despatch Centre
21. SRLDC: Southern Regional Load Despatch Centre
22. SSGS: State Sector Generating Station
23. SPD: Solar Power Developer
24. S/S: Sub Station
25. TNSLDC: Tamilnadu State Load Despatch Centre (Respondent)
26. TNERC: Tamil Nadu Electricity Regulatory Commission
27. TNEGC: Tamil Nadu Electricity Grid Code



Executive Summary

The Hon'ble Appellate Tribunal For Electricity (APTEL), New Delhi in APL No. 197 of 2019 & IA No. 1706 of 2019 passed the Order dated 26th August 2020 wherein Power System Operation Corporation Limited (POSOCO) was directed to act as third party to make detailed verification of the data after considering the contentions raised by the parties and submit report to the Tribunal within four weeks. POSOCO was directed to indicate whether there was intentional curtailment of scheduling of power by the Respondents/SLDC or whether it was on account of grid safety measure taken by SLDC as contended by the Respondents. POSOCO was also directed to clearly state whether there was any fair and justifiable curtailment of power from all generators, both renewable and non-renewable, the actual generation and injection of energy. Both the parties were directed to cooperate and assist POSOCO to comply with the direction in conducting the enquiry.

Accordingly, Power System Operation Corporation Limited (POSOCO), acting as third party, had conducted the enquiry, validated the data and concluded the findings based on the available material facts. The report is being submitted in pursuance to the above directions.

The report covers the regulatory provisions, curtailment analysis aspects such as approach adapted, sources of data, screening of data for analysis, filtering of curtailment blocks for the purpose of analysis, validation of data, estimation of curtailment, computation of margins available for backing down in conventional generators, analysis & summary of findings to the specific questions raised by Hon'ble APTEL. The findings are summarised below for each of the directions of Hon'ble APTEL based on the detailed analysis covered in this report

a) Detailed verification of the data after considering the contentions raised by the parties

- Analysis was done for the period from 01.03.2017 to 30.06.2017
- Out of the 56 generators, 16 generators with total installed capacity of 1052 MW submitted the data. Data of 10 generators were complete and data of 6 generators was partial.
- Some Inconsistencies were found in curtailment data provided by the generator.
- Median of irradiance-based generation was validated with Median of actual generation on non-curtailed days and found to be in order.
- The Block-wise Difference between irradiance-based Generation (MW) and actual generation (MW) during the common curtailment blocks was computed on Daily basis. This was taken as the Curtailment Quantum expressed as a formula:-

Curtailment Quantum (MW) = Irradiance based Generation (MW) – Actual Generation (MW)

Note: Negative values were made zero as curtailment quantum cannot be less than zero.

- b) Indicate whether there was intentional curtailment of scheduling of power by the Respondents/SLDC or whether it was on account of grid safety measure taken by SLDC as contended by the Respondents.

Grid frequency is collectively controlled by all entities in the grid and not by any individual state or entity. The operating frequency band of 49.90-50.05 Hz indicated in the IEGC in no way implies that frequency cannot go outside this band. It can go below 49.90 Hz in case of any generator tripping but actions by entities should bring the frequency back to within the band. Adequate generation reserves for UP regulation is to be maintained at both the interstate and intra state level to minimize operation below 49.90 Hz. Similarly, adequate reduction or DOWN capability of generation would help avert operation above 50.05 Hz.

There was no abnormal voltage condition at 400kV level of the grid and no network loading issue which required backing down / curtailment during the said period. Further no Specific constraint is expressed by TNSLDC at State level. Voltage and Transmission Constraints tend to be localised. The Curtailment instruction by TNSLDC was state-wide. There were no constraints/Violation which necessitated the state wide curtailment during the period under consideration.

The area control error / Deviation from the grid is to be controlled by the State using proper load forecasting and renewable forecasting as well as adequate generation reserves in line with the clause 5.3 and 6.5.23 of Indian Electricity Grid Code 2010.

As per the Grid Code, each day is divided into time blocks of 15 minutes each. Accordingly, each case of curtailment is expressed as a time block of 15 minutes. The analysis of curtailment data submitted by TNSLDC is classified under three broad categories as below.

- a. Cases of curtailment in which negligible margin was available for backing down from conventional energy sources.
- b. Cases of curtailment where 100 % of curtailment could have been avoided with available margins

- c. Cases of curtailment where specified % of curtailment could have been avoided to certain extent with available margins

The formula along with details of consideration made for arriving at the findings is summarised in paragraph 4.2. The analysis is carried out on the time blocks where both generator and TN SLDC has indicated the curtailment. The analysis is summarised below.

Period	Total No of time blocks during the specified period	Total cases of curtailment under consideration	*Cases of curtailment in which negligible margin was available for backing down from conventional energy sources.	Cases of curtailment where 100 % of curtailment could have been avoided with available margins	Cases of curtailment where Specified % Curtailment could have been avoided to certain extent with available margins		
					>80 % to 100 %	>50% to 80%	>20% to 50%
Number of Cases below are expressed in time block of 15 minutes each							
Blocks	A	B	C	D	E	F	G
% of total curtailed blocks	----	100%	49%	23%	4%	7%	17%

Table1: Summary of analysis

* Up to 20% Margin has been considered as negligible margins. Computation of margins is detailed in section 4.1.5

Note: The above analysis does not consider the frequency profile which is integral to grid security. The frequency band prescribed in IEGC is 49.90 to 50.05 Hz.

An analysis of the frequency and RE curtailment instructions shows the following.

- During 55 blocks (4.82%) out of 1140 blocks (Total curtailed blocks) frequency is above 50.05 Hz (>50.05 Hz)
- During 427 blocks (37.45%) out of 1140 blocks (Total curtailed blocks) frequency is above 50.00 Hz (>50.00 Hz). Out of these 427 blocks, TN was under drawing in 350 blocks. Out of these 350 blocks, there was no margin for backing down in thermal and hydro generation in 60 blocks so as to absorb the renewable energy. **Considering grid frequency and under drawl of TN from the grid, only 5.26% (60 out of 1140 blocks) appears to be justified from grid security perspective.**

- c) Was there any fair and justifiable curtailment of power from all generators, both renewable and non-renewable, the actual generation and injection of energy

To arrive at the findings, the analysis is split into three major headings

i. **Curtailment comparison among Solar Generating Plants**

It appears that most of the solar generators with per unit cost of Rs 7.01 is curtailed more both in terms of instances of curtailment as well as in terms of percentage generation as compared to other solar generators.

ii. **Curtailment comparison among Solar and Wind Power Plants**

In terms of generation (MW). From Solar generators perspective it is seen that 52% of Time Blocks wind curtailed is equitable and from wind generators perspective 48% of Time Blocks solar is curtailed equitably. Thus 52% and 48% is pretty close enough, it can be concluded that Wind and Solar were curtailed equitably.

- **In terms of Energy (MU),** It can be inferred from the analysis using both the methods that wind and solar generation were not curtailed simultaneously (during same day/ same month) however over the period of 4 months it appears that curtailment among wind and solar is carried out in an equitable manner to a large extent.

iii. **Curtailment comparison among renewable viz Solar, Wind and non-renewable**

It may be noted that Grid Code casts a statutory duty on TNSLDC to regulate the overall State generation in such a manner that generation from wind and renewable energy sources along with other specific plants where energy potential, if unutilized, goes as a waste, shall not be curtailed. Whereas no such mandate is given to non-renewable plants such as thermal, gas etc which are subjected to backing down/curtailment to accommodate the load changes & variation in must run stations mentioned in 8.3(b).

Hence it would not be appropriate to compare curtailment/ backing down of nonrenewable plants with renewable energy. Accordingly, the analysis is not carried out and no attempt is made for arriving at the inference. However, the other aspect whether sufficient backing down/curtailment of non-renewable viz thermal, gas etc was done to accommodate renewable energy has been covered in section 4.2

Note: - All the above analysis is based on post facto Frequency, generation and Drawal data whereas TN SLDC system operator may have taken actions based on prevailing frequency and estimate on likely frequency, RE generation and drawal in subsequent blocks.

Report on Renewable Energy Curtailment In Tamil Nadu

(Period: 01:03.2017 to 30.06.2017)

1. Brief Background

The Hon'ble Appellate Tribunal For Electricity (APTEL), New Delhi in APL No. 197 of 2019 & IA No. 1706 of 2019 has passed the Order dated 26th August 2020 attached as **Annexure-1** with the following directions.

"Both parties have referred to several charts, tables prepared by them for placing on record the data and details, as directed by this Tribunal on earlier dates of hearing. The fact remains that the Tribunal cannot make rowing enquiry into factual data, therefore, such enquiry has to be done by a third party i.e. POSOCO.

We direct POSOCO to make detailed verification of the data after considering the contentions raised by the parties and submit report to the Tribunal within four weeks and indicate whether there was intentional curtailment of scheduling of power by the Respondents/SLDC or whether it was on account of grid safety measure taken by SLDC as contended by the Respondents. We also direct a clear statement "Was there any fair and justifiable curtailment of power from all generators, both renewable and non-renewable, the actual generation and injection of energy"? Both the parties shall cooperate and assist POSOCO to comply with our direction in conducting enquiry. In other words, whatever data and details POSOCO requires, parties shall furnish the same to POSOCO

The Registry shall issue copy of this order to POSOCO to comply with our direction."

Accordingly, Power System Operation Corporation Limited (POSOCO), acting as third party, had conducted the enquiry, validated the data and concluded the findings based on the available material facts. The report is being submitted in pursuance to the above directions.

2. Action taken

In pursuance to the directions of the Hon'ble APTEL, following actions were taken by POSOCO.

- a. POSOCO requested the following information vide letter dt 02.09.2020.
 - i. Format-A to be submitted by Appellant, National Solar Energy Federation of India (NSEFI) on behalf of all the 56 generators separately
 - ii. Format-B to be submitted by Respondent, Tamilnadu State Load Despatch Centre, TNSLDC
 - iii. Format-C to be submitted by Respondent, TNSLDC for all the 56 generators data separately

A copy of the letter is attached to this report and marked as **Annexure 2**. All data was requested to be submitted in electronic format (MS-Excel) to the email Id tnredata@posoco.in by 10.09.2020

- b. The letter referred above and attached in **Annexure 2** along with data submission formats was sent vide email dt 03.09.2020 to both National Solar Energy Federation of India and TNSLDC. The receipt of email communication was confirmed telephonically from both the parties.
- c. Reminder for submitting the information/data was sent to both the parties vide POSOCO email dt 10.09.2020.
- d. Data was received in from 16 No's out of 56 No's generators/developers at their station level through NSEFI on 10.09.2020. The details are deliberated in the subsequent paragraph.
- e. TNSLDC submitted the solar generation and curtailment in the entire State of Tamilnadu. However, Plant wise information was not submitted on 10.09.2020. TNSLDC letter stated that some of the Hydro generating station were under irrigation control and are treated as must run plants. However, the details of such plants were not furnished. Accordingly, the data submitted by the generator was forwarded electronically by POSOCO to TNSLDC vide email dt 12.09.2020 for comments if any by 14.09.2020. Similarly, clarification was sought with respect to irrigation-based plants and constraints faced for reduction of Hydro Generation referred to in the letter dated 10.09.2020
- f. POSOCO, in pursuance of the directions of Hon'ble APTEL, has completed the analysis based on the data submitted by the generators, TNSLDC, data as recorded in SCADA (Supervisory Control and Data Acquisition systems) at SRLDC/POSOCO, Web Based Energy Scheduling & Regional energy Accounts. This report outlines the findings from the analysis.

3. Regulatory Provisions in the context of 'Must Run Status' granted to Solar and Wind Power generator

The extant laws, regulations and policies in the context of 'Must Run Status' granted to Solar and Wind Power generator is summarised below

i. Electricity Act 2003:

Promotion of efficient and environmentally benign policies is enshrined in the object statement of Electricity Act 2003 as below

Quote

*An Act to consolidate the laws relating to generation, transmission, distribution, trading and use of electricity and generally for taking measures conducive to development of electricity industry, promoting competition therein, protecting interest of consumers and supply of electricity to all areas, rationalization of electricity tariff, ensuring transparent policies regarding subsidies, **promotion of efficient and environmentally benign policies**, constitution of Central Electricity Authority, Regulatory Commissions and establishment of Appellate Tribunal and for matters connected herewith or incidental thereto.*

Unquote

ii. **Indian Electricity Grid Code 2010**

Indian Electricity Grid Code, 2010 casts a statutory duty on the SLDC/RLDCs to make all efforts to evacuate available solar and wind power and accords such generators a "must run" status, providing an exception only on emergency grounds of grid security and the security of personnel and equipment. The relevant provision of the IEGC is extracted hereunder:-

- i. Regulation 5.2(u) of the IEGC states as under:

Quote

"System operator (SLDC/ RLDC) shall make all efforts to evacuate the available solar and wind power and treat as a must-run station. However, System operator may instruct the solar /wind generator to back down generation on consideration of grid security or safety of any equipment or personnel is endangered and Solar/ wind generator shall comply with the same. For this, Data Acquisition System facility shall be provided for transfer of information to concerned SLDC and RLDC."

Unquote

- ii. Regulation 6.5(11) of the IEGC states as under:

Quote

"11. Since variation of generation in run-of-river power stations shall lead to spillage, these shall be treated as must run stations. All renewable energy power plants, except for biomass power plants, and non-fossil fuel based cogeneration plants whose tariff is determined by the CERC shall be treated as 'MUST RUN' power plants and shall not be subjected to 'merit order despatch' principles"

Unquote

20/12/2018

iii. **Tamil Nadu State Electricity Grid Code / TNERC Wind Tariff Regulations**

TNERC Grid Code, 2005 along with its amendments as on March 2017 casts a statutory duty on TNSLDC to regulate the overall State generation in such a manner that generation from wind and renewable energy sources along with other specific plants where energy potential, if unutilized, goes, as a waste shall not be curtailed. The relevant provision of the TNEGC is extracted hereunder: -

Quote

"8. Scheduling and Despatch:-

(1) xxxxx

(2) xxxxx

(3) *The following specific points would be taken into consideration while preparing and finalizing the schedules:*

a) SLDC will issue despatch instruction required to regulate all generation and imports from SSGS, IPPs, CPPs and Generators based on renewable sources of energy according to the hourly day ahead generation schedule, unless rescheduling is required due to unforeseen circumstances. Generation from wind mills shall be scheduled as per the Commission's Intra State Availability Based Tariff (ABT) order or regulation in force";

(b) SLDC shall regulate the overall State generation in such a manner that generation from following types of power stations where energy potential, if unutilized, goes, as a waste shall not be curtailed

- *Run of river or canal based hydro stations.*
- *Hydro-station where water level is at peak reservoir level or expected to touch peak reservoir level (as per inflows).*
- ***Wind Power Stations and Renewable Energy Sources***
- *Nuclear Power Stations.*

Unquote

4. Approach of the Analysis

The report covers the following aspects to comply the directions of Hon'ble APTEL in the said petition

- a) Detailed verification of the data after considering the contentions raised by the parties
- b) Analysis of whether there was intentional curtailment by the Respondents/SLDC or whether these actions were on account of grid safety measure taken by SLDC as contended by the Respondents.
- c) Was there any fair and justifiable curtailment of power from all generators, both renewable and non-renewable, the actual generation and injection of energy

4.1 Detailed verification of the data after considering the contentions raised by the parties

4.1.1 Sources of Data:

The information considered, source and the purpose are summarised below

Sl No	Block wise Data	Source	Purpose used
1	Time Blocks in which curtailment has taken place	a. Data Received from Generators b. Data from TNSLDC	To filter curtailment blocks for analysis
2	Reason of curtailment		
3	Grid Frequency		
4	Tamil Nadu ISTS Deviation	Interface meter readings and net drawal schedules published	
5	Tamil Nadu Demand	SRLDC Supervisory Control And Data Acquisition (SCADA)	To ascertain Grid Condition
6	Wind/Solar generation	a. Data Received from Generators b. Data from TNSLDC	
7	TN Thermal and Hydro actual generation,	a. Data Received from Generators b. Data from TNSLDC	To quantify margins available in state Thermal and Hydro for backing down

20/12/24

	Technical Minimum, Ramp, Constraints	c. SRLDC Supervisory Control and Data Acquisition (SCADA)	
8	ISGS schedule, Technical minimum, Ramp up/down details, Tamil Nadu ISTS drawl schedule	Web Based Energy Scheduling program of SRLDC & Southern Regional Power Committee Regional Energy Accounts	To assess margins available in ISGS for backing down

Table2: Sources of Data

4.1.2 Screening of curtailment information

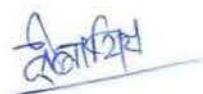
There were two sources of information available w.r.t curtailment viz data submitted by the generator/NSEFI and data submitted by TNSLDC. As per Indian Electricity Grid Code, a day is divided into 96-time blocks with each time block of 15 minutes for the purpose of scheduling and despatch of generation. Both the data sources have been screened and converted the information to derive the information in 15 minutes time block for analysis.

i. Data received status from developers/generators/NSEFI:

The following Solar Developers submitted Generation and curtailment data from 01st March 2017 to 30th June 2017 vide email dated 10th September 2020 amounting to Solar capacity of 1052 MW in format A. However, 6 out of 16 developers have submitted the partial information. The list of generators along with submission status with details is attached herewith and marked as **Annexure 3**. The summary is briefed in below table.

S.N o	Developer	Install ed Capaci ty (MW)	Connectivity	PPA Rate (Rs/Kw h)	*Total Curtailment (MU)	*Total Generati on (MU)	No. of blocks of Curtailment
1	Sei Kathiravan Power Pvt Ltd	50	New Muthuramalingapuram SS	5.01	0.28	22.79	368
2	Welsupun Renewable Energy Pvt Ltd., Kayath	49	400/230/110KV Ayyanaroothu S/S TNEB	5.1	1.06	32.83	509

S.N o	Developer	Install ed Capaci ty (MW)	Connectivity	PPA Rate (Rs/Kw h)	*Total Curtailm ent (MU)	*Total Generati on (MU)	No. of blocks of Curtailm ent
	ar-49MW Plant						
3	Kamuthi Solar Power Limited	216	400kV Kamuthi SS	5.1	4.74	137.43	596
4	Ramnad Renewable Energy Limited	72	400kV Kamuthi SS	5.1	1.03	46.31	604
5	Swelect*	10	Kollakudi 110/33- 11 KV TANGEDCO SS	5.45	0.18	0.83	249
6	Giriraj Enterprises	40	Erichantanam	6.28	1.26	26.68	377
7	Adani Green Energy TN Limited	216	400kV Kamuthi SS	7.01	10.78	130.97	1025
8	Kamuthi Renewable energy Limited	72	400kV Kamuthi SS	7.01	3.93	43.32	1025
9	Ramnad Solar Power Limited	72	400kV Kamuthi SS	7.01	3.72	43.52	1025
10	Shapoorji Pallonji Solar Pv Pvt Ltd	30	110Kv/33Kv/11Kv Kanji SS	7.01	2.16	17.88	848
11	M/s. Welspun Renewable Energy Pvt Ltd. Panchapatti 50MW Solar Power Plant	50	110/ 11KV Substation, Panchapatti	7.01	3.01	32.48	1078
12	Welspun Renewable Energy Pvt Ltd.,Iyyerm	50	110/33/11 KV Iyyermalai S/S- TNEB	7.01	2.98	32.913	1087



S.N o	Developer	Install ed Capaci ty (MW)	Connectivity	PPA Rate (Rs/Kw h)	*Total Curtailm ent (MU)	*Total Generati on (MU)	No. of blocks of Curtailm ent
	alai-50MW Plant						
13	Sei Aditya Shakti Pvt Ltd*	10	Puthanampaty	7.01	0.57	6.71	599
14	Greenko Kathiravan RTR	15	Paralachi SS	7.01	0.28	9.17	429
15	Sei Phoebus Pvt Ltd	50	Old Muthuramalingap uram SS	7.01	3.01	31.49	721
16	Sei Adhavan Power Pvt Ltd	50	New Muthuramalingap uram SS	7.01	0.97	29.11	619

Table3: Data received status from developers/generators

POSOCO vide Email dt 12.09.2020 informed NSEFI that all 5 No's GreenKo generators and 1 No SWELECT data were incomplete. Accordingly, NSEFI was requested to resubmit the complete data by 14.09.2020 specifically mentioning that It would be difficult for POSOCO to analyse on these generators with part data.

Revised data were submitted by Greenko on 14.09.2020 and SWELECT on 15.09.2020 & 19.09.2020. It was noted that the developers from sl.no 1,13,14,15, 16 & 5(Greenko & SWELECT) have not furnished complete data and accordingly their information is used in a limited manner.

Though only 16 out of 56 generators submitted data (out of which 6 had incomplete data), these 16 generators comprised approximately 68% of TN's total installed capacity of solar.

ii. Data from TANTRANSCO/TNSLDC:

TNSLDC has submitted the details in format B from 01st March 2017 to 30th June 2017 vide email dated 10th September 2020. However, Solar Generator / Developer wise information in format C was not submitted by TNSLDC. The following details were furnished

- a) LTA/MTOA
- b) Hydro Generation



- c) Thermal Generator Details
 - d) Solar/Wind
 - i. Actual Generation (MW)
 - ii. Curtailment Quantum (MW)
 - iii. Curtailment Instruction Time, Quantum and Reason for Curtailment
 - e) Demand, Frequency, Deviation and Transmission/Grid Security Details
- d. TNSLDC vide letter dt 10.09.2020 attached herewith and marked as Annexure 4 clarified the following along with the submission of data.

Quote

There are difficulties in furnishing certain data as given below

- *In respect of state-owned thermal stations, as intra state DSM regulations was not implemented there was no separate schedule to each generator wherein the actual generation and back down instructions furnished in strict compliance to the merit order.*
- *In TN, Hydro Potential is very less as it depends on monsoon. The hydro generation is used for peak mode operation. Irrigation based hydro generation is under the control of the PWD which could not be regulated by TNSLDC and will be run as must run status. The available water for non-irrigation is utilised as a flexi generation to fill the gap of RE generation. The hydro generation available during that time is 930 MW maximum to 30 MW minimum. Also, the hydro generation depends on the machine availability during that time i.e it cannot be run continuously. Then and there it will be utilised to fill the gap of RE variations and hence availability could not be predicted block wise.*
- *In respect of RE Solar forecast, the intra state forecasting & scheduling regulations was not implemented in Tamil Nadu*
- *In respect of format C, as intra state forecasting & scheduling regulations was not in force, the requested details except final solar forecast are furnished*
- *Due to non-implementation of intra state forecasting & scheduling regulations, developer wise, pooling station wise block wise data not available.*

Unquote

- A. POSOCO vide email dt 12.09.2020 forwarded the plant wise data received from NSEFI to TNSLDC for comments if any by 14.09.2020 while seeking the details of plant under

irrigation which are must run. Further any other constraint in hydro for backing down was also sought. it was also conveyed that in case of no specific constraint expressed, it would be treated as 100% back down possibility in the said hydro plant for the purpose of analysis.

B. In response to the above email, the following clarification was submitted by TNSLDC vide letter dt 14.09.2020 attached herewith and marked as Annexure 5

Quote

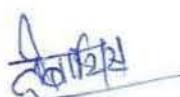
1. *From SLDC, Chennai the curtailment instructions are given to the Sub LDC, from where the Solar Power Developers (SPD) are being informed over telephone.*
2. *Based on the instructions for e.g. 50% curtailment, means the SPD has to backdown their generation to 50% on the actual generation prevailing from time to time. The curtailment quantum throughout the time block could not be constant since as the time goes down, solar generation ramps down. Hence could not be constant and vice versa.*
3. *Whereas in the data submitted for 25.03.17 by the AGETL SPD, it seen that out of the actual generation of 205 MW, the SPD indicates the curtailment quantum as 98 MW instead of 102 MW (50% of actual generation) and up to 14:00 hrs the sum of actual generation & curtailment quantum always exceeds the installed capacity of 216 MW. This indicates that BD instructions not followed by SPD.*
4. *Hence the data furnished by the SPD not appears to be correct since the actual generation should be either increasing if the curtailment instructions is given during the morning hours i.e. 9-12 hrs and curtailment should follow 50% of the actual generation.*
5. *If the curtailment is done in afternoon hours the solar generation would start to decrease and accordingly the curtailment quantum also should decrease proportionately.*
6. *In view of the above, it is clear indicates that the generator has not given true picture of curtailment which resulted to pay huge penalty under DSM by SLDC.*
7. *The same has given in the graphically form for various dates from March 2017 to June 2017 in the Annexure-B of Additional Affidavit from page no. 14 to 22 filed before APTEL.*
8. **Hydro Constraints:** Available hydro potential is in small scale when compared with other States of India (irrigation & non irrigation) which is used to bridging the variations of RE in real time grid operation daily & seasonally. Hence, the available hydro potential is being utilized judiciously.

9. Irrigation Based Hydro Stations:

Sl. No	Name	No. of Units & Capacity in MW	Total Capacit y in MW	Upstream Reservoir	Downstream Reservoir
<i>Mettur Complex</i>					
1	Mettur Dam	4 X 12.5	50	Mettur Dam	LMBPH - 1
2	Mettur Tunnel	4 X 50	200	Mettur Dam	LMBPH - 1
3	LMBPH - 1	2 X 15	30	Mettur Dam	LMBPH - 2
4	LMBPH - 2	2 X 15	30	LMBPH - 1	LMBPH - 3
5	LMBPH - 3	2 X 15	30	LMBPH - 2	LMBPH - 4
6	LMBPH - 4	2 X 15	30	LMBPH - 3	BKB - 1
7	BKB-1	2 X 15	30	LMBPH - 4	BKB - 2
8	BKB - 2	2 X 15	30	BKB - 1	BKB - 3
9	BKB - 3	2 X 15	30	BKB - 2	To Cauvery
10	Periyar	4 X 42	168	Mullai Periyar Dam, Periyar FB	Mullai Periyar & Vaigai River course
11	Papanasam	4 X 8	52	Papanasam Dam, Papanasam FB	Thamirabarani River
12	Servalar	1 X 20	20	Servalar Dam	Papanasam FB
13	Sarkarpathy	1 X 30	30	Thunakkadavu	Thirumoorthy Dam
14	Sholayar -1	2 X 35	70	Sholayar	Parambikulam Dam
16	Sholayar -2	1 X 25	25	Sholayar	To Kerala Sholayar Dam
17	Bhavani Barrage 1	2 X 5	10	Pillur Dam	Bhavanisagar Dam
18	Bhavani Barrage 2	2 X 5	10	Pillur Dam	Bhavanisagar Dam
19	Micro Stations		52.25		
20	Total		877.25		

Table4: List of Irrigation Based Hydro Projects

Out of 877 MW, during the months from March to May, 250 MW irrigation must run will be available. In addition, Kundah Power House 1 to 3 (non-irrigation stations), around 100 MW will be available as spinning reserve, totaling to 350 MW as Must Run. Normally during the month of June, around 1000 MW (Irrigation- 400 MW + Non-irrigation-600 MW) will be available as Must Run.



10. Must Run Stations: The generating stations under must run status other than the hydro stations are:

- i. Nuclear Power stations – share to Tamil Nadu is 1709 MW and the available generation during the period is around 870 MW and hence there is no flexible operation.
- ii. CPP, Cogen, Biomass – Around 1000 MW generation is achieved through this category and they are not able to vary the generation in real time operation.
- iii. LTA, MTOA – Generation from LTOA & MTOA also not able to vary in the intraday operation.

Unquote

- e. TNSLDC vide email dt 21.09.2020 at 20:11 Hrs submitted the observation on the developer data for a typical instance for each developer. The summary of the same is attached in **Annexure 3**

4.1.3 Observations on the data submitted by the parties:

- A. Inconsistencies were found in curtailment data (in MW) provided by the developer. Some of the observations are detailed below
 1. Sum of actual generation (MW) and curtailment quantum (MW) is more than Available Capacity AvC (MW) of the station in some of the blocks.
 2. Curtailment Quantum (MW) is more than Irradiance based generation (MW) i.e. expected generation during that block on any day in some of the blocks.
 3. Curtailment instructions were given on percentage basis by Tamil Nadu, it is found that curtailment is shown as constant for the entire curtailment period by some of the generators, however the Actual generation would reduce gradually from 1400 Hrs onwards.
 4. Period and percentage of curtailment actually implemented by the developer and instruction given by TN was found to be different with varying times of delay in implementation. This could not be verified since all the instructions were oral.
 5. Individual Developer wise observation are attached herewith and marked as **Annexure 3**.

A sample snapshot of one of the developers is shown below

DATE	TIME BLOCK	TIME PERIOD	INSTALLED CAPACITY(MW)	AVAILABLE CAPACITY (MW)	ACTUAL GENERATION (MW)	DEVELOPER		IRRADIANCE (W/m ²)	CORRESPONDING GENERATION FOR IRRADIANCE (MW)*
						CURTAILMENT INSTRUCTIONS FROM TNSLDC* (MW)	IRRADIANCE (W/m ²)		
3/26/2017	47	11:30-11:45	216	216	99.78	100	1112.44	234.22	
3/26/2017	48	11:45-12:00	216	216	112.58	100	1137.10	239.42	
3/26/2017	49	12:00-12:15	216	216	123.31	100	1153.54	242.88	
3/26/2017	50	12:15-12:30	216	216	120.52	100	1180.94	248.65	
3/26/2017	51	12:30-12:45	216	216	132.49	100	1180.94	248.65	
3/26/2017	52	12:45-13:00	216	216	146.71	100	1156.28	243.46	
3/26/2017	53	13:00-13:15	216	216	154.86	100	1117.92	235.38	
3/26/2017	54	13:15-13:30	216	216	163.73	100	1093.26	230.19	
3/26/2017	55	13:30-13:45	216	216	173.93	100	1060.38	223.26	
3/26/2017	56	13:45-14:00	216	216	179.10	100	1030.24	216.92	
3/26/2017	57	14:00-14:15	216	216	177.80	100	975.44	205.38	
3/26/2017	58	14:15-14:30	216	216	183.82	100	923.38	194.42	
3/26/2017	59	14:30-14:45	216	216	183.55	100	860.36	181.15	
3/26/2017	60	14:45-15:00	216	216	179.05	100	813.78	171.34	
3/26/2017	61	15:00-15:15	216	216	184.14	100	778.16	163.84	
3/26/2017	62	15:15-15:30	216	216	186.51	100	780.90	164.42	
3/26/2017	63	15:30-15:45	216	216	162.07	100	715.14	150.57	
3/26/2017	64	15:45-16:00	216	216	138.54	100	641.16	135.00	
3/26/2017	65	16:00-16:15	216	216	104.79	100	550.74	115.96	
3/26/2017	66	16:15-16:30	216	216	105.22	100	482.24	101.54	
3/26/2017	67	16:30-16:45	216	216	108.76	100	427.44	90.00	
3/26/2017	68	16:45-17:00	216	216	112.92	100	364.42	76.73	
3/26/2017	69	17:00-17:15	216	216	113.00	100	315.10	66.34	
3/26/2017	70	17:15-17:30	216	216	117.35	100	268.52	56.54	
3/26/2017	71	17:30-17:45	216	216	114.58	100	189.06	39.81	
3/26/2017	72	17:45-18:00	216	216	116.39	100	123.30	25.96	

Table5: Sample observation on data submitted by one of the developers

6. The below table shows the summary of the curtailment information provided by the parties.

SI No	Description	No of Time blocks	Remarks
a	Total No of Time blocks in which Solar was curtailed as per TNSLDC	1156	
b	Total No of Time blocks curtailed as per developer /NSEFI	1358	
c	No of Time blocks in which both data sources viz generator and TNSLDC confirmed the solar has been curtailed	1140	Analysis done on these blocks
d	No of Time blocks during which generator has conveyed the curtailment and TNSLDC has not confirmed	218	Analysis not done on these blocks

Table6: Curtailment blocks considered for Analysis

4.1.4 Solar Developers Curtailment Estimation

As can be observed from the above section 4.1.3, there are inconsistencies in curtailment MW, number of blocks etc. Hence the primary objective would be to estimate the near realistic curtailment. The procedure followed for estimating the same is briefed below

i. Computation of solar Irradiance-based generation

- o Solar Irradiance & its corresponding equivalent generation was submitted by generators at Sr.No 2,3,4,6,7,8,9,10,11,12. Accordingly Irradiance based generation as submitted by generators at Sr.No 2,3,4,6,7,8,9,10,11,12 is considered for those plants.
- o Generators at Sr.no. 1,5,13,14,15 & 16 (5 No's of Greenko & 1 No of SWELECT) have not submitted the Irradiance Data.
 - Sr.no. 1, 14,15,16 (4 No's of Greenko) generators are in close proximity to the Kamuthi, hence the Irradiance of Kamuthi Solar Power Limited is considered for these generators and accordingly irradiance-based generation is estimated.
 - Irradiance based generation could not be estimated for Greenko Sei Aditya Shakthi Pvt. Ltd. (S.No 13) and SWELECT (S.No 5) considering that there were no generators in close proximity.
- o All the above Irradiance Based Generation (MW) is limited to the Available capacity (AvC).

ii. Validation of Irradiance-based generation

The irradiance-based generation as computed above needs to be validated before usage. Accordingly, the median of energy was calculated for both Irradiance based generation and actual generation for non-curtailment Days for each developer for each month. The median of irradiance-based generation and actual generation as computed above was compared as below.

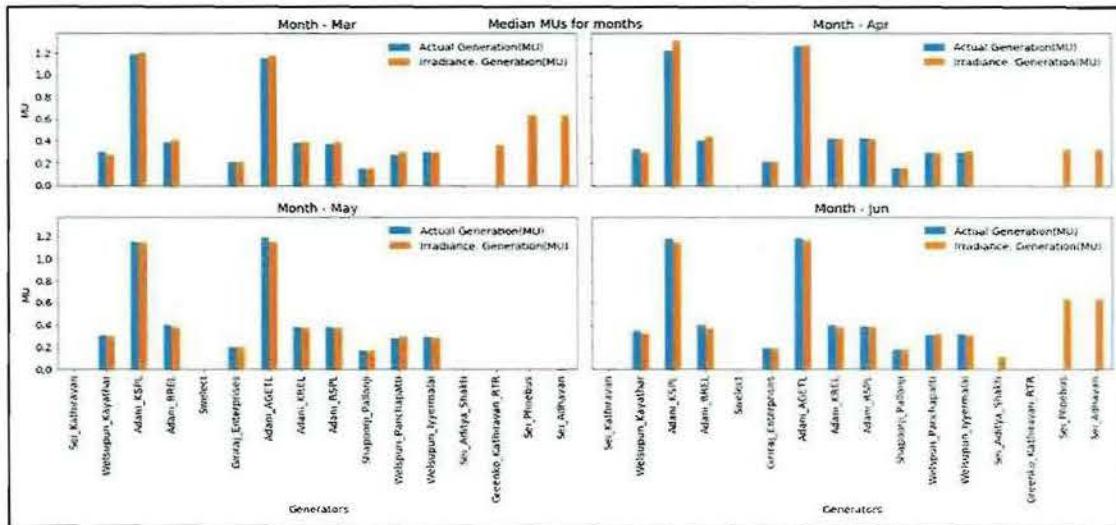


Figure1: Comparison of Month wise Median of Irradiance Based and Actual Generation for days of NIL curtailment

It was noted that the difference between the Median Energy of solar generation for non-curtailment days based on actual and irradiance-based generation is marginal thus, it is felt that irradiance-based generation is felt appropriate for further processing viz estimation of solar curtailment.

iii. Actual Generation:

The block-wise actual Generation data as submitted by developers is considered as it is.

iv. Curtailment Blocks:

The time blocks in which both data sources viz generator and TNSLDC had confirmed the solar curtailment is only considered for analysis.

v. Curtailment estimation

The Block-wise Difference between Irradiance based estimated generation (MW) as described above and actual generation (MW) during the common curtailment blocks as described above were computed on Daily basis. This was taken as the Curtailment Quantum expressed as formula

$$\text{Curtailment Quantum (MW)} = \text{Irradiance based estimated generation (MW)} - \text{Actual Generation (MW)}$$

Note: Negative values were made zero as curtailment quantum cannot be less than zero.

The estimated block wise curtailment attached herewith and marked as **Annexure 6**. The developer wise summary of estimated curtailment in MUs is shown below.

20/12/2021

S.No	Developer	Estimated curtailment in Mar (MU)	Estimated Curtailment In Apr (MU)	Estimated curtailment in May (MU)	Estimated Curtailment in Jun (MU)	Total Energy Curtailment (MU)
1	Sei Kathiravan Power Pvt Ltd	0.151	0.159	0.024	0.202	0.537
2	Welspun Renewable Energy Pvt Ltd., Kayathar- 49MW Plant	0.133	0.017	0.215	0.495	0.860
3	Kamuthi Solar Power Limited	1.703	0.275	0.510	2.061	4.550
4	Ramnad Renewable Energy Limited	0.424	0.067	0.120	0.834	1.444
5	Swelect	0.142	0.005	0.017	0.011	0.175
6	Giriraj Enterprises	0.392	0.024	0.207	0.416	1.040
7	Adani Green Energy TN Limited	2.018	1.110	0.547	6.433	10.108
8	Kamuthi Renewable energy Limited	0.788	0.350	0.192	2.088	3.418
9	Ramnad Solar Power Limited	0.729	0.394	0.177	1.979	3.279
10	Shapoorji Pallonji Solar Pv Pvt Ltd	0.512	0.224	0.164	1.234	2.132
11	M/s. Welspun Renewable Energy Pvt Ltd. Panchapatti 50MW Solar Power Plant	0.499	0.127	0.231	1.800	2.656
12	Welspun Renewable Energy Pvt Ltd., Iyyermalai- 50MW Plant	0.806	0.233	0.289	1.693	3.020
13	Sei Aditya Shakti Pvt Ltd	0.000	0.097	0.067	0.403	0.567
14	Greenko Kathiravan RTR	0.000	0.071	0.003	0.168	0.242
15	Sei Phoebus Pvt Ltd	0.000	0.236	0.033	0.763	1.032

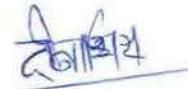


S.No	Developer	Estimated curtailment in Mar (MU)	Estimated Curtailment In Apr (MU)	Estimated curtailment in May (MU)	Estimated Curtailment in Jun (MU)	Total Energy Curtailment (MU)
16	Sei Adhavan Power Pvt Ltd	0.000	0.199	0.028	0.333	0.560

Table7a: Estimated Curtailment in MUs

The developer wise summary of estimated curtailment in percentage is shown below.

S.No	Developer	Estimated curtailment in Mar (%)	Estimated Curtailment In Apr (%)	Estimated curtailment in May (%)	Estimated Curtailment in Jun (%)	Total Energy Curtailment (%)
1	Sei Kathiravan Power Pvt Ltd	5%	3%	0%	3%	2%
2	Welspun Renewable Energy Pvt Ltd., Kayathar- 49MW Plant	2%	0%	3%	6%	3%
3	Kamuthi Solar Power Limited	5%	1%	2%	6%	3%
4	Ramnad Renewable Energy Limited	4%	1%	1%	7%	3%
5	Swelect*	21%	5%	13%	11%	17%
6	Giriraj Enterprises	5%	0%	3%	7%	4%
7	Adani Green Energy TN Limited	6%	3%	2%	19%	7%
8	Kamuthi Renewable energy Limited	7%	3%	2%	19%	7%
9	Ramnad Solar Power Limited	6%	3%	2%	18%	7%
10	Shapoorji Pallonji Solar Pv Pvt Ltd	10%	4%	3%	26%	11%
11	M/s. Welspun Renewable Energy Pvt Ltd. Panchapatti 50MW Solar Power Plant	6%	1%	3%	21%	8%
12	Welspun Renewable Energy	9%	3%	3%	20%	8%



S.No	Developer	Estimated curtailment in Mar (%)	Estimated Curtailment In Apr (%)	Estimated curtailment in May (%)	Estimated Curtailment in Jun (%)	Total Energy Curtailment (%)
	Pvt Ltd., Iyyermalai-50MW Plant					
13	Sei Aditya Shakti Pvt Ltd*	0%	5%	4%	23%	8%
14	Greenko Kathiravan RTR	0%	3%	0%	8%	3%
15	Sei Phoebus Pvt Ltd	0%	3%	0%	10%	3%
16	Sei Adhavan Power Pvt Ltd	0%	2%	0%	4%	2%

Table7b: Estimated Curtailment in %

* Based on developer's data

The Comparison of Irradiance Based Curtailment Estimation (MU) and the Curtailment (MU) given by the Developer for the entire period is shown below.

Solar Curtailment (MU) Estimated vs Developer from March - June 2017

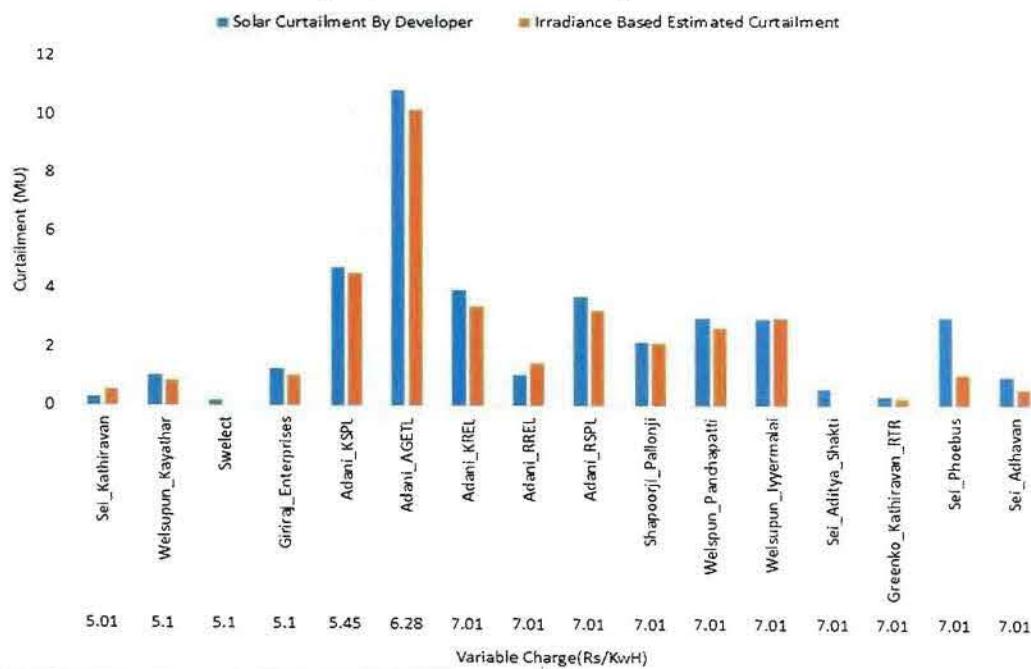


Figure2: Curtailment estimation based on irradiance-based generation vs developer curtailment data in MU

16/11/2018

4.1.5 Computation of available margins in state thermal, state hydro and Inter State Generating Stations (ISGS)

The Indian Electricity Grid code 2010 amendment VI notified the technical minimum for ISGS as 55% with effect from 15.05.2017. The technical minimum of 70% was being considered in Southern Region prior to 15.05.2017. Accordingly, the following is considered for ISGS.

SI No	Period	Technical minimum considered
1	01.03.2017 to 14.05.2017	70%
2.	15.05.2017 to 30.06.2017	55%

Table8: ISGS Technical Minimum

It was noted that Tamil Nadu state grid code has not specified any specific limits. Hence the technical minimum limits for State generators is considered based on the data furnished by TNSLDC.

S.No.	Generating station	Installed capacity in MW	Technical Minimum considered (%)
1.	North Chennai TPS Stage1	3 x 210	81
2.	North Chennai TPS Stage2	2x 600	70
3.	Mettur TPS Stage 1&2	4 x210	85
4.	Mettur TPS Stage 3	1 x 600	70
5.	Tuticorin TPS	5 x 210	81
6.	Neyveli Stage1	6x 50 + 3 x 100	85
7.	STCMS	250	70

Table9: Technical Minimum of State-Owned Thermal Plants

Based on the above the margins for backing down are computed as below

- Margin available in State owned thermal generators (A)= Actual generation - Technical minimum of state generators
Where Technical minimum of generators is as mentioned in Table No 9above.
- Margin available in ISGS Thermal (B)= Actual generation - 55% or 70% as applicable of Capacity on bar

The above is further restricted by following constraints

- Technical minimum, Ramp UP/Down rate being shared by other states
- Surrender/ Un Requisitioned Surplus request by other constituents.

c. Margins available in State Hydro (C)

The reduction of 50% of actual hydro generation is considered for the purpose of margins available in hydro considering hydro constraints if any.

d. Total margins available for accommodating renewable energy (D):

= Margin available in State owned thermal generators (A) +

Margin available in ISGS thermal generators (B) +

Margin available in State owned Hydro generators (C) –

100 MW

Note:

An additional margin of 100 MW has been considered to allow for any real time variation. It is important to note that forecast vs actual for wind and solar generation is also important. If the actual wind and solar generation is close to the scheduled generation, the margins at d) above should be adequate to handle any exigencies in real time such as sudden increase in wind generation (such margins should be ensured by SLDC and the DISCOMs). If the forecast errors for RE are high, the up as well as down reserves required would go up. Efforts should be made by the DISCOMs and TN SLDC to maintain these reserves besides making attempts to reduce the forecast errors so that frequent RE curtailment does not occur. So, while the margins available have been computed, the forecast errors for RE for the state as a whole are not available.

The Margins available for reduction in the following were not considered due to various reasons quoted by TNSLDC which are detailed below.

a. **Gas Based Generation:** Tamil Nadu has stated that Gas Yield is minimum, therefore they were not able to vary the generation in Kovilkalapal (108 MW), Vazuthur gas station stage 1 & 2 (187 MW), Kuttalam (101 MW), Pioneer (53 MW) and Lanco (113 MW).

a. **LTA/MTOA:** Tamil Nadu has a total of 3230 MW of LTA/MTOA contracts, which are mostly inter-regional. Tamil Nadu has stated that LTA/MTOA contracts were not be able to vary the generation in intraday operation.

b. **Kadamparai Pumped Hydro.** TNSLDC has stated that the time for conversion from Generator to Pump would be around 120 mins. Accordingly, the margins from pumped hydro capacity (full range from generation to pumping) couldn't be used to handle the sub-hourly Intra-Day deviations,

201621

4.1.6 Reserve shutdown (RSD)/Outages of Thermal Units

The outage of thermal units during the said period is attached as Annexure 7

The procedure for taking reserve shutdown of ISGS came into effective from 15.05.2017. Discussion on implementation of these procedures were taken up in the subsequent operation coordination committee (OCC) of SRPC. Hence no units of ISGS were on reserve shutdown (RSD) in the period under consideration.

However, during this period TNSLDC has taken out few thermal units off bar on reserve shutdown. There is a possibility that certain units would have taken out or forced outage and subsequently converted in RSD. The graph of period of outage under RSD and quantum in MW based on the records available with POSOCO is shown below

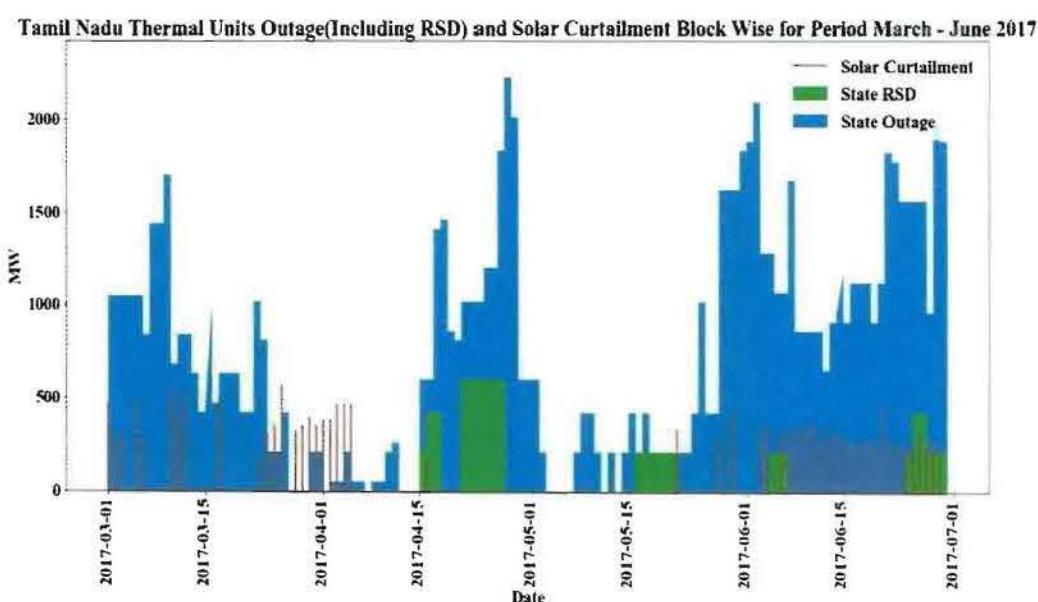


Figure3: RSD, Total Units Outage & Curtailment in MW

An analysis was made to check whether taking units on reserve shut down would have helped in reducing the quantum of solar curtailment. Taking the unit on reserve shutdown impacts the load generation balance during non-solar hours. This would be manifesting itself as over drawl from the grid. The table below shows the blocks of over drawl by TN control area during non-solar hours on the days of curtailment.

Time Period	Total Number of blocks for Analyzing Period	Number of blocks in Days where Solar Curtailment is there (i.e, 52 Days)				
		Days where Solar Curtailment is Observed	Total Blocks	Number of Non-Solar Blocks (06:00 PM to 06:00 AM)		Frequency < 50.0 and Deviation >0(Over Drawl)
March	2976	17	1632	816	106	3
April	2880	6	576	288	67	8
May	2976	3	288	144	26	7
June	2880	26	2496	1248	349	113
March to June	11712	52	4992	2496	548	131

Table10: Blocks of over drawl by TN control area during non-solar hours on the days of curtailment.

It can be seen that taking units out on RSD would have adversely impacted TN control area drawl 548 out of 2496 Blocks.

4.2 Indicate whether there was intentional curtailment of scheduling of power by the Respondents/SLDC or whether it was on account of grid safety measure taken by SLDC as contended by the Respondents.

It is noted that TN SLDC has indicated 'Deviation & Frequency' as the only reason for curtailment. All generators have indicated 'Grid Security' as the only reason for curtailment. Both the parties have indicated that all the instructions were oral in nature. Further APTEL has directed to indicate whether there was intentional curtailment of scheduling of power by the Respondents/SLDC or whether it was on account of grid safety measure taken by SLDC as contended by the Respondents.

Hence, it is necessary to analyse the aspects related to 'Grid security' and ascertain whether 'Grid Security' was a concern which prompted these curtailments. The Important Aspects/Definitions of 'Grid Security' is summarised below

- i. Presently definition of 'Grid Security' is not specifically defined in Grid Code.
- ii. The same has been defined in the 'Report of the Expert Group: Review of Indian Electricity Grid Code' which was submitted to the CERC in January 2020 which has defined 'Grid Security' as "means the power system's capability to retain a normal state or to return to a normal state as soon as possible, and which is characterized by operational security limits;".
- iii. Further 'Normal State' is defined as "means the state in which the system is within the operational parameters as defined in this Grid Code;"
- iv. Further In the context of system state classification viz Normal, Alert, Emergency, Extreme Emergency and Restorative state, 'Normal State' is stated as "Power system is operating within the operational limits and equipment are within their loading limits. The system is secure and capable of maintaining stability under contingencies defined in the CEA Transmission Planning Criteria"
- v. Further Operational parameters defined in IEGC are summarized below
 - a. Frequency band : 49.90Hz-50.05Hz
 - b. Voltages : 380kV-420kV for 400kV systems, 198kV-245kV for 220kV systems
 - c. Equipments within their loading limits

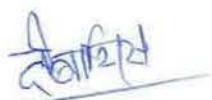
The following points are noteworthy from the Grid code provision and grid conditions

- i. Grid frequency is collectively controlled by all entities connected in the grid and not by any individual state or entity. The operating frequency band of 49.90-50.05 Hz indicated above in no way implies that frequency cannot go outside this band. It can go below 49.90 Hz in case of any generator trip but actions by other entities should bring the frequency back to within the band. Adequate generation reserves for UP regulation is to be maintained at both the interstate and intra state level to minimize operation below 49.90 Hz. Similarly, adequate reduction or DOWN capability of generation would help avert operation above 50.05 Hz which signifies generation is greater than load.
- ii. There was no abnormal voltage condition at 400kV level of the grid which required backing down / curtailment during the said period. Further No Specific constraint is expressed by TNSLDC at State level during the period under consideration.

- iii. There was no network loading issue observed at 400kV level which required backing down / curtailment during the said period. Further No Specific constraint is expressed by TNSLDC at State level during the period under consideration.
- iv. Voltage and Transmission Constraints tend to be localised. The Curtailment instruction by TNSLDC was state-wide. There were no constraints/Violation which necessitated the state wide curtailment.
- v. The area control error / Deviation from the grid is to be controlled by the State using proper load forecasting and Renewable forecasting in line with the clause 5.3 and 6.5.23 of Indian Electricity Grid Code 2010.

4.2.1 Considerations for analysis

- i. As explained in paragraph 4.1.3 & 4.1.4, the blocks where both generator and TNSLDC data has indicated curtailment has been considered for analysis.
- ii. Generation, solar & wind curtailment data as submitted by TNSLDC is used for this analysis. The curtailment information for the entire state of TN for both solar and wind is available only from the data submitted by TN SLDC and hence the same has been used. There may be difference between SLDC version and developer version which can be attributed to the time taken for the communication to reach the developer and may be more prominent in the initial time blocks when curtailment is instructed by TNSLDC.
- iii. Considering the all the observations made on the data in preceding paragraphs, the analysis has been limited to parameters deviation, margins available in state owned and ISGS conventional generators with the presumption that proper load forecasting and renewable forecasting for state has been done by TNSLDC.
- iv. The analysis of curtailment data submitted by TNSLDC is classified under three broad categories as below. Each case of curtailment is expressed as a time block of 15 minutes.
 - a) Cases of curtailment in which negligible margin was available for backing down from conventional energy sources.
 - b) Cases of curtailment where 100 % of curtailment could have been avoided with available margins
 - c) Cases of curtailment where specified % of curtailment could have been avoided to certain extent with available margins



Note: It would be difficult to capture the intent of SLDC. Accordingly, the classification is done to check whether the curtailment was done for grid security or otherwise rather than classifying whether curtailment was for grid security or intentional curtailment.

- v. The formula applied along with details of consideration / reasoning is summarised in below table -11

Sl No	Description	Formula	Remarks
1	*Cases of curtailment in which negligible margin was available for backing down from conventional energy sources.	Margin available / (Curtailment + Deviation) < 20%	Since less margin is available it is considered as all possible actions have been exhausted
2	Cases of curtailment where 100 % of curtailment could have been avoided with available margins	Margin available > (Curtailment + Deviation)	Full Curtailment could have been avoided since sufficient margins are available for backing down in conventional generators
3	Cases of curtailment where specified % of curtailment could have been avoided to certain extent with available margins <u>Ranges</u> a. >80% to 100% b. >50% to 80% and c. >20% to 50%	a. Margin available / (Curtailment + Deviation) > 80% but less than or equal to 100% b. Margin available / (Curtailment + Deviation) > 50% but less than or equal to 80% c. Margin available / (Curtailment + Deviation) > 20% but less than or equal to 50%	Classification done on remaining time blocks. Since margin is less compared to curtailment, classification is done to understand the amount of Curtailment which could have been avoided with the available margins in conventional generators

Table11: Classification of curtailment analysis

* Up to 20% Margin has been considered as negligible margin

The above formula is applied on each of the time block during the said period where curtailment was indicated by TNSLDC. The summary of analysis is summarised below. The detailed analysis of curtailed blocks (1140 Blocks - of Time blocks in which both data sources viz generator and



TNSLDC confirmed that the solar has been curtailed) is attached herewith and marked as

Annexure 8

Period	Total No of blocks during the specified period	Total cases of curtailment under consideration	*Cases of curtailment in which negligible margin was available for backing down from conventional energy sources.	Cases of curtailment where 100 % of curtailment could have been avoided with available margins	Cases of curtailment where Specified % Curtailment could have been avoided to certain extent with available margins		
					*Excluding the blocks mentioned in column C & D		
					>80 % to 100 %	>50% to 80%	>20% to 50%
Number of Cases below are expressed in time block of 15 minutes each							
A	B	C	D	E	F	G	
01.03.2017 to 31.03.2017	2976	248	20	133	27	35	33
01.04.2017 to 30.04.2017	2880	103	11	82	3	6	1
01.05.2017 to 31.05.2017	2976	85	68	11	3	2	1
01.06.2017 to 30.06.2017	2880	704	460	35	14	34	161
Total	11712	1140	559	261	47	77	196

Table12: Analysis of curtailment

* Up to 20% Margin has been considered as negligible margin

The above analysis is shown in PIE chart below.

[Signature]

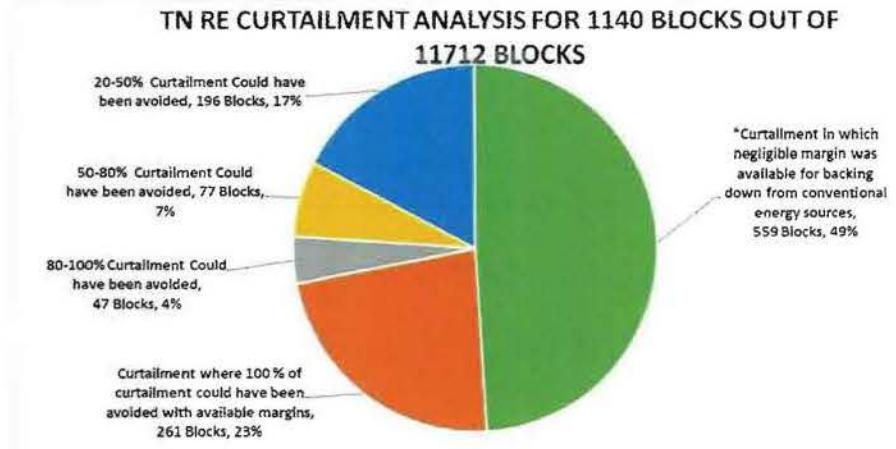


Figure4: Curtailment analysis

Note: The above analysis does not consider the frequency profile which is integral to grid security. As stated in paragraph 4.2, frequency band prescribed in IEGC is 49.90 to 50.05 Hz. An analysis of the frequency and RE curtailment instructions shows the following.

- During 55 blocks (4.82%) out of 1140 blocks (Total curtailed blocks) frequency is above 50.05 Hz (>50.05 Hz)
- During 427 blocks (37.45%) out of 1140 blocks (Total curtailed blocks) frequency is above 50.00 Hz (>50.00 Hz). Out of these 427 blocks, TN was under drawing in 350 blocks. Out of these 350 blocks, there was no margin for backing down in thermal and hydro generation in 60 blocks so as to absorb the renewable energy.

Considering grid frequency and under drawl of TN from the grid, only 5.26% (60 out of 1140 blocks) appears to be justified from grid security perspective.

4.3 Was there any fair and justifiable curtailment of power from all generators, both renewable and non-renewable, the actual generation and injection of energy as contended by the Respondents.

With respect to the above direction by the Hon'ble APTEL: - Whether there was any fair and justifiable curtailment of power from all generators, both renewable and non-renewable, the actual generation and injection of energy as contended by the Respondents, the analysis is split into three major headings

- i. Curtailment comparison among Solar Generating Plants
- ii. Curtailment comparison among Solar and Wind Power Plants
- iii. Curtailment comparison among renewable viz Solar, Wind and non-renewable

4.3.1 Curtailment comparison among Solar Generating Plants

The following indicators are utilised to check whether equality was considered by TNSLDC among solar developers while instructing the solar curtailment.

- a) Number of Days curtailment instruction given
- b) Number of Time-Blocks curtailment instruction given
- c) % of Curtailment (MU) expressed as Curtailment / (Curtailment + Actual generation)

The graphs have been plotted below for the above indicators.

a) Number of Days curtailment instruction given

Data: Data submitted by TNSLDC & Developer data is used for this analysis.

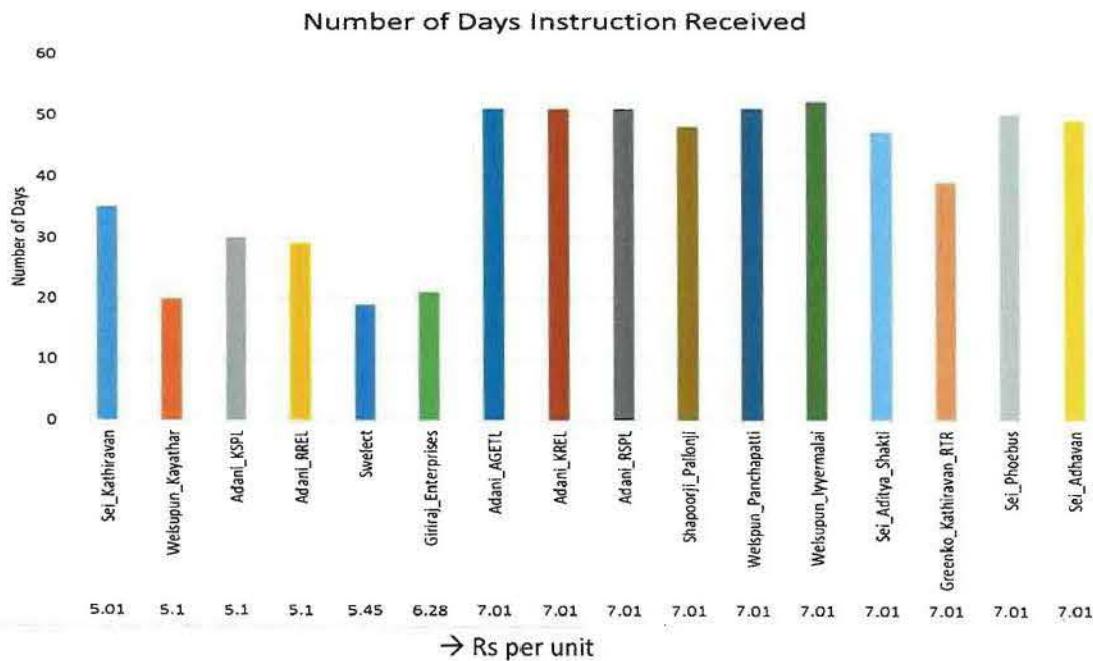


Figure5: No of Days curtailment Instruction received by the generator

b) Number of Time-Blocks curtailment instruction given

Data: Data submitted by TNSLDC & Developer data is used for this analysis

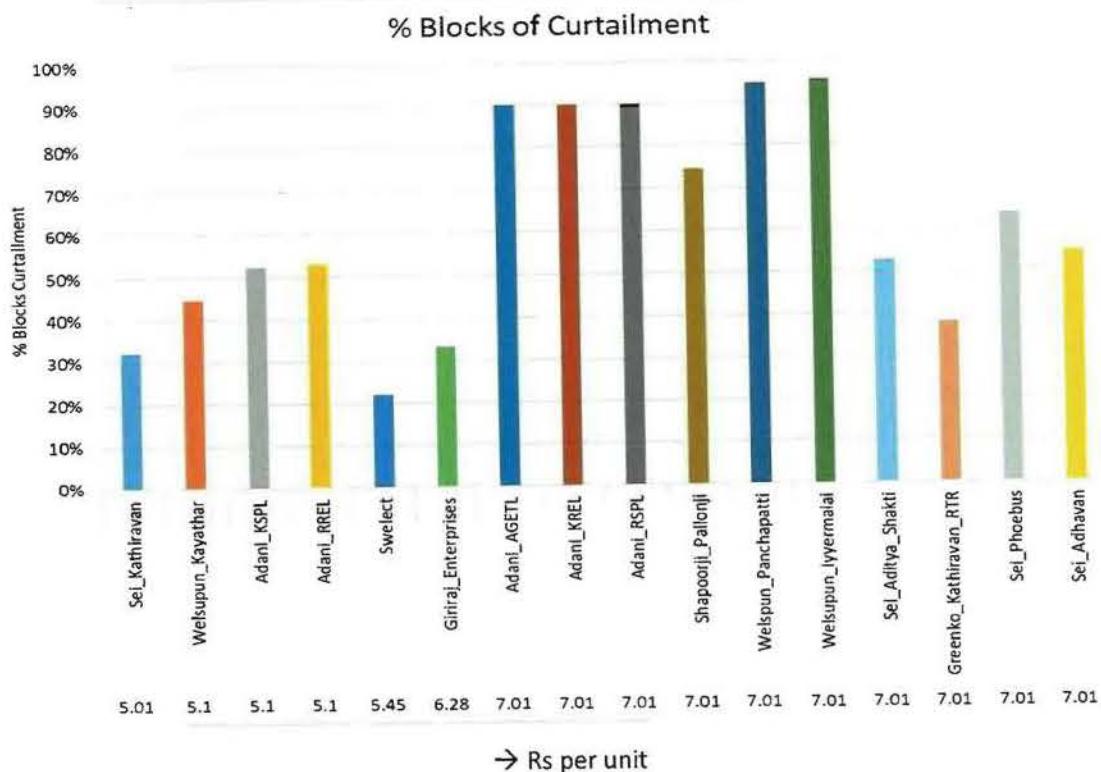


Figure6: Percentage of blocks out of total curtailment blocks received by the generator

c) **Estimated Curtailment (MU)/ Actual Generation (MU)**

Data: Estimated curtailment in MW computed using actual generation and irradiance-based generation submitted by developer is used for this analysis.

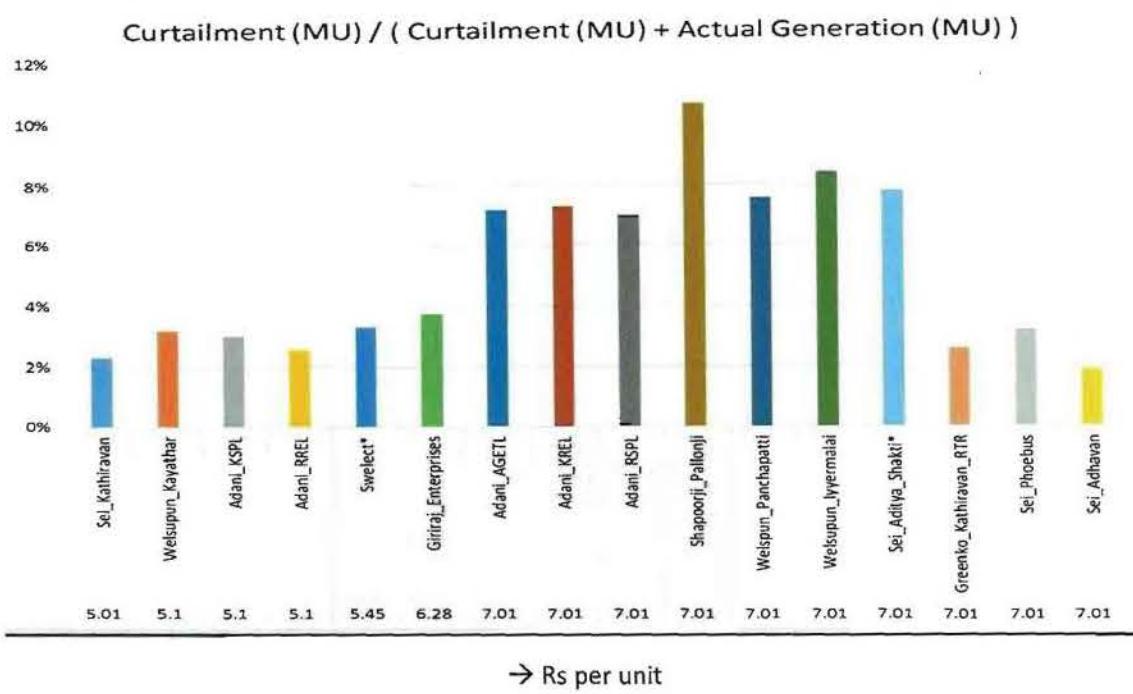


Figure7: Developer wise Curtailment MU as a percentage of non-curtailed MU

Summary of findings

It appears from the above three indicators that most of the solar generators with per unit cost of Rs 7.01 is curtailed more both in terms of instances of curtailment as well as in terms of percentage generation as compared to other solar generators.

4.3.2 Curtailment comparison among Solar and Wind Power Plants

The data submitted by TNSLDC and the following indicators are utilised to check whether equality was considered by TNSLDC among solar developers and wind while instructing the curtailment of renewables.

1. Analysis done for the blocks where Wind Generation is greater than 500 MW and Solar generation greater than 10 MW.
2. Analysis done for Solar and Non-Solar period as solar generation is available only during the day.

a) **Analysis done for the blocks where Wind Generation is greater than 500 MW and Solar generation greater than 10 MW (In MW terms)**

In this section the equitability of Renewable Energy Curtailment among Solar and Wind Generators is analyzed. For the 122 Days, in the 11712-time blocks, during solar hours and if wind generation is greater than 500 MW, the curtailment of renewable energy has taken place in 1616 Time blocks. The wind generation is spread over a vast geographically area in Tamil Nadu. Accordingly, curtailment analysis is considered only for the time blocks where wind generation was greater than 500 MW.

This analysis gives a comparison of the number of instances when actual curtailment is greater than the equitable curtailment among the 1616 time blocks.

There could be various definition of equitability but as commonly agreed it should be proportional to the actual generation of wind & solar (pre-curtailment). So the equitable Wind/ Generation curtailment is as given below.

Equitable Wind Curtailment =

$$\frac{\text{Required Total Curtailment from grid security consideration} * \text{Actual Wind Generation}}{\text{Actual Wind Generation} + \text{Actual Solar Generation}}$$

Equitable Solar Curtailment =

$$\frac{\text{Required Total Curtailment from grid security consideration} * \text{Actual Solar Generation}}{\text{Actual Wind Generation} + \text{Actual Solar Generation}}$$

Example:

Renewable Energy Generation in Tamil Nadu : 1000 MW

- Solar : 600 MW
- Wind : 400 MW
- Required Total Curtailment from grid security consideration : 200 MW
 - Equitable Solar Curtailment : 120 MW
 - Equitable Wind Curtailment : 80 MW

The Graphs of Actual Curtailment vs equitable curtailment are given below

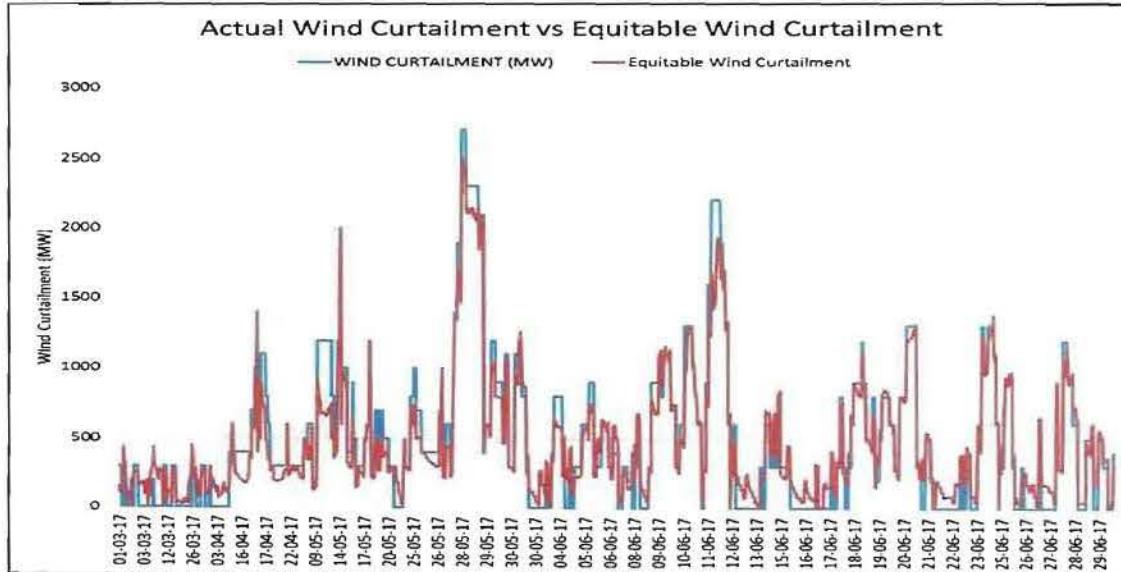


Figure8: Actual wind curtailment vs equitable wind curtailment

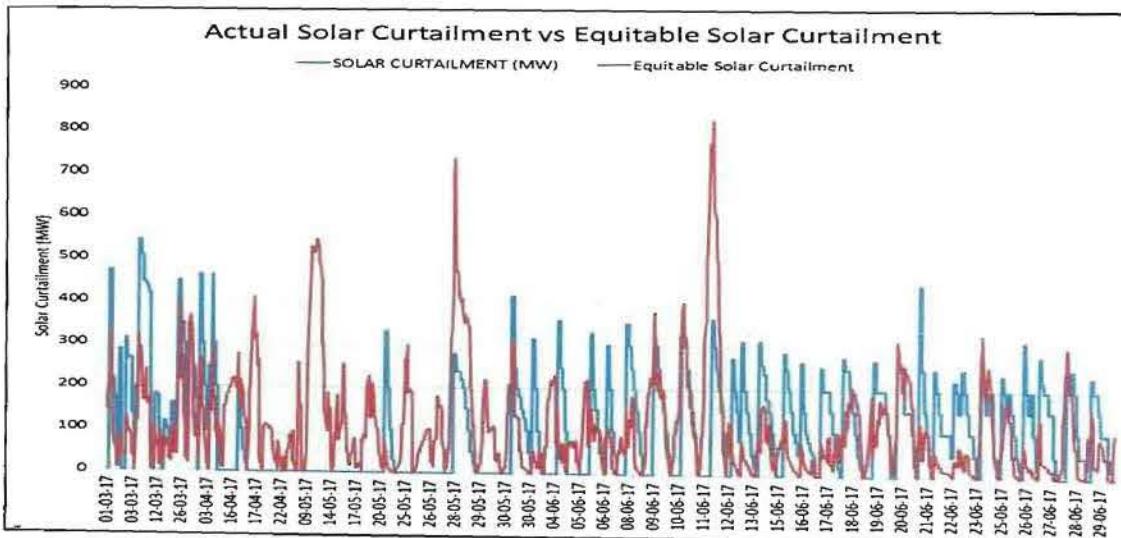


Figure9: Actual solar curtailment vs equitable solar curtailment

2017

If Real-time during RE curtailment is done as per the above formula, it may be treated as equitable.

The analysis of 1616 Time Blocks is given below

1. From Solar Generator Perspective:

1616 Time Blocks		
834 Blocks (52 %) Wind Was curtailed Equitably		782 Time Blocks (48%) wind was NOT curtailed Equitably
503 Blocks (31%) Solar Generation Was Only Curtailed and wind was not curtailed	279 Blocks (17%) Wind Generation Was curtailed less and not equitable when RE curtailment was there in TN	

Table13: Equitably from solar perspective

2. From Wind Generator Perspective

1616 Time Blocks Renewable Energy Curtailment		
782 Blocks (48 %) Solar Was curtailed Equitably	834 Time Blocks (52%) solar was NOT curtailed Equitably 646 Blocks (40%) Wind Generation Was Only Curtailed and solar was not curtailed	188 Blocks (12%) Solar Generation Was not curtailed equitably when RE curtailment was there in TN

Table14: Equitably from wind perspective

Findings: From Solar generators perspective it is seen that 52% of Time Blocks wind curtailed is equitable and from wind generators perspective 48% of Time Blocks solar is curtailed equitably. Thus 52% and 48% is pretty close enough, it can be concluded that Wind and Solar were curtailed equitably.

b) Analysis done for Solar and Non-Solar period as solar generation is available only during the day (In MU terms)

The analysis is done for Solar and Non-Solar period as solar generation is available only during the day. The percentage of curtailment is estimated as below

i. **Solar Period (Solar) Curtailment (%) =**

$$\frac{\text{Average Solar Curtailment (MW)}}{\text{Average Solar Curtailment (MW)} + \text{Average Solar Generation (MW)}}$$

20/10/24

ii. Solar period (Wind) Curtailment (%) =

$$\frac{\text{Average Wind Curtailment (MW)}}{\text{Average Wind Curtailment (MW)} + \text{Average Wind Generation (MW)}}$$

iii. Non – Solar period Wind Curtailment (%) =

$$\frac{\text{Average Wind Curtailment (MW)}}{\text{Average Wind Curtailment (MW)} + \text{Average Wind Generation (MW)}}$$

The day wise solar and wind curtailment in % computed using the above formula is plotted for the said period.

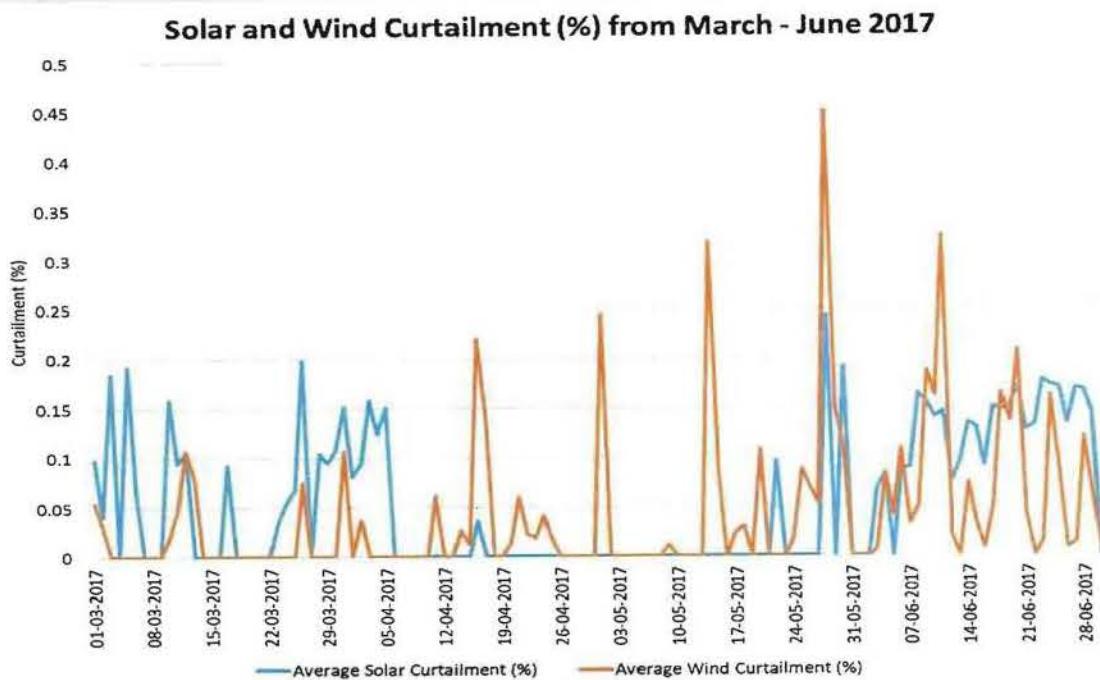


Figure10: Day wise Solar and wind Curtailment percentage

The percentage of curtailment over a month for wind and solar is computed using the above formula for solar period and percentage of wind curtailment for non-solar period is summarised below

S.No	Month	Solar Curtailment Average (%)	Wind Curtailment (%)	
			Solar Period	Non - Solar Period
1	Mar-17	6%	2%	1%
2	Apr-17	2%	2%	2%
3	May-17	2%	6%	3%
4	Jun-17	11%	7%	2%
Summary		5%	4%	2%

Table15: Month wise Average Solar & Wind Curtailment in %

20/02/2021

It can be inferred from the analysis that wind and solar generation were not curtailed simultaneously (during same day/ same month). However, it is observed that during the said period total average solar curtailment was 5% and wind curtailment is 4% and during non-solar period average wind curtailment was 2 %.

It can be inferred from the analysis using both the methods that wind and solar generation were not curtailed simultaneously (during same day/ same month) however over the period of 4 months it appears that curtailment among wind and solar is carried out in an equitable manner to a large extent.

4.3.3 Curtailment comparison among renewable viz Solar, Wind and non-renewable

Regulation 8.3, Scheduling and Despatch of TNERC Grid Code, 2005 along with its amendments as on March 2017 is extracted hereunder: -

Quote

"8. Scheduling and Despatch:-

(3) The following specific points would be taken into consideration while preparing and finalizing the schedules:

a) SLDC will issue despatch instruction required to regulate all generation and imports from SSGS, IPPs, CPPs and Generators based on renewable sources of energy according to the hourly day ahead generation schedule, unless rescheduling is required due to unforeseen circumstances. Generation from wind mills shall be scheduled as per the Commission's Intra State Availability Based Tariff (ABT) order or regulation in force";

(b) SLDC shall regulate the overall State generation in such a manner that generation from following types of power stations where energy potential, if unutilized, goes, as a waste shall not be curtailed

- Run of river or canal based hydro stations.
- Hydro-station where water level is at peak reservoir level or expected to touch peak reservoir level (as per inflows).
- Wind Power Stations and Renewable Energy Sources
- Nuclear Power Stations.

Unquote

It may be noted that Grid Code casts a statutory duty on TNSLDC to regulate the overall State generation in such a manner that generation from wind and renewable energy sources along with other specific plants where energy potential, if unutilized, goes, as a waste, shall not be curtailed. Whereas no such mandate is given to non-renewable plants such as thermal, gas etc which are subjected to backing down/curtailment to accommodate the load changes & variation in must run stations mentioned in 8.3(b).

Hence it would not be appropriate to compare curtailment/ backing down of nonrenewable plants with renewable energy. Accordingly, the analysis is not carried out and no attempt is made for arriving at the inference. However, the other aspect whether backing down/curtailment of non-renewable viz thermal, gas etc was done sufficiently to accommodate renewable energy has been covered in section 4.2

Note: - All the above analysis is based on post facto Frequency, generation and Drawal data whereas TN SLDC system operator may have taken actions based on prevailing frequency and estimate on likely frequency, RE generation and drawal in subsequent blocks.

5. RE scheduling and Forecasting in Tamil Nadu

It is understood that the scheduling and forecasting regulations of renewable energy in TN was not in place during the period under consideration. As mentioned in note of section 4.1.5 accurate forecasting and scheduling is important and essential for better system operation. Subsequently Renewable Energy Management Centre (REMC) was operationalised only in 2020. At present the forecast of RE generators who are part of REMC is being obtained at TNSLDC.

6. Summary of Findings

Description of the Hon'ble APTEL Direction	Findings Summary
1. Detailed verification of the data after considering the contentions raised by the parties	<ul style="list-style-type: none"> • Out of the 56 generators, 16 generators with total installed capacity of 1052 MW submitted the data. Data of 10 generators were complete and data of 6 generators was partial. • Period and percentage of curtailment actually implemented by the developer and instruction given by TN was found to be different with varying times of delay in implementation. This could not be verified since all the instructions were oral. • Curtailment quantum in Energy (MU) terms over a day was found to be in order however there were inconsistency found in block wise MW data • Detailed observations are discussed in section 4.1.3 & 4.1.4
2. indicate whether there was intentional curtailment of scheduling of power by the Respondents/SLDC or whether it was on account of grid safety measure taken by SLDC as contended by the Respondents	<ul style="list-style-type: none"> • From the detailed analysis of the data it can be concluded that in 5.26% (60 out of 1140 blocks where solar was curtailed) of the cases appears to be justified from grid security perspective. • Detailed observations are discussed in section 4.2
3. Was there any fair and justifiable curtailment of power from all generators, both renewable and non-renewable, the actual generation and injection of energy”?	<p>1. Fairness among Solar Developers</p> <p>It appears that most of the solar generators with per unit cost of Rs 7.01 is curtailed more both in terms of instances of curtailment as well as in terms of percentage generation as compared to other solar generators</p> <p>Detailed observations are discussed in section 4.3.1</p>

2. Fairness among Solar & Wind Developers

- **In terms of Generation (MW)**

Based on the analysis, it can be concluded that Wind and Solar were curtailed equitably.

- **In terms of Energy (MU)**

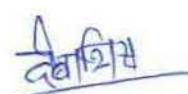
Based on the analysis it can be concluded that curtailment among wind and solar is carried out in an equitable manner to a large extent.

Detailed observations are discussed in section 4.3.2

3. Among renewable and non-renewable

It was felt that it would not be appropriate to compare curtailment/ backing down of nonrenewable plants with renewable energy due to reasons cited in section 4.3.3 Accordingly, the analysis was not carried out and no attempt is made for arriving at the inference.

Note: - All the above analysis is based on post facto Frequency, generation and Drawal data whereas TN SLDC system operator may have taken actions based on prevailing frequency and estimate on likely frequency, RE generation and drawal in subsequent blocks.



COURT-1

IN THE APPELLATE TRIBUNAL FOR ELECTRICITY
(Appellate Jurisdiction)

APL No. 197 OF 2019 & IA No. 1706 OF 2019

Dated: 26th August, 2020

**Present: Hon'ble Mrs. Justice Manjula Chellur, Chairperson
Hon'ble Mr. S.D. Dubey, Technical Member**

In the matter of:

National Solar Energy Federation of India	Appellant(s)
Versus		
Tamil Nadu Electricity Regulatory Commission & Ors.	Respondent(s)

Counsel for the Appellant(s) : Mr. Arijit Maitra

Counsel for the Respondent(s) : Mr. S. Vallinayagam
Mr. Vinodh Khanna
for R-2 to R-4

Mr. Dilip Kumar for R-5

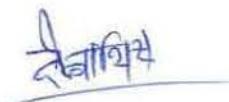
ORDER

Proceedings in this matter are conducted through video conferencing.

Heard Mr. Sanjay Sen, learned senior arguing counsel for the Appellant and Mr. Jayanth Muthraj, learned senior counsel for Respondent Nos.2 to 4 on merits at some length.

Delay in filing the affidavit of Respondent Nos. 2 to 4 is condoned.

Both parties have referred to several charts, tables prepared by them for placing on record the data and details, as directed by this



Tribunal on earlier dates of hearing. The fact remains that the Tribunal cannot make rowing enquiry into factual data, therefore, such enquiry has to be done by a third party i.e. POSOCO.

We direct POSOCO to make detailed verification of the data after considering the contentions raised by the parties and submit report to the Tribunal within four weeks and indicate whether there was intentional curtailment of scheduling of power by the Respondents/SLDC or whether it was on account of grid safety measure taken by SLDC as contended by the Respondents. We also direct a clear statement "Was there any fair and justifiable curtailment of power from all generators, both renewable and non-renewable, the actual generation and injection of energy"?

Both the parties shall cooperate and assist POSOCO to comply with our direction in conducting enquiry. In other words, whatever data and details POSOCO requires, parties shall furnish the same to POSOCO.

The Registry shall issue copy of this order to POSOCO to comply with our direction.

List the matter for further hearing on **05.10.2020 through video conferencing.**

(S.D. Dubey)
Technical Member (Electricity)

(Justice Manjula Chellur)
Chairperson

pr

2

पावर सिस्टम ऑपरेशन कॉर्पोरेशन लिमिटेड

(भारत सरकार का उद्यम)

POWER SYSTEM OPERATION CORPORATION LIMITED

(A Govt. of India Enterprise)



केन्द्रीय कार्यालय : 61, आई एफ सी आई टावर, 7,8 एवं 9वीं मंजिल, नेहरु प्लैस, नई दिल्ली -110019
 Corporate Office : 61, IFCI Tower, 7,8 & 9th Floor, Nehru Place, New Delhi- 110019
 CIN : U40105DL2009GOI188682, Website : www.posoco.in, E-mail : posococc@posoco.in, Tel.: 011- 40234672

Dated: 02nd September 2020

Subject: Data submission requirement in compliance to Hon'ble APTEL directions in APL No. 197 of 2019 & IA No. 1706 of 2019

Ref: (1) APTEL Order dated 26.08.2020 in APL No. 197 of 2019 & IA No. 1706 of 2019
 (2) APTEL Order dated 30.07.2020 in APL No. 197 of 2019 & IA No. 1706 of 2019

Dear Sir/ Ma'am,

This has reference to the Order dated 26th August 2020 of Hon'ble Appellate Tribunal of Electricity (APTEL), New Delhi in APL No. 197 of 2019 & IA No. 1706 of 2019 with following directions:

"Both parties have referred to several charts, tables prepared by them for placing on record the data and details, as directed by this Tribunal on earlier dates of hearing. The fact remains that the Tribunal cannot make rowing enquiry into factual data, therefore, such enquiry has to be done by a third party i.e. POSOCO.

We direct POSOCO to make detailed verification of the data after considering the contentions raised by the parties and submit report to the Tribunal within four weeks and indicate whether there was intentional curtailment of scheduling of power by the Respondents/SLDC or whether it was on account of grid safety measure taken by SLDC as contended by the Respondents. We also direct a clear statement "Was there any fair and justifiable curtailment of power from all generators, both renewable and non-renewable, the actual generation and injection of energy"?

Both the parties shall cooperate and assist POSOCO to comply with our direction in conducting enquiry. In other words, whatever data and details POSOCO requires, parties shall furnish the same to POSOCO

The Registry shall issue copy of this order to POSOCO to comply with our direction."

In pursuance to the above directions of the Hon'ble APTEL, the following data is requested from the respective parties for the period as specified in order dated 30.07.2020 vide reference (2) viz March 2017 to June 2017

- Format-A to be submitted by Appellant, National Solar Energy Federation of India for all the 56 generators separately
- Format-B to be submitted by Respondent, TNSLDC
- Format-C to be submitted by Respondent, TNSLDC for all the 56 generators separately

The above data may be submitted to POSOCO by 10th September 2020.

All data shall be submitted in electronic format (MS-Excel) to the email Id tnredata@posoco.in.

(Debasis De)

Executive Director (NLDC), POSOCO

पंजीकृत कार्यालय : प्रथम तल, बी-9, कुतुब इंस्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली - 110016
 Registered Office : First Floor, B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi -110016

Enclosures: Format-A / Format-B / Format-C in electronic (MS-Excel) form.
These are attached along with the email communication of this letter

Distribution:

1. National Solar Energy Federation of India
2. Chief Engineer, TNSLDC, Chennai

Copy for kind information to:

1. Joint Secretary (OM), Ministry of Power
2. Sh. BP Yadav, Joint Secretary, Ministry of New and Renewable Energy



Format-A- Solar_Developerwise_Data for NSEFI (In MW terms):

Name of Developer:													
Connected Pooling station(TANTRANSCO)													
Latitude													
Longitude													
PPA Rate (INR/KWH):													
Time Period:	01-03-2017 to 30-06-2017												
DEVELOPER													
DATE	TIME BLOCK	TIME PERIOD	INSTALLED CAPACITY (MW)	AVAILABLE CAPACITY (MW)	FINAL FORECAST BY DEVELOPER (MW)	SCHEDULE PRIOR TO CURTAILMENT (MW)	SCHEDULE AFTER CURTAILMENT (MW)	ACTUAL GENERATION (MW)	CURTAILMENT INSTRUCTIONS FROM SLDC* (MW)	REASONS AS PER SLDC	IRRADIANCE (W/m^2)	CORRESPONDING GENERATION FOR IRRADIANCE (MW)*	REMARKS FROM DEVELOPER (IF ANY)

Format-A-Solar_Developerwise_Data for NSEFI (In MU terms):

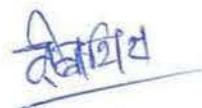
Name of Developer:							
Connected Pooling station:							
Latitude							
Longitude							
PPA Rate (INR/KWH):							
Time Period:	01-03-2017 to 30-06-2017						
DEVELOPER							
DATE	INSTALLED CAPACITY (MW)	AVAILABLE CAPACITY (MW)	FINAL FORECAST BY DEVELOPER (MU)	ACTUAL GENERATION (MU)	TOTAL CURTAILMENT (MU)	CORRESPONDING GENERATION FOR IRRADIANCE (MU)	REMARKS FROM DEVELOPER (IF ANY)

Format-B-TN SLDC_Data (Part1):

DATE	TIME BLOCK	TIME PERIOD	INSTRUCTION TIME (HH:MM)	FREQUENCY AT THE TIME CURTAILMENT INSTRUCTION (HZ)	DEVIATION FORM ISGS SCHEDULE (MW)	DEMAND FORECAST (MW)	ACTUAL DEMAND (MW)	FINAL WIND FORECAST (MW)	ACTUAL WIND GENERATION (MW)

Format-B-TN SLDC_Data (Continued):

WIND CURTAILMENT (MW)	REASON FOR WIND CURTAILMENT	FINAL TOTAL SOLAR FORECAST (MW)	ACTUAL TOTAL SOLAR GENERATION (MW)	TOTAL SOLAR CURTAILMENT (MW)	REASON FOR SOLAR CURTAILMENT	TRANSMISSION CONSTRAINT (IF ANY)	GRID SECURITY DETAILS (IF ANY)	SLDC REMARKS



Hydro Generating stations information format:

DATE	TIME BLOCK	TIME PERIOD	STATION-1				
			AVAILABILITY (MW)	TECHNICAL MINIMUM IF ANY (MW)	ACTUAL GENERATION (MW)	BACKING DOWN (MW)	CONSTRAINTS (IF ANY)

Thermal Generating stations information format:

DATE	TIME BLOCK	TIME PERIOD	Station Name								
			DECLARED CAPABILITY (MW)	TECHNICAL MINIMUM (MW)	RAMP DOWN (MW/BLOCK)	VARIABLE COST (INR/KWH)	SCHEDULE (MW)	ACTUAL GENERATION (MW)	BACKDOWN INSTRUCTION / RSD (MW)	MERIT ORDER(Y/N)	SLDC REMARKS

LTA and MTOA Details format:

DATE	TIME BLOCK	TIME PERIOD	VARIABLE COST (INR/KWH)	CONTRACT-1*				
				CONTRACT CAPACITY (MW)	DECLARED CAPACITY (MW)	SCHEDULE (MW)	POSSIBLE BACKDOWN (MW) AS PER PPA	REMARKS

Format-C- Solar_Developerwise_Data for TNSLDC (In MW terms):

Name of Developer:								
Connected Pooling station (TANTRANSCO):								
Latitude								
Longitude								
PPA Rate (INR/KWH):								
Time Period:	01-03-2017 to 30-06-2017							
DATE	TIME BLOCK	TIME PERIOD	FINAL SOLAR FORECAST (MW)	SOLAR GENERATION (MW)	SOLAR CURTAILMENT (MW)	REASON FOR CURTAILMENT	GRID FREQUENCY AT THE TIME OF INSTRUCTION (HZ)	INSTRUCTION TIME

Format-C- Solar_Developerwise_Data for TNSLDC (In MU terms):

Name of Developer:				
Connected Pooling station:				
Latitude				
Longitude				
PPA Rate (INR/KWH):				
Time Period:				
DATE	FINAL SOLAR FORECAST (MU)	SOLAR GENERATION (MU)	SOLAR CURTAILMENT (MU)	REASON

DATA SUBMISSION STATUS ALONG WITH REMARKS OF SRLDC AND TN

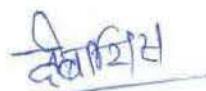
Sl.No	Generator Name	Short Name Used	Substation Name	PPA Rate (INR/KWH)	Installed Capacity (MW)	Data Received	SRLDC Remarks	TN Remarks
1	Sei Kathiravan Power Pvt Ltd Welspun Renewable Energy Pvt Ltd., Kayathar-49MW Plant	Sei_Kathiravan Welspun_Kayathar	New Muthuramalingapuram SS 400/330/110KV Ayyanaroothu S/S TNEB	5.01 5.1	50 49	Curtailment Blocks Only Full Data Received	Irradiance data not given Partial Irradiance data	1. Backdown instruction given one time at a day to reduce present generation by 50%.
3	Kamuthi Solar Power Limited	Adani_KSPL	400kV Kamuthi SS	5.1	216	Full Data Received		2. Delay in implementatin by some Generators.
4	Ramnad Renewable Energy Limited	Adani_PREL	400KV Kamuthi SS Kollakudru 110/33-11 KV TANGEDCO SS	5.1 5.45	72 10	Full Data Received Curtailment Blocks Only	Parital irradiance data Irradiance data only for curtailed days	3. Implemented Curtailment Quantum is different to instructed quantum (percentage)-actual generation not back downed to 50% .
5	Swelect	Swelect						4. Curtailment quantum is indicated constant , But instruction is to BD generation by 50% as per present generation/Correspingding generation based on irradiance.
6	Giriraj Enterprises	Giriraj_Enterprises	Enchantanam	6.28	40	Full Data Received		
7	Adani Green Energy TN Limited	Adani_AGETL	400kV Kamuthi SS	7.01	216	Full Data Received		
8	Kamuthi Renewable energy Limited	Adani_KREL	400kV Kamuthi SS	7.01	72	Full Data Received		
9	Ramnad Solar Power Limited	Adani_RSPL	400kV Kamuthi SS	7.01	72	Full Data Received		
10	Shapoorji Pallonji Solar Pv Pvt Ltd Welspun Renewable Energy Pvt Ltd. Panchapatti 50MW Plant	Shapoorji_Pallonji Welspun_Panchapatti	110kV/33kV/11kV Kanji SS 110/11KV Substation, Panchapatti	7.01 7.01	30 50	Full Data Received		
11	Welspun Renewable Energy Pvt Ltd., Iyermalai-50MW Plant					Full Data Received		
12						Full Data Received		
13	Sei Aditya Shakti Pvt Ltd	Sei_Aditya_Shakti	Puthanampatty	7.01	10	Curtailment Blocks Only	Irradiance data not given	
14	Greenko Kathiravan RTR	Greenko_Kathiravan_RTR	Paralachi SS	7.01	15	Curtailment Blocks Only	Irradiance data not given	5. Back down instruction is not followed .
15	Sei Phoebus Pvt Ltd	Sei_Phoebus	Old Muthuramalingapuram SS	7.01	50	Curtailment Blocks Only	Irradiance data not given	
16	Sei Adhavan Power Pvt Ltd	Sei_Adhavan	New Muthuramalingapuram SS	7.01	50	Curtailment Blocks Only	Irradiance data not given	
	Total				1052			

*Note: 1) Only 16 Generators out of 56 Generators(Appellants) Have submitted data
 2) curtailment quantum per day is submitted constant by all the Generators
 3)TN has given remarks only for one instance per Developer

TAMIL NADU REMARKS ON DEVELOPERS DATA

ADANI_KSPL	ADANI_AGETL	ADANI_KREL	ADANI_RREL
<p>1. Back down instruction given at 12:30 hrs to reduce the present generation by 50%.</p> <p>2. But it is implemented in 14:00 hrs only.</p> <p>3. The generation has to be reduced to 70 MW as per the actual generation at the time of instruction.</p> <p>4. In the curtailment column, it has been indicated 65 MW as instructed by SLDC throughout the time block.</p> <p>5. But the instruction is to BD generation by 50% as per present generation.</p> <p>6. Therefore the curtailment MW should not be constant for all the time block.</p>	<p>1. Backdown instruction given at 12:30 hrs to reduce the present generation by 50%.</p> <p>2. But it is implemented in 13:48 hrs only.</p> <p>3. The generation has to be reduced to 78 MW as per the actual generation at the time of instruction. But the actual generation was not back down to 50 %.</p> <p>4. In the curtailment column, it has been indicated 90 MW as instructed by SLDC throughout the time block.</p> <p>5. But the instruction is to BD generation by 50% as per present generation.</p> <p>6. Therefore the curtailment MW should not be constant for all the time block.</p> <p>7. After the 15:00 hrs time block the actual generation after BD instructions is same as the corresponding generation based on the irradiance. It should be 50% of the corresponding generation based on the irradiance, if generators compliance the SLDC instrutions.</p> <p>8. This shows that BD is not followed by the generators.</p>	<p>1. Backdown instruction given at 12:30 hrs to reduce the present generation by 50%.</p> <p>2. But it is implemented in 14:00 hrs only.</p> <p>3. The generation has to be reduced to 57 MW as per the actual generation at the time of instruction. But the actual generation was not back down to 50 %.</p> <p>4. In the curtailment column, it has been indicated 32 MW as instructed by SLDC throughout the time block.</p> <p>5. But the instruction is to BD generation by 50% as per present generation.</p> <p>6. Therefore the curtailment MW should not be constant for all the time block.</p> <p>7. After the 15:00 hrs time block the actual generation after BD instructions is same as the corresponding generation based on the irradiance. It should be 50% of the corresponding generation based on the irradiance, if generators compliance the SLDC instrutions.</p> <p>8. This shows that BD is not followed by the generators.</p>	<p>1. Backdown instruction given at 12:30 hrs to reduce the present generation by 50%.</p> <p>2. But it is implemented in 13:50 hrs only.</p> <p>3. The generation has to be reduced to 56 MW as per the actual generation at the time of instruction. But the actual generation was not back down to 50 %.</p> <p>4. In the curtailment column, it has been indicated 30 MW as instructed by SLDC throughout the time block.</p> <p>5. But the instruction is to BD generation by 50% as per present generation.</p> <p>6. Therefore the curtailment MW should not be constant for all the time block.</p> <p>7. After the 15:00 hrs time block the actual generation after BD instructions is same as the corresponding generation based on the irradiance. It should be 50% of the corresponding generation based on the irradiance, if generators compliance the SLDC instrutions.</p> <p>8. This shows that BD is not followed by the generators.</p>

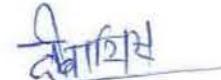
ADANI_RSPL	Greenko_Aditya shakti	Greenko_Kathiravan	Greenko_Kathiravan_RTR
<p>1. Backdown instruction given at 12:30 hrs to reduce the present generation by 50%.</p> <p>2. But it is implemented in 13:52 hrs only.</p> <p>The generation has to be reduced to 47 MW as per the actual generation at the time of instruction. But the actual generation was not back down to 50 %.</p> <p>4. In the curtailment column, it has been indicated 34 MW as instructed by SLDC throughout the time block.</p> <p>5. But the instruction is to BD generation by 50% as per present generation.</p> <p>6. Therefore the curtailment MW should not be constant for all the time block.</p> <p>7. After the 15:00 hrs time block the actual generation after BD instructions is same as the corresponding generation based on the irradiance. It should be 50% of the corresponding generation based on the irradiance, if generators compliance the SLDC instrutions.</p> <p>8. This shows that BD is not followed by the generators.</p>	<p>1. Backdown instruction given at 13:00 hrs to reduce the present generation by 50%.</p> <p>2. It is implemented in 13:15 hrs.</p> <p>3. The generation has to be reduced to 4.4 MW as per the actual generation at the time of instruction. The acutal generatioin shows 4.4 MW fully without any variation and it should not be in real time.</p> <p>4. In the curtailment column, it has been indicated 4.4 MW as instructed by SLDC throughout the time block.</p> <p>5. But the instruction is to BD generation by 50% as per present generation.</p> <p>6. Therefore the curtailment MW should not be constant for all the time block.</p> <p>7. This shows that BD is not followed by the generators.</p>	<p>1. Backdown instruction given at 14:40 hrs to reduce the present generation by 50%.</p> <p>2. It is implemented in 14:45 hrs.</p> <p>3. The generation has to be reduced to 4.25 MW as per the actual generation at the time of instruction. The acutal generatioin shows 4.25 MW fully without any variation and it should not be in real time.</p> <p>4. In the curtailment column, it has been indicated 12.75 MW as instructed by SLDC throughout the time block.</p> <p>5. But the instruction is to BD generation by 50% as per present generation.</p> <p>6. Therefore the curtailment MW should not be constant for all the time block.</p> <p>7. This shows that BD is not followed by the generators.</p>	<p>1. Backdown instruction given at 13:00 hrs to reduce the present generation by 50%.</p> <p>2. it is implemented in 13:15 hrs.</p> <p>3. The generation has to be reduced to 7.075 MW as per the actual generation at the time of instruction. The acutal generatioin shows 7.075 MW fully without any variation and it should not be in real time.</p> <p>4. In the curtailment column, it has been indicated 7.075 MW as instructed by SLDC throughout the time block.</p> <p>5. But the instruction is to BD generation by 50% as per present generation.</p> <p>6. Therefore the curtailment MW should not be constant for all the time block.</p> <p>7. This shows that BD is not followed by the generators.</p>



TAMIL NADU REMARKS ON DEVELOPERS DATA

Greenko_Phobus	Greenko_Adhavan	Iyermalai	Kayathar
<p>1. Backdown instruction given at 13:00 hrs to reduce the present generation by 50%.</p> <p>2. it is implemented in 13:15 hrs.</p> <p>3. The generation has to be reduced to 20 MW as per the actual generation at the time of instruction. The acutal generatioin shows 20 MW fully without any variation and it should not be in real time.</p> <p>4. In the curtailment column, it has been indicated 20 MW as instructed by SLDC throughout the time block.</p> <p>5. But the instruction is to BD generation by 50% as per present generation.</p> <p>6. Therefore the curtailment MW should not be constant for all the time block.</p> <p>7. This shows that BD is not followed by the generators.</p>	<p>1. Backdown instruction given at 13:00 hrs to reduce the present generation by 50%.</p> <p>2. it is implemented in 13:15 hrs.</p> <p>3. The generation has to be reduced to 20 MW as per the actual generation at the time of instruction. The acutal generatioin shows 20 MW fully without any variation and it should not be in real time.</p> <p>Backdown instruction given up to 18:00 hrs, but the data shows only up to 15:30 hrs</p> <p>4. In the curtailment column, it has been indicated 20 MW as instructed by SLDC throughout the time block.</p> <p>5. But the instruction is to BD generation by 50% as per present generation.</p> <p>6. Therefore the curtailment MW should not be constant for all the time block.</p> <p>7. This shows that BD is not followed by the generators.</p>	<p>1. Backdown instruction given at 12:30 hrs to reduce the present generation by 50%.</p> <p>2. it is implemented in 12:45 hrs.</p> <p>3. The generation has to be reduced to 25 MW as per the actual generation at the time of instruction. But the actual generation was not back down to 50 %.</p> <p>4. In the curtailment column, it has been indicated 25 MW as instructed by SLDC throughout the time block.</p> <p>5. But the instruction is to BD generation by 50% as per present generation.</p> <p>6. Therefore the curtailment MW should not be constant for all the time block.</p> <p>7. After the 15:30 hrs time block the actual generation after BD instructions is same as the corresponding generation based on the irradiance. It should be 50% of the corresponding generation based on the irradiance, if generators compliance the SLDC instrutions.</p> <p>8. This shows that BD is not followed by the generators.</p>	<p>1. Backdown instruction given at 12:30 hrs to reduce the present generation by 50%.</p> <p>2. it is implemented in 12:45 hrs.</p> <p>3. The generation has to be reduced to 48 MW as per the actual generation at the time of instruction. But the actual generation was not back down to 50 %.</p> <p>4. In the curtailment column, it has been indicated 24 MW as instructed by SLDC throughout the time block.</p> <p>5. But the instruction is to BD generation by 50% as per present generation.</p> <p>6. Therefore the curtailment MW should not be constant for all the time block.</p> <p>7. After the 15:00 hrs time block the actual generation after BD instructions is same as the corresponding generation based on the irradiance. It should be 50% of the corresponding generation based on the irradiance, if generators compliance the SLDC instrutions.</p> <p>8. This shows that BD is not followed by the generators.</p>

Malapani_Giriraj	Panchapatti	Shaporjee palonji	Swelect
<p>1. Backdown instruction given at 12:30 hrs to reduce the present generation by 50%.</p> <p>2. it is implemented in 12:40 hrs.</p> <p>3. The generation has to be reduced to 21.12 MW as per the actual generation at the time of instruction. But the actual generation was not back down to 50 %.</p> <p>4. In the curtailment column, it has been indicated 20 MW as instructed by SLDC throughout the time block.</p> <p>5. But the instruction is to BD generation by 50% as per present generation.</p> <p>6. Therefore the curtailment MW should not be constant for all the time block.</p> <p>7. After the 14:15 hrs time block the actual generation after BD instructions is same as the corresponding generation based on the irradiance. It should be 50% of the corresponding generation based on the irradiance, if generators compliance the SLDC instrutions.</p> <p>8. This shows that BD is not followed by the generators.</p>	<p>1. Backdown instruction given at 12:30 hrs to reduce the present generation by 50%.</p> <p>2. it is implemented in 12:45 hrs.</p> <p>3. The generation has to be reduced to 31 MW as per the actual generation at the time of instruction. But the actual generation was not back down to 50 %.</p> <p>4. In the curtailment column, it has been indicated 24 MW as instructed by SLDC throughout the time block.</p> <p>5. But the instruction is to BD generation by 50% as per present generation.</p> <p>6. Therefore the curtailment MW should not be constant for all the time block.</p> <p>7. After the 15:30 hrs time block the actual generation after BD instructions is same as the corresponding generation based on the irradiance. It should be 50% of the corresponding generation based on the irradiance, if generators compliance the SLDC instrutions.</p> <p>8. This shows that BD is not followed by the generators.</p>	<p>1. Backdown instruction given at 12:30 hrs to reduce the present generation by 50%.</p> <p>2. But it is implemented in 12:45 hrs only.</p> <p>3. The generation has to be reduced to 10.34 MW as per the actual generation at the time of instruction.</p> <p>4. In the curtailment column, it has been indicated 9 MW as instructed by SLDC throughout the time block</p> <p>5. But the instruction is to BD generation by 50% as per present generation.</p> <p>6. Therefore the curtailment MW should not be constant for all the time block.</p>	<p>1. Backdown instruction given at 12:30 hrs to reduce the present generation by 50%.</p> <p>2. But it is implemented in 12:45 hrs only.</p> <p>3. The generation has to be reduced to 5.89 MW as per the actual generation at the time of instruction.</p> <p>4. In the curtailment column, it has been indicated 4.11 MW as instructed by SLDC throughout the time block.</p> <p>5. But the instruction is to BD generation by 50% as per present generation.</p> <p>6. Therefore the curtailment MW should not be constant for all the time block.</p>



TAMIL NADU TRANSMISSION CORPORATION LIMITED



Er. M. MALLIKA, M.E., F.I.E.,
Chief Engineer / Grid Operation,

To
Executive Director,
National Load Despatch Centre,
POSOCO,
No. 61, IFCI Tower, 7,8 & 9th Floor,
Nehru Palace, New Delhi-110 019.

Lr. No.CE/GO/SE/LD&GO/EE/LD/AEE/EMS/F. 4 /D. 717 /2020, dt. 10.09.2020

Sir,

Sub: TN SLDC – Data submission requirement in Compliance to the Hon'ble APTEL direction in Appeal No. 197 of 2019 and I.A.No. 1706 of 2019 - Reg.

Ref: ED/POSOCO letter dated 02.09.2020 received through email dated 03.09.2020.

&&&&

The details called for in the reference cited, in compliance to the Hon'ble APTEL direction in Appeal No. 197 of 2019 & I.A.No. 1706 of 2019 is submitted in the stipulated format of POSOCO.

There are difficulties in furnishing certain data as given below.

1. In respect of State owned thermal stations, as intra state DSM Regulations was not implemented there was no separate schedule to each generator wherein the actual generation and back down instructions furnished in strict compliance to the merit order.
2. In Tamil Nadu, hydro potential is very less as it depends on monsoon. The hydro generation is used for peak mode operation. Irrigation based hydro generation is under the control of the PWD which could not be regulated by TN SLDC and will be run as must run status. The available water for non-irrigation is utilized as a flexi generation to fill the gap of RE generation. The hydro generation available during that time is



Connecting with Confidence

Continued Sheet

930 MW maximum to 30 MW minimum. Also, the hydro generation depends on the machine availability during that time. i.e. it cannot be run continuously. Then and there it will be utilized to fill the gap of RE variations and hence availability could not be predicted block wise.

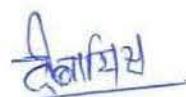
3. In respect of RE Solar forecast, the Intra-State Forecasting & Scheduling Regulations was not implemented in Tamil Nadu.
4. In respect of Format C, as Intra-State Forecasting & Scheduling Regulations was not in force, the requested details except final solar forecast are furnished.
5. Due to non implementation of intra state forecasting & scheduling regulations, developer wise, pooling station wise block wise data not available.

All other details requested by POSOCO is submitted herewith.

Yours faithfully,


Chief Engineer/ Grid Operation

Encl: Format B & C (soft copy)



Clarifications submitted by TN SLDC in respect of A.No. 197 of 2019.

1. From SLDC, Chennai the curtailment instructions are given to the Sub LDC, from where the Solar Power Developers (SPD) are being informed over telephone.
2. Based on the instructions for e.g. 50% curtailment, means the SPD has to backdown their generation to 50% on the actual generation prevailing from time to time. The curtailment quantum throughout the time block could not be constant since as the time goes down, solar generation ramps down. Hence could not be constant and vice versa.
3. Whereas in the data submitted for 25.03.17 by the AGETL SPD, it seen that out of the actual generation of 205 MW, the SPD indicates the curtailment quantum as 98 MW instead of 102 MW (50% of actual generation) and up to 14:00 hrs the sum of actual generation & curtailment quantum always exceeds the installed capacity of 216 MW. This indicates that BD instructions not followed by SPD.
4. Hence the data furnished by the SPD not appears to be correct since the actual generation should be either increasing if the curtailment instructions is given during the morning hours i.e. 9-12 hrs and curtailment should follow 50% of the actual generation.
5. If the curtailment is done in afternoon hours the solar generation would start to decrease and accordingly the curtailment quantum also should decrease proportionately.
6. In view of the above, it is clear indicates that the generator has not given true picture of curtailment which resulted to pay huge penalty under DSM by SLDC.
7. The same has given in the graphically form for various dates from March 2017 to June 2017 in the Annexure-B of Additional Affidavit from page no. 14 to 22 filed before APTEL.

Hydro Constraints:

- Available hydro potential is in small scale when compared with other States of India (irrigation & non irrigation) which is used to bridging the variations of RE

in real time grid operation daily & seasonally. Hence, the available hydro potential is being utilized judiciously.

Irrigation Based Hydro Stations:

Sl. No	Name	No. of Units & Capacity in MW	Total Capacity in MW	Upstream Reservoir	Downstream Reservoir
Mettur Complex					
1	Mettur Dam	4 X 12.5	50	Mettur Dam	LMBPH - 1
2	Mettur Tunnel	4 X 50	200	Mettur Dam	LMBPH - 1
3	LMBPH - 1	2 X 15	30	Mettur Dam	LMBPH - 2
4	LMBPH - 2	2 X 15	30	LMBPH - 1	LMBPH - 3
5	LMBPH - 3	2 X 15	30	LMBPH - 2	LMBPH - 4
6	LMBPH - 4	2 X 15	30	LMBPH - 3	BKB - 1
7	BKB-1	2 X 15	30	LMBPH - 4	BKB - 2
8	BKB - 2	2 X 15	30	BKB - 1	BKB - 3
9	BKB - 3	2 X 15	30	BKB - 2	To Cauvery
10	Periyar	4 X 42	168	Mullai Periyar Dam, Periyar FB	Mullai Periyar & Vaigai River course
11	Papanasam	4 X 8	52	Papanasam Dam, Papanasam FB	Thamirabarani River
12	Servalar	1 X 20	20	Servalar Dam	Papanasam FB
13	Sarkarpathy	1 X 30	30	Thunakkadavu	Thirumoorthy Dam
14	Sholayar -1	2 X 35	70	Sholayar	Parambikulam Dam
16	Sholayar -2	1 X 25	25	Sholayar	To Kerala Sholayar Dam
17	Bhavani Barrage 1	2 X 5	10	Pillur Dam	Bhavanisagar Dam
18	Bhavani Barrage 2	2 X 5	10	Pillur Dam	Bhavanisagar Dam
19	Micro Stations		52.25		
20	Total		877.25		

Out of 877 MW, during the months from March to May, 250 MW irrigation must run will be available. In addition, Kundah Power House 1 to 3 (non-irrigation stations), around 100 MW will be available as spinning reserve, totaling to 350 MW as Must Run.

Normally during the month of June, around 1000 MW (Irrigation- 400 MW + Non-irrigation-600 MW) will be available as Must Run.

Must Run Stations:

The generating stations under must run status other than the hydro stations are:

- Nuclear Power stations – share to Tamilnadu is 1709 MW and the available generation during the period is around 870 MW and hence there is no flexible operation.
- CPP, Cogen, Biomass – Around 1000 MW generation is achieved through this category and not able vary the generation in real time operation.
- LTOA, MTOA – Generation from LTOA & MTOA also not able to vary in the intra day operation.

Janardhan

Developer wise Block Wise Estimated Curtailment in MW

S.no	Date	Block	Time	1_Adani_ISPL	2_Adani_A_GETL	3_Adani_K_REL	4_Adani_RREL	5_Adani_RSPL	6_Malpani_Giria_Emt	7_Saporje_Palkonji	8_PanchapattiS_0MW	9_Iyermalai_50MW	10_Kavvayar_49MW	11_Greenko_Auditye_gathothi	12_Greenko_Kathiravan	13_Greenko_Kathiravan_RTR	14_Greenko_Phoebus	15_Greenko_Adhavan	*16_SWELC
1120	29-06-2017	52	12:45-13:00	105.79	134.68	43.73	21.93	42.25	10.00	27.42	12.78	23.63	0.00	0.00	0.00	0.00	0.00	0.00	
1121	29-06-2017	53	13:00-13:15	56.54	93.75	29.90	0.00	28.41	21.00	17.43	11.42	24.29	0.00	0.00	0.00	0.00	0.00	0.00	
1122	29-06-2017	54	13:15-13:30	0.00	0.00	0.00	0.00	0.00	22.00	27.85	7.57	23.80	0.00	0.00	0.00	0.00	0.00	0.00	
1123	29-06-2017	55	13:30-13:45	103.25	134.57	43.61	0.00	42.40	6.00	27.63	0.00	17.60	0.00	0.00	0.00	0.00	0.00	0.00	
1124	29-06-2017	56	13:45-14:00	0.00	0.00	0.00	0.00	0.00	7.00	14.08	4.51	15.58	0.00	0.00	0.00	0.00	0.00	0.00	
1125	29-06-2017	57	14:00-14:15	83.65	118.61	39.26	0.00	33.15	11.00	10.85	1.41	19.27	0.00	0.00	0.00	0.00	0.00	0.00	
1126	29-06-2017	58	14:15-14:30	61.72	95.03	30.64	4.90	24.53	6.00	15.35	0.00	14.46	0.00	0.00	0.00	0.00	0.00	0.00	
1127	29-06-2017	59	14:30-14:45	55.45	92.52	29.40	0.00	24.18	2.00	10.50	0.00	9.03	0.00	0.00	0.00	0.00	0.00	0.00	
1128	29-06-2017	60	14:45-15:00	52.37	85.00	27.49	0.00	21.98	0.00	25.97	2.82	5.93	0.00	0.00	0.00	0.00	0.00	0.00	
1129	29-06-2017	61	15:00-15:15	0.00	0.00	0.00	0.00	0.00	0.00	10.48	3.10	7.19	0.00	0.00	0.00	0.00	0.00	0.00	
1130	29-06-2017	62	15:15-15:30	0.00	0.00	0.00	0.00	0.00	0.00	24.48	3.51	4.37	0.00	0.00	0.00	0.00	0.00	0.00	
1131	29-06-2017	63	15:30-15:45	1.55	0.00	1.72	0.00	2.12	0.00	6.55	8.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1132	29-06-2017	64	15:45-16:00	4.30	0.00	0.00	0.00	0.00	0.00	6.12	7.43	0.26	0.00	0.00	0.00	0.00	0.00	0.00	
1133	29-06-2017	65	16:00-16:15	0.00	0.00	0.00	0.00	0.00	0.00	12.52	5.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1134	29-06-2017	66	16:15-16:30	0.00	0.00	0.00	0.00	0.00	0.00	11.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1135	29-06-2017	67	16:30-16:45	0.00	0.00	0.75	0.00	0.19	0.00	12.77	3.99	0.26	0.00	0.00	0.00	0.00	0.00	0.00	
1136	29-06-2017	68	16:45-17:00	0.00	0.00	0.00	0.00	0.00	0.00	12.40	4.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1137	29-06-2017	69	17:00-17:15	0.00	0.00	0.00	0.00	0.00	0.00	9.56	5.55	0.66	0.00	0.00	0.00	0.00	0.00	0.00	
1138	29-06-2017	70	17:15-17:30	0.00	0.00	0.00	0.00	1.12	0.00	3.51	4.66	0.70	0.00	0.00	0.00	0.00	0.00	0.00	
1139	29-06-2017	71	17:30-17:45	0.57	0.00	0.00	0.00	0.00	0.00	0.97	3.30	0.19	0.00	0.00	0.00	0.00	0.00	0.00	
1140	29-06-2017	72	17:45-18:00	0.00	0.00	0.00	0.00	0.00	0.00	1.43	6.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

* Developers were not considered due to non availability of irradiance based generation data

ISGS UNITS UNDER FORCED OUTAGE

S.NO	STATION NAME	OWNER	UNIT	CAPACITY	OUTAGE DATE	OUTAGE TIME	REVIVED DATE	REVIVED TIME	OUTAGE TYPE	REASON
62	KUDGI STPS	NTPC KUDGI	UNIT 1	800	22-May-17	10:54	22-May-17	15:58	FORCED OUTAGE	LOW CONDENSER PRESSURE
63	KUDGI STPS	NTPC KUDGI	UNIT 1	800	22-May-17	19:00	22-May-17	21:18	FORCED OUTAGE	PA FAN PROBLEM
64	VALLUR	NTECL	UNIT 2	500	23-May-17	3:56	25-May-17	8:58	FORCED OUTAGE	BOILER TUBE LEAKAGE
65	NTPL	NTPL	UNIT 2	500	23-May-17	4:23	23-May-17	8:30	FORCED OUTAGE	ELECTRICAL PROBLEM
66	KUDGI STPS	NTPC KUDGI	UNIT 1	800	23-May-17	18:36	24-May-17	0:24	FORCED OUTAGE	AIR PRESSURE LOW
67	TALCHER STG II	NTPC TALST2	UNIT 3	500	23-May-17	23:11	25-May-17	18:09	FORCED OUTAGE	BOILER TUBE LEAKAGE
68	NTPL	NTPL	UNIT 1	500	24-May-17	16:28	24-May-17	19:58	FORCED OUTAGE	H/T to conduct De-Synchronization Test on Generator DAVR
69	TALCHER STG II	NTPC TALST2	UNIT 5	500	29-May-17	22:43	31-May-17	2:10	FORCED OUTAGE	BOILER TUBE LEAKAGE
70	VALLUR	NTECL	UNIT 2	500	4-Jun-17	6:01	4-Jun-17	10:06	FORCED OUTAGE	H/T DUE TO FIRE
71	RAMAGUNDAM STPS	NTPC RSTPS	UNIT 7	500	14-Jun-17	23:02	15-Jun-17	14:13	FORCED OUTAGE	BOILER TUBE LEAKAGE
72	NTPL	NTPL	UNIT 1	500	17-Jun-17	12:10	17-Jun-17	14:49	FORCED OUTAGE	ELECTRICAL PROBLEM
73	VALLUR	NTECL	UNIT 2	500	22-Jun-17	10:00	24-Jun-17	6:29	FORCED OUTAGE	BOILER TUBE LEAKAGE
74	RAMAGUNDAM STPS	NTPC RSTPS	UNIT 1	200	22-Jun-17	21:35	23-Jun-17	1:59	FORCED OUTAGE	FLAME FAILURE PROTECTION
75	KUDANKULAM NPS	KKNPP	UNIT 2	1000	25-Jun-17	12:42	26-Jun-17	4:04	FORCED OUTAGE	CONTROL CIRCUIT MALFUNCTION
76	RAMAGUNDAM STPS	NTPC RSTPS	UNIT 4	500	25-Jun-17	20:48	27-Jun-17	9:57	FORCED OUTAGE	BOILER TUBE LEAKAGE
77	RAMAGUNDAM STPS	NTPC RSTPS	UNIT 3	200	26-Jun-17	1:53	26-Jun-17	7:17	FORCED OUTAGE	TURBINE SIDE PROBLEM

ISGS UNITS UNDER PLANNED SHUTDOWN

S.NO	STATION NAME	OWNER	UNIT	CAPACITY	OUTAGE DATE	OUTAGE TIME	REVIVED DATE	REVIVED TIME	OUTAGE TYPE	REASON
2	KAIGA APS	KGS	UNIT 2	220	5-Feb-17	5:48	11-Mar-17	5:26	PLANNED OUTAGE	MAINTENANCE WORKS
31	RAMAGUNDAM STPS	NTPC RSTPS	UNIT 3	200	1-Apr-17	0:01	1-May-17	5:12	PLANNED OUTAGE	Overhauling work
45	KUDANKULAM NPS	KKNPP	UNIT 1	1000	13-Apr-17	3:38	28-Aug-17	6:37	PLANNED OUTAGE	MAINTENANCE WORKS (REFUELING SHUTDOWN)
52	VALLUR	NTECL	UNIT 3	500	26-Apr-17	1:24	27-Apr-17	19:20	PLANNED OUTAGE	POWER REGULATION BY VALLUR
73	NTPL	NTPL	UNIT 1	500	25-May-17	0:36	2-Jul-17	3:31	PLANNED OUTAGE	ANNUAL MAINTENANCE
74	KUDGI STPS	NTPC KUDGI	UNIT 1	800	27-May-17	23:53	30-Jul-17	17:58	PLANNED OUTAGE	MAINTENANCE WORKS
76	RAMAGUNDAM STPS	NTPC RSTPS	UNIT 2	200	1-Jun-17	0:43	7-Jul-17	16:22	PLANNED OUTAGE	ANNUAL MAINTENANCE
81	SIMHADRI STGI	NTPC SIMHST1	UNIT 2	500	22-Jun-17	16:04	14-Aug-17	1:03	PLANNED OUTAGE	ANNUAL MAINTENANCE

STATE THERMAL UNITS UNDER FORCED OUTAGE

S.NO	STATION NAME	OWNER	UNIT	CAPACITY	OUTAGE DATE	OUTAGE TIME	REVIVED DATE	REVIVED TIME	OUTAGE TYPE	REASON
75	NEYVELI I	TNEB	UNIT 9	100	21-Jun-17	10:32	29-Jun-17	19:25	FORCED OUTAGE	GT GAS COLLECTION HIGH
78	NORTH CHENNAI TPS	TNEB	UNIT 2	210	27-Jun-17	9:58	27-Jun-17	15:11	FORCED OUTAGE	FLAME FAILURE
79	NCTPS ST2	TNEB	UNIT 2	600	28-Jun-17	8:58	18-Jul-17	13:14	FORCED OUTAGE	BOILER TUBE LEAKAGE
81	METTUR TPS	TNEB	UNIT 4	210	28-Jun-17	10:13	30-Jun-17	17:08	FORCED OUTAGE	LOSS OF FUAL

STATE THERMAL UNITS UNDER RSD

S.NO	STATION NAME	OWNER	UNIT	CAPACITY	OUTAGE DATE	OUTAGE TIME	REVIVED DATE	REVIVED TIME	OUTAGE TYPE	REASON
29	METTUR TPS	TNEB	UNIT 2	210	15-Apr-17	22:03	18-Apr-17	6:24	FORCED OUTAGE	HAND TRIP DUE TO HIGH WIND
30	TUTUCORIN TPS	TNEB	UNIT 1	210	16-Apr-17	9:29	18-Apr-17	17:33	FORCED OUTAGE	H/T due to Low Demand
36	NCTPS ST2	TNEB	UNIT 1	600	21-Apr-17	21:53	27-Apr-17	16:51	FORCED OUTAGE	LOW DEMAND
52	NORTH CHENNAI TPS	TNEB	UNIT 1	210	14-May-17	10:00	16-May-17	12:03	FORCED OUTAGE	STANDBY
53	TUTUCORIN TPS	TNEB	UNIT 4	210	15-May-17	16:04	22-May-17	4:11	FORCED OUTAGE	LOW DEMAND
76	METTUR TPS	TNEB	UNIT 3	210	24-Jun-17	15:44	19-Jul-17	14:30	FORCED OUTAGE	HVT ON LOW DEMAND
77	TUTUCORIN TPS	TNEB	UNIT 1	210	25-Jun-17	9:25	27-Jun-17	4:33	FORCED OUTAGE	KEPT ON STAND-BY
66	TUTUCORIN TPS	TNEB	UNIT 1	210	4-Jun-17	17:40	7-Jun-17	1:16	PLANNED OUTAGE	TRIPPED ON BTL KEPT AS STANDBY DUE TO WIND GEN

STATE THERMAL UNITS UNDER PLANNED OUTAGE

S.NO	STATION NAME	OWNER	UNIT	CAPACITY	OUTAGE DATE	OUTAGE TIME	REVIVED DATE	REVIVED TIME	OUTAGE TYPE	REASON
2	TUTUCORIN TPS	TNEB	UNIT 2	210	22-Jan-17	6:32	27-Mar-17	20:48	PLANNED OUTAGE	ANNUAL MAINTENANCE
54	METTUR TPS	TNEB	UNIT 1	210	16-May-17	10:19	2-Jun-17	10:46	PLANNED OUTAGE	ANNUAL MAINTENANCE
58	METTUR ST3	TNEB	UNIT 1	600	28-May-17	20:06	3-Jul-17	22:14	PLANNED OUTAGE	ANNUAL MAINTENANCE
59	METTUR ST3	TNEB	UNIT 1	600	28-May-17	23:45	3-Jun-17	0:03	PLANNED OUTAGE	ANNUAL MAINTENANCE
61	TUTUCORIN TPS	TNEB	UNIT 3	210	31-May-17	1:40	12-Jun-17	17:22	PLANNED OUTAGE	ANNUAL MAINTENANCE
62	NEYVELI I	TNEB	UNIT 2	50	1-Jun-17	0:45	22-Jun-17	4:25	PLANNED OUTAGE	ANNUAL MAINTENANCE
70	NEYVELI I	TNEB	UNIT 3	50	14-Jun-17	23:45	15-Jul-17	14:14	PLANNED OUTAGE	ANNUAL MAINTENANCE
80	TUTUCORIN TPS	TNEB	UNIT 1	210	28-Jun-17	9:45	14-Jul-17	18:15	PLANNED OUTAGE	ANNUAL MAINTENANCE
82	NORTH CHENNAI TPS	TNEB	UNIT 1	210	28-Jun-17	16:04	19-Jul-17	22:30	PLANNED OUTAGE	ANNUAL MAINTENANCE

Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
3/1/2017	51	277.94	13.58	18.00	36.00	472.00	0.00	97.11	49.95	-355.84	20-50% Curtailment could be avoided
3/2/2017	52	277.94	12.60	18.00	36.00	472.00	0.00	106.11	49.95	-332.37	20-50% Curtailment could be avoided
3/3/2017	53	277.94	14.32	19.00	38.00	472.00	0.00	108.11	50.07	-506.15	20-50% Curtailment could be avoided
3/4/2017	54	225.84	15.07	20.00	40.00	472.00	300.00	108.11	50.01	-467.44	Curtailment could not be avoided
3/5/2017	55	173.94	14.63	20.50	41.00	217.50	300.00	108.11	50.00	-386.94	Curtailment could not be avoided
3/6/2017	56	148.94	15.88	21.00	42.00	217.50	300.00	359.11	49.96	-175.44	Curtailment could not be avoided
3/7/2017	57	148.94	16.66	19.00	38.00	217.50	0.00	359.11	49.98	134.54	Curtailment could be completely avoided
3/8/2017	58	297.84	14.88	17.00	34.00	217.50	0.00	359.11	49.95	40.35	Curtailment could be completely avoided
3/9/2017	59	565.37	14.94	15.00	30.00	171.00	0.00	359.11	49.96	-153.80	Curtailment could be completely avoided
3/10/2017	60	401.94	16.10	13.00	26.00	171.00	0.00	359.11	49.95	-248.29	50-80% Curtailment could be avoided
3/11/2017	61	401.94	15.29	16.50	33.00	171.00	0.00	359.11	49.98	-248.96	50-80% Curtailment could be avoided
3/12/2017	62	484.16	21.77	20.00	40.00	171.00	0.00	359.11	49.93	-488.79	50-80% Curtailment could be avoided
3/13/2017	63	575.61	20.91	21.00	42.00	26.80	0.00	359.11	49.91	-564.30	80-100% Curtailment could be avoided
3/14/2017	64	471.26	23.83	22.00	44.00	26.80	0.00	337.11	49.97	-533.73	50-80% Curtailment could be avoided
3/15/2017	65	358.04	17.85	31.50	63.00	26.80	0.00	337.11	50.04	-259.87	Curtailment could be completely avoided
3/16/2017	66	349.94	14.69	41.00	82.00	26.80	0.00	337.11	49.94	34.90	Curtailment could not be avoided
3/17/2017	67	354.10	14.69	45.00	90.00	0.00	0.00	337.11	49.95	90.43	TN SLDC and Developers Data Mismatch
3/18/2017	68	500.61	15.50	49.00	98.00	0.00	0.00	328.11	49.91	13.32	TN SLDC and Developers Data Mismatch
3/19/2017	69	518.02	40.27	41.50	83.00	0.00	0.00	328.11	49.97	-418.00	TN SLDC and Developers Data Mismatch
3/20/2017	70	442.42	102.44	34.00	68.00	0.00	0.00	328.11	49.96	-425.86	TN SLDC and Developers Data Mismatch
3/21/2017	71	522.67	125.90	37.50	75.00	0.00	0.00	328.11	50.00	-401.70	TN SLDC and Developers Data Mismatch
3/22/2017	72	270.65	122.27	41.00	82.00	0.00	0.00	328.11	49.96	-308.53	TN SLDC and Developers Data Mismatch
3/23/2017	73	186.51	130.98	56.00	112.00	0.00	0.00	4.11	50.05	-270.04	TN SLDC and Developers Data Mismatch
3/24/2017	56	128.27	20.44	15.00	30.00	285.00	0.00	190.75	49.96	-210.14	Curtailment could not be avoided
3/25/2017	57	128.27	16.18	14.00	28.00	285.00	0.00	190.75	49.94	-64.86	Curtailment could not be avoided
3/26/2017	58	306.24	13.28	13.00	26.00	285.00	0.00	214.75	49.95	-73.47	50-80% Curtailment could be avoided
3/27/2017	59	381.27	13.63	13.00	26.00	285.00	0.00	214.75	49.92	-179.48	50-80% Curtailment could be avoided
3/28/2017	60	357.27	15.88	13.00	26.00	0.00	0.00	214.75	49.95	-221.28	TN SLDC and Developers Data Mismatch
3/29/2017	61	433.20	15.46	14.00	28.00	0.00	0.00	214.75	50.00	-455.86	TN SLDC and Developers Data Mismatch
3/30/2017	62	697.56	11.87	15.00	30.00	0.00	300.00	214.75	49.98	-753.84	TN SLDC and Developers Data Mismatch
3/31/2017	63	558.54	9.88	15.00	30.00	0.00	300.00	214.75	49.97	-662.97	TN SLDC and Developers Data Mismatch
4/1/2017	64	375.37	9.88	15.00	30.00	0.00	300.00	190.75	49.94	-440.23	TN SLDC and Developers Data Mismatch
4/2/2017	65	293.27	9.88	14.50	29.00	0.00	300.00	190.75	50.05	-243.18	TN SLDC and Developers Data Mismatch
4/3/2017	66	295.38	9.88	14.00	28.00	0.00	300.00	190.75	49.98	-300.07	TN SLDC and Developers Data Mismatch
4/4/2017	67	436.45	9.88	14.00	28.00	0.00	300.00	190.75	49.97	-452.74	TN SLDC and Developers Data Mismatch
4/5/2017	68	407.92	11.69	14.00	28.00	0.00	300.00	190.75	49.97	-550.94	TN SLDC and Developers Data Mismatch



Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
4/6/2017	69	404.32	13.79	13.50	27.00	0.00	0.00	190.75	50.01	-492.05	TN SLDC and Developers Data Mismatch
4/7/2017	70	381.40	15.58	13.00	26.00	0.00	0.00	182.75	49.95	-473.77	TN SLDC and Developers Data Mismatch
4/8/2017	71	377.00	19.77	13.50	27.00	0.00	0.00	182.75	49.98	-443.15	TN SLDC and Developers Data Mismatch
4/9/2017	72	330.83	27.03	14.00	28.00	0.00	0.00	182.75	49.96	-451.13	TN SLDC and Developers Data Mismatch
4/10/2017	53	361.94	31.32	24.00	48.00	0.00	0.00	192.75	50.05	-737.67	TN SLDC and Developers Data Mismatch
4/11/2017	54	575.66	65.36	26.00	52.00	312.00	0.00	246.85	50.05	-710.79	50-80% Curtailment could be avoided
4/12/2017	55	383.67	52.73	26.00	52.00	312.00	0.00	259.35	50.03	-688.70	20-50% Curtailment could be avoided
4/13/2017	56	405.04	50.88	26.00	52.00	312.00	0.00	259.35	50.02	-564.87	20-50% Curtailment could be avoided
4/14/2017	57	429.96	49.52	31.00	62.00	312.00	0.00	259.35	50.01	-521.92	20-50% Curtailment could be avoided
4/15/2017	58	496.12	50.51	36.00	72.00	263.90	0.00	259.35	49.98	-419.63	50-80% Curtailment could be avoided
4/16/2017	59	404.87	54.34	38.00	76.00	263.90	0.00	259.35	49.94	13.35	Curtailment could be completely avoided
4/17/2017	60	379.27	51.27	40.00	80.00	263.90	0.00	259.35	49.93	73.36	Curtailment could be completely avoided
4/18/2017	61	402.27	42.03	50.00	100.00	263.90	0.00	259.35	50.01	2.40	Curtailment could be completely avoided
4/19/2017	62	394.27	30.50	60.00	120.00	263.90	0.00	259.35	49.95	14.59	Curtailment could be completely avoided
4/20/2017	63	497.39	27.62	54.00	108.00	263.90	0.00	259.35	49.94	-181.61	Curtailment could be completely avoided
4/21/2017	64	527.00	28.79	48.00	96.00	263.90	0.00	259.35	49.94	-208.96	Curtailment could be completely avoided
4/22/2017	65	527.00	9.29	34.50	69.00	263.90	0.00	259.35	50.04	-241.48	80-100% Curtailment could be avoided
4/23/2017	66	527.00	7.51	21.00	42.00	135.00	0.00	259.35	49.96	-193.05	Curtailment could be completely avoided
4/24/2017	67	527.00	15.38	20.50	41.00	135.00	0.00	259.35	50.01	-49.05	Curtailment could be completely avoided
4/25/2017	68	452.00	12.13	20.00	40.00	135.00	0.00	231.35	49.97	-8.85	Curtailment could be completely avoided
4/26/2017	69	471.21	12.23	31.50	63.00	135.00	NULL	221.75	50.03	-119.98	Curtailment could be completely avoided
4/27/2017	70	391.69	14.35	43.00	86.00	0.00	NULL	192.75	49.99	-269.77	TN SLDC and Developers Data Mismatch
4/28/2017	71	345.80	11.39	48.00	96.00	0.00	NULL	192.75	49.97	-649.15	TN SLDC and Developers Data Mismatch
4/29/2017	72	434.85	11.06	53.00	106.00	0.00	200.00	192.75	49.96	-613.72	TN SLDC and Developers Data Mismatch
4/30/2017	53	350.27	16.17	23.50	47.00	476.00	0.00	291.00	49.98	-430.98	20-50% Curtailment could be avoided
5/1/2017	54	350.25	14.73	24.00	48.00	476.00	0.00	340.80	50.00	-277.63	20-50% Curtailment could be avoided
5/2/2017	55	374.46	15.79	24.50	49.00	476.00	0.00	340.80	50.02	-268.48	20-50% Curtailment could be avoided
5/3/2017	56	275.98	17.08	25.00	50.00	476.00	0.00	340.80	50.01	30.35	20-50% Curtailment could be avoided
5/4/2017	57	413.66	16.72	29.50	59.00	456.50	0.00	340.80	50.02	30.13	80-100% Curtailment could be avoided
5/5/2017	58	371.27	17.30	34.00	68.00	456.50	0.00	340.80	49.94	82.45	80-100% Curtailment could be avoided
5/6/2017	59	434.81	50.56	55.00	110.00	456.50	0.00	340.80	50.04	-256.94	50-80% Curtailment could be avoided
5/7/2017	60	547.56	166.10	76.00	152.00	456.50	0.00	340.80	50.05	-506.17	50-80% Curtailment could be avoided
5/8/2017	61	617.54	225.65	79.00	158.00	382.50	0.00	344.91	50.10	-782.43	50-80% Curtailment could be avoided
5/9/2017	62	603.99	248.72	82.00	164.00	382.50	0.00	83.91	49.97	-365.05	Curtailment could be completely avoided
5/10/2017	63	642.99	236.71	82.00	164.00	382.50	0.00	68.41	50.00	-459.78	Curtailment could be completely avoided
5/11/2017	64	430.27	238.60	82.00	164.00	382.50	0.00	68.41	50.02	-211.29	Curtailment could be completely avoided

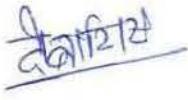


Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
5/12/2017	65	430.27	226.90	85.00	170.00	348.90	0.00	68.41	50.03	-219.27	Curtailment could be completely avoided
5/13/2017	66	450.27	232.97	88.00	176.00	348.90	0.00	68.41	49.96	-83.16	Curtailment could be completely avoided
5/14/2017	67	452.00	244.23	88.50	177.00	348.90	0.00	62.11	49.97	-137.99	Curtailment could be completely avoided
5/15/2017	68	452.00	240.13	89.00	178.00	348.90	0.00	38.11	49.98	-199.34	Curtailment could be completely avoided
5/16/2017	69	536.00	239.78	66.50	133.00	0.00	0.00	38.11	49.98	-336.72	TN SLDC and Developers Data Mismatch
5/17/2017	70	430.27	251.57	44.00	88.00	0.00	0.00	38.11	50.01	-223.44	TN SLDC and Developers Data Mismatch
5/18/2017	71	469.93	251.38	39.00	78.00	0.00	0.00	38.11	50.02	-333.45	TN SLDC and Developers Data Mismatch
5/19/2017	72	376.57	252.79	34.00	68.00	0.00	0.00	4.11	50.05	-317.06	TN SLDC and Developers Data Mismatch
5/20/2017	46	510.00	480.89	21.00	42.00	0.00	0.00	17.00	50.00	-242.55	TN SLDC and Developers Data Mismatch
5/21/2017	47	510.00	479.29	21.00	42.00	0.00	0.00	17.00	50.02	-356.41	TN SLDC and Developers Data Mismatch
5/22/2017	48	515.01	477.74	21.00	42.00	272.00	0.00	507.00	50.01	-381.90	Curtailment could be completely avoided
5/23/2017	49	509.99	476.56	32.50	65.00	272.00	0.00	528.00	49.97	-258.39	Curtailment could be completely avoided
5/24/2017	50	585.00	475.20	44.00	88.00	272.00	0.00	527.50	49.95	-260.01	Curtailment could be completely avoided
5/25/2017	51	442.92	474.24	47.00	94.00	272.00	0.00	527.50	49.95	-150.18	Curtailment could be completely avoided
5/26/2017	52	438.00	461.25	50.00	100.00	72.00	0.00	535.50	49.98	-303.56	Curtailment could be completely avoided
5/27/2017	53	437.50	460.04	35.50	71.00	72.00	0.00	528.25	50.03	-603.64	Curtailment could be completely avoided
5/28/2017	54	446.50	441.95	21.00	42.00	72.00	0.00	523.75	50.02	-491.00	Curtailment could be completely avoided
5/29/2017	55	443.00	358.36	21.00	42.00	72.00	0.00	523.75	49.96	-530.07	Curtailment could be completely avoided
5/30/2017	56	430.27	268.38	21.00	42.00	200.00	0.00	75.75	49.99	-188.06	Curtailment could be completely avoided
5/31/2017	57	444.27	252.62	36.00	72.00	200.00	0.00	75.75	49.96	-64.36	Curtailment could be completely avoided
6/1/2017	58	540.27	217.00	51.00	102.00	200.00	0.00	75.75	49.92	103.51	Curtailment could be completely avoided
6/2/2017	55	455.20	364.29	24.50	49.00	542.00	0.00	343.11	50.11	-349.94	80-100% Curtailment could be avoided
6/3/2017	56	465.19	369.50	25.00	50.00	542.00	0.00	383.11	50.06	-270.90	80-100% Curtailment could be avoided
6/4/2017	57	487.65	370.11	23.50	47.00	542.00	0.00	381.11	50.08	-675.86	50-80% Curtailment could be avoided
6/5/2017	58	483.61	359.42	22.00	44.00	542.00	0.00	394.41	50.03	-540.11	50-80% Curtailment could be avoided
6/6/2017	59	461.73	354.62	22.50	45.00	506.10	200.00	394.41	50.05	-732.55	50-80% Curtailment could be avoided
6/7/2017	60	435.88	352.23	23.00	46.00	506.10	200.00	396.41	50.01	-464.34	50-80% Curtailment could be avoided
6/8/2017	61	439.92	348.27	34.00	68.00	506.10	0.00	394.41	50.01	-144.20	Curtailment could be completely avoided
6/9/2017	62	372.24	307.50	45.00	90.00	506.10	0.00	383.11	49.99	66.58	Curtailment could be completely avoided
6/10/2017	63	518.11	212.55	41.50	83.00	446.30	0.00	383.11	49.99	-101.09	Curtailment could be completely avoided
6/11/2017	64	433.96	210.99	38.00	76.00	446.30	0.00	363.11	49.98	-13.58	Curtailment could be completely avoided
6/12/2017	65	468.20	210.83	34.00	68.00	446.30	0.00	363.11	50.00	-69.68	Curtailment could be completely avoided
6/13/2017	66	577.68	157.23	30.00	60.00	446.30	0.00	363.11	50.03	85.90	Curtailment could be completely avoided
6/14/2017	67	497.67	169.04	30.00	60.00	0.00	0.00	363.11	50.01	42.44	TN SLDC and Developers Data Mismatch
6/15/2017	68	538.43	176.71	30.00	60.00	0.00	0.00	363.11	49.98	-31.29	TN SLDC and Developers Data Mismatch
6/16/2017	69	536.20	331.53	27.00	54.00	0.00	0.00	323.11	50.03	-183.55	TN SLDC and Developers Data Mismatch

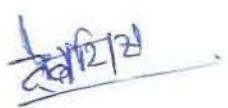
Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
6/17/2017	70	492.68	363.87	24.00	48.00	0.00	0.00	323.11	49.98	-375.40	TN SLDC and Developers Data Mismatch
6/18/2017	71	450.94	298.85	24.00	48.00	0.00	0.00	323.11	50.00	-501.37	TN SLDC and Developers Data Mismatch
6/19/2017	72	371.22	289.88	24.00	48.00	0.00	0.00	296.00	49.95	-371.73	TN SLDC and Developers Data Mismatch
6/20/2017	58	457.67	98.05	27.00	54.00	0.00	0.00	281.00	50.02	-441.52	TN SLDC and Developers Data Mismatch
6/21/2017	59	440.93	87.95	27.00	54.00	436.00	0.00	285.75	49.96	-597.44	20-50% Curtailment could be avoided
6/22/2017	60	494.51	89.92	27.00	54.00	436.00	0.00	339.75	49.98	-436.04	50-80% Curtailment could be avoided
6/23/2017	61	456.60	73.00	23.50	47.00	436.00	0.00	352.50	49.99	-284.80	50-80% Curtailment could be avoided
6/24/2017	62	472.67	76.19	20.00	40.00	436.00	0.00	352.50	49.98	-107.37	80-100% Curtailment could be avoided
6/25/2017	63	454.95	84.39	20.50	41.00	419.20	0.00	352.50	49.93	-38.61	Curtailment could be completely avoided
6/26/2017	64	452.00	84.05	21.00	42.00	419.20	0.00	352.50	49.94	0.79	Curtailment could be completely avoided
6/27/2017	65	527.00	85.78	31.50	63.00	419.20	0.00	332.50	49.96	-7.79	Curtailment could be completely avoided
6/28/2017	66	676.85	89.93	42.00	84.00	419.20	0.00	319.75	49.95	-125.35	Curtailment could be completely avoided
6/29/2017	67	341.13	94.69	41.00	82.00	17.80	0.00	308.75	49.99	73.77	Curtailment could not be avoided
6/30/2017	68	482.38	88.85	40.00	80.00	17.80	0.00	308.75	49.98	44.92	Curtailment could not be avoided
7/1/2017	69	503.19	88.46	40.00	80.00	17.80	300.00	308.75	49.99	-172.38	Curtailment could be completely avoided
7/2/2017	70	591.56	102.11	40.00	80.00	17.80	300.00	308.75	50.00	-370.86	80-100% Curtailment could be avoided
7/3/2017	71	405.94	99.85	44.50	89.00	0.00	300.00	308.75	50.01	-565.23	TN SLDC and Developers Data Mismatch
7/4/2017	72	616.66	104.81	49.00	98.00	0.00	300.00	263.75	50.00	-375.34	TN SLDC and Developers Data Mismatch
7/5/2017	73	414.70	119.99	64.50	129.00	0.00	0.00	261.00	50.04	-27.55	TN SLDC and Developers Data Mismatch
7/6/2017	53	325.57	130.14	27.00	54.00	0.00	0.00	294.00	50.14	-482.10	TN SLDC and Developers Data Mismatch
7/7/2017	54	420.29	83.55	21.00	42.00	534.00	0.00	349.11	50.08	-500.42	20-50% Curtailment could be avoided
7/8/2017	55	272.88	80.86	21.50	43.00	534.00	0.00	403.11	50.08	-59.06	20-50% Curtailment could be avoided
7/9/2017	56	337.03	82.12	22.00	44.00	534.00	0.00	403.11	50.06	-44.83	50-80% Curtailment could be avoided
7/10/2017	57	289.69	85.98	21.50	43.00	534.00	0.00	403.11	50.10	-346.54	20-50% Curtailment could be avoided
7/11/2017	58	415.94	82.24	21.00	42.00	182.60	0.00	403.11	50.03	-253.73	80-100% Curtailment could be avoided
7/12/2017	59	392.93	80.05	21.00	42.00	182.60	0.00	403.11	50.01	-213.51	80-100% Curtailment could be avoided
7/13/2017	60	200.24	80.34	21.00	42.00	182.60	0.00	399.61	49.98	-93.91	50-80% Curtailment could be avoided
7/14/2017	61	332.94	81.20	20.50	41.00	182.60	0.00	380.11	50.01	-118.82	Curtailment could be completely avoided
7/15/2017	62	375.93	81.25	20.00	40.00	177.40	0.00	86.11	49.99	-97.56	Curtailment could be completely avoided
7/16/2017	63	232.94	77.67	19.50	39.00	177.40	0.00	86.11	50.00	-228.67	50-80% Curtailment could be avoided
7/17/2017	64	302.94	81.08	19.00	38.00	177.40	0.00	86.11	49.99	-329.45	50-80% Curtailment could be avoided
7/18/2017	65	282.27	76.99	19.50	39.00	177.40	0.00	79.11	49.98	-294.09	50-80% Curtailment could be avoided
7/19/2017	66	282.27	79.47	20.00	40.00	44.50	0.00	83.11	49.98	-307.02	80-100% Curtailment could be avoided
7/20/2017	67	272.28	79.02	20.50	41.00	44.50	300.00	83.11	50.01	-474.92	20-50% Curtailment could be avoided
7/21/2017	68	282.27	78.57	21.00	42.00	44.50	300.00	53.11	49.99	-409.30	20-50% Curtailment could be avoided
7/22/2017	69	203.57	80.09	23.50	47.00	44.50	300.00	53.11	49.97	-211.00	20-50% Curtailment could be avoided



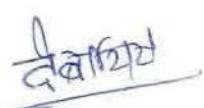
Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
7/23/2017	70	222.27	81.53	26.00	52.00	0.00	300.00	47.11	50.00	-206.36	TN SLDC and Developers Data Mismatch
7/24/2017	71	282.27	81.43	32.50	65.00	0.00	300.00	36.61	50.00	-205.81	TN SLDC and Developers Data Mismatch
7/25/2017	72	382.26	78.54	39.00	78.00	0.00	300.00	13.11	49.99	-314.43	TN SLDC and Developers Data Mismatch
7/26/2017	55	533.18	355.80	20.50	41.00	0.00	0.00	290.00	49.99	-780.38	TN SLDC and Developers Data Mismatch
7/27/2017	56	544.01	331.65	26.00	52.00	495.00	0.00	327.11	49.98	-381.75	80-100% Curtailment could be avoided
7/28/2017	57	587.76	332.37	26.50	53.00	495.00	0.00	339.11	49.95	-137.35	Curtailment could be completely avoided
7/29/2017	58	553.83	329.17	27.00	54.00	495.00	0.00	339.11	49.90	-72.66	Curtailment could be completely avoided
7/30/2017	59	506.17	320.16	27.00	54.00	495.00	0.00	375.61	49.91	-102.78	Curtailment could be completely avoided
7/31/2017	60	528.24	330.34	27.00	54.00	251.10	0.00	375.61	49.92	-225.93	Curtailment could be completely avoided
8/1/2017	61	562.13	340.87	31.00	62.00	251.10	0.00	375.61	49.92	-220.37	Curtailment could be completely avoided
8/2/2017	62	522.22	375.62	35.00	70.00	251.10	0.00	375.61	49.87	-89.48	Curtailment could be completely avoided
8/3/2017	63	514.66	378.32	37.00	74.00	251.10	0.00	366.61	49.89	-9.85	Curtailment could be completely avoided
8/4/2017	64	522.27	383.75	39.00	78.00	61.50	0.00	354.61	49.93	185.07	Curtailment could not be avoided
8/5/2017	65	544.00	399.53	81.50	163.00	61.50	0.00	60.11	49.97	109.51	Curtailment could not be avoided
8/6/2017	66	456.66	403.59	124.00	248.00	61.50	0.00	24.00	49.91	-81.05	Curtailment could be completely avoided
8/7/2017	49	585.00	305.35	19.00	38.00	177.00	0.00	353.00	50.03	-272.46	Curtailment could be completely avoided
8/8/2017	50	505.67	304.98	13.00	26.00	177.00	0.00	397.00	49.99	-291.10	Curtailment could be completely avoided
8/9/2017	51	493.67	312.77	13.00	26.00	177.00	0.00	409.00	49.93	-367.99	Curtailment could be completely avoided
8/10/2017	52	491.67	311.84	13.00	26.00	177.00	0.00	58.00	49.99	-417.01	Curtailment could be completely avoided
8/11/2017	53	493.67	279.07	13.00	26.00	117.00	0.00	53.00	50.06	-475.92	Curtailment could be completely avoided
8/12/2017	54	575.00	267.67	13.00	26.00	117.00	0.00	53.00	49.95	-526.66	Curtailment could be completely avoided
8/13/2017	55	575.00	239.45	13.50	27.00	117.00	0.00	53.00	49.95	-561.17	Curtailment could be completely avoided
8/14/2017	56	506.71	236.10	14.00	28.00	117.00	0.00	53.00	49.95	-382.54	Curtailment could be completely avoided
8/15/2017	57	521.27	236.69	30.00	60.00	58.90	0.00	53.00	49.94	-278.54	Curtailment could be completely avoided
8/16/2017	58	515.27	240.73	46.00	92.00	58.90	0.00	53.00	49.89	179.07	Curtailment could not be avoided
8/17/2017	59	459.27	237.04	59.00	118.00	58.90	0.00	53.00	49.91	326.93	Curtailment could not be avoided
8/18/2017	60	439.27	237.10	72.00	144.00	58.90	0.00	53.00	49.92	403.53	Curtailment could not be avoided
8/19/2017	61	628.67	236.36	86.00	172.00	0.00	0.00	52.50	49.89	24.24	TN SLDC and Developers Data Mismatch
8/20/2017	49	397.66	291.95	32.50	65.00	0.00	0.00	167.00	50.00	-293.15	TN SLDC and Developers Data Mismatch
8/21/2017	50	563.66	288.22	16.00	32.00	310.00	0.00	181.00	49.88	-402.99	Curtailment could be completely avoided
8/22/2017	51	493.66	289.17	16.00	32.00	310.00	0.00	228.50	49.91	-481.21	80-100% Curtailment could be avoided
8/23/2017	52	501.25	284.47	16.00	32.00	310.00	0.00	228.50	49.98	-570.96	50-80% Curtailment could be avoided
8/24/2017	53	573.00	219.11	18.00	36.00	310.00	0.00	228.50	50.04	-714.72	50-80% Curtailment could be avoided
8/25/2017	54	530.25	205.23	20.00	40.00	117.00	0.00	228.50	50.02	-633.63	80-100% Curtailment could be avoided
8/26/2017	55	557.00	201.64	22.50	45.00	117.00	0.00	228.50	49.96	-774.54	50-80% Curtailment could be avoided
8/27/2017	56	452.00	204.39	25.00	50.00	117.00	0.00	228.50	49.94	-431.02	Curtailment could be completely avoided



Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
8/28/2017	57	481.27	202.65	24.00	48.00	117.00	0.00	228.50	49.92	-150.46	Curtailment could be completely avoided
8/29/2017	58	414.74	204.24	23.00	46.00	98.10	0.00	228.50	49.85	-34.74	Curtailment could be completely avoided
8/30/2017	59	520.27	202.16	23.50	47.00	98.10	0.00	228.50	49.83	-70.98	Curtailment could be completely avoided
8/31/2017	60	514.27	194.80	24.00	48.00	98.10	0.00	228.50	49.90	-13.56	Curtailment could be completely avoided
9/1/2017	61	673.86	189.70	24.00	48.00	98.10	0.00	228.50	49.96	-457.82	Curtailment could be completely avoided
9/2/2017	62	675.28	201.01	24.00	48.00	47.50	0.00	228.50	49.92	-537.05	Curtailment could be completely avoided
9/3/2017	63	668.00	199.85	24.00	48.00	47.50	0.00	228.50	49.95	-595.99	Curtailment could be completely avoided
9/4/2017	64	669.23	193.99	24.00	48.00	47.50	0.00	228.50	49.98	-484.57	Curtailment could be completely avoided
9/5/2017	65	472.67	158.41	23.00	46.00	47.50	0.00	228.50	49.98	-360.43	Curtailment could be completely avoided
9/6/2017	66	588.67	143.07	22.00	44.00	0.00	0.00	214.50	49.92	-83.12	TN SLDC and Developers Data Mismatch
9/7/2017	67	570.55	145.69	24.00	48.00	0.00	0.00	214.50	49.97	-2.82	TN SLDC and Developers Data Mismatch
9/8/2017	68	552.00	153.25	26.00	52.00	0.00	0.00	214.50	49.93	338.91	TN SLDC and Developers Data Mismatch
9/9/2017	69	561.00	159.98	62.50	125.00	0.00	0.00	214.50	49.96	287.10	TN SLDC and Developers Data Mismatch
9/10/2017	70	497.00	161.96	99.00	198.00	0.00	0.00	214.50	49.92	327.27	TN SLDC and Developers Data Mismatch
9/11/2017	71	452.00	164.79	134.50	269.00	0.00	0.00	214.50	49.97	315.93	TN SLDC and Developers Data Mismatch
9/12/2017	72	430.81	168.25	170.00	340.00	0.00	0.00	214.00	50.02	344.12	TN SLDC and Developers Data Mismatch
9/13/2017	73	317.42	173.03	138.50	277.00	0.00	0.00	167.00	50.05	146.69	TN SLDC and Developers Data Mismatch
9/14/2017	49	509.99	300.91	19.50	39.00	351.17	0.00	165.00	49.99	-463.97	80-100% Curtailment could be avoided
9/15/2017	50	510.00	267.11	18.00	36.00	351.17	0.00	211.00	49.97	-381.09	80-100% Curtailment could be avoided
9/16/2017	51	498.00	266.58	18.00	36.00	351.17	0.00	211.00	49.99	-365.71	80-100% Curtailment could be avoided
9/17/2017	52	495.00	265.43	18.00	36.00	160.27	0.00	211.00	50.02	-504.80	Curtailment could be completely avoided
9/18/2017	53	469.66	252.32	22.50	45.00	160.27	0.00	211.00	50.09	-599.34	80-100% Curtailment could be avoided
9/19/2017	54	450.00	200.56	27.00	54.00	160.27	0.00	211.00	50.06	-534.89	80-100% Curtailment could be avoided
9/20/2017	55	392.00	114.70	26.00	52.00	160.27	0.00	211.00	49.99	-330.00	80-100% Curtailment could be avoided
9/21/2017	56	402.00	66.25	25.00	50.00	160.27	0.00	211.00	50.01	-381.55	50-80% Curtailment could be avoided
9/22/2017	57	418.00	47.04	30.00	60.00	160.27	0.00	211.00	49.96	-223.64	Curtailment could be completely avoided
9/23/2017	58	412.00	35.82	35.00	70.00	160.27	0.00	211.00	49.92	6.21	Curtailment could be completely avoided
9/24/2017	59	450.00	34.07	44.00	88.00	160.27	0.00	211.00	49.94	-266.07	Curtailment could be completely avoided
9/25/2017	60	364.13	34.45	53.00	106.00	71.27	0.00	211.00	49.98	-68.29	Curtailment could be completely avoided
9/26/2017	61	601.64	31.48	68.00	136.00	71.27	0.00	211.00	50.03	-7.33	Curtailment could be completely avoided
9/27/2017	62	509.72	30.43	83.00	166.00	71.27	0.00	211.00	49.94	88.30	Curtailment could not be avoided
9/28/2017	63	598.00	29.49	86.00	172.00	71.27	0.00	211.00	49.96	-54.49	Curtailment could be completely avoided
9/29/2017	64	560.00	23.24	89.00	178.00	0.00	0.00	211.00	49.99	23.00	TN SLDC and Developers Data Mismatch
9/30/2017	65	543.00	56.97	84.00	168.00	0.00	0.00	211.00	49.98	-22.08	TN SLDC and Developers Data Mismatch
10/1/2017	66	480.67	141.28	79.00	158.00	0.00	0.00	211.00	49.94	132.14	TN SLDC and Developers Data Mismatch
10/2/2017	67	510.00	291.46	90.50	181.00	0.00	0.00	211.00	49.99	141.99	TN SLDC and Developers Data Mismatch



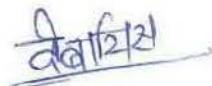
Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment As per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
10/3/2017	68	510.00	354.50	102.00	204.00	0.00	0.00	210.50	50.00	84.35	TN SLDC and Developers Data Mismatch
10/4/2017	69	520.00	378.96	129.50	259.00	0.00	0.00	165.00	50.03	20.12	TN SLDC and Developers Data Mismatch
10/5/2017	70	479.69	401.30	157.00	314.00	0.00	0.00	165.00	50.02	20.82	TN SLDC and Developers Data Mismatch
10/6/2017	71	489.06	397.70	188.00	376.00	0.00	0.00	165.00	50.08	17.89	TN SLDC and Developers Data Mismatch
10/7/2017	72	508.69	401.91	219.00	438.00	0.00	0.00	165.00	49.97	75.89	TN SLDC and Developers Data Mismatch
10/8/2017	47	408.18	339.71	34.00	68.00	0.00	0.00	304.00	49.96	-576.11	TN SLDC and Developers Data Mismatch
10/9/2017	48	408.18	302.85	32.00	64.00	567.00	0.00	352.11	50.00	-270.72	50-80% Curtailment could be avoided
10/10/2017	49	380.03	263.70	37.50	75.00	567.00	0.00	425.41	49.98	89.81	Curtailment could be completely avoided
10/11/2017	50	380.03	223.58	43.00	86.00	567.00	0.00	425.41	49.97	24.03	Curtailment could be completely avoided
10/12/2017	51	368.03	215.61	41.50	83.00	567.00	0.00	425.41	49.92	-6.37	80-100% Curtailment could be avoided
10/13/2017	52	366.03	225.65	40.00	80.00	400.00	0.00	425.41	49.97	-198.64	80-100% Curtailment could be avoided
10/14/2017	53	368.03	221.20	29.50	59.00	400.00	0.00	425.41	50.03	-344.18	50-80% Curtailment could be avoided
10/15/2017	54	370.03	159.45	19.00	38.00	400.00	0.00	425.41	50.01	-488.24	50-80% Curtailment could be avoided
10/16/2017	55	406.27	160.82	21.50	43.00	400.00	0.00	429.41	50.03	-408.86	50-80% Curtailment could be avoided
10/17/2017	56	272.07	160.16	24.00	48.00	450.00	0.00	429.41	50.01	-558.14	20-50% Curtailment could be avoided
10/18/2017	57	398.22	161.81	21.50	43.00	450.00	0.00	429.41	50.06	-725.59	20-50% Curtailment could be avoided
10/19/2017	58	320.51	147.36	19.00	38.00	450.00	0.00	429.41	50.01	-836.09	20-50% Curtailment could be avoided
10/20/2017	59	324.31	126.92	19.50	39.00	450.00	400.00	429.41	49.99	-1040.08	Curtailment could not be avoided
10/21/2017	60	235.33	125.90	20.00	40.00	350.00	400.00	429.41	50.01	-609.72	20-50% Curtailment could be avoided
10/22/2017	61	200.22	132.22	24.00	48.00	350.00	200.00	405.41	50.02	-358.02	20-50% Curtailment could be avoided
10/23/2017	62	156.18	126.05	28.00	56.00	350.00	200.00	429.41	49.96	-272.03	20-50% Curtailment could be avoided
10/24/2017	63	156.18	125.78	26.50	53.00	350.00	200.00	429.41	50.01	-43.24	20-50% Curtailment could be avoided
10/25/2017	64	156.18	129.99	25.00	50.00	300.00	200.00	391.91	50.01	39.07	20-50% Curtailment could be avoided
10/26/2017	65	156.18	121.74	24.00	48.00	300.00	0.00	391.91	50.01	-141.18	20-50% Curtailment could be avoided
10/27/2017	66	156.18	123.96	23.00	46.00	300.00	0.00	378.61	49.98	-87.64	50-80% Curtailment could be avoided
10/28/2017	67	188.28	127.62	24.50	49.00	300.00	0.00	378.61	49.97	-54.96	50-80% Curtailment could be avoided
10/29/2017	68	204.18	130.54	26.00	52.00	105.80	0.00	378.61	49.94	20.61	Curtailment could be completely avoided
10/30/2017	69	278.52	126.12	28.50	57.00	105.80	0.00	378.61	50.00	-34.54	Curtailment could be completely avoided
10/31/2017	70	378.48	122.72	31.00	62.00	105.80	0.00	378.61	49.99	21.27	Curtailment could be completely avoided
11/1/2017	71	473.94	132.72	30.50	61.00	105.80	0.00	378.61	50.00	-297.66	Curtailment could be completely avoided
11/2/2017	72	199.08	175.41	30.00	60.00	0.00	0.00	374.11	49.98	-295.89	TN SLDC and Developers Data Mismatch
11/3/2017	47	510.00	312.80	26.00	52.00	320.00	0.00	288.00	50.00	-386.63	Curtailment could be completely avoided
11/4/2017	48	510.00	332.74	26.00	52.00	320.00	0.00	329.00	50.01	-324.17	Curtailment could be completely avoided
11/5/2017	49	501.01	343.02	21.50	43.00	320.00	0.00	346.61	50.02	-699.60	50-80% Curtailment could be avoided
11/6/2017	50	445.75	278.28	17.00	34.00	320.00	0.00	390.61	49.93	-449.73	80-100% Curtailment could be avoided
11/7/2017	51	432.38	199.57	20.50	41.00	292.30	0.00	390.61	49.97	-289.83	80-100% Curtailment could be avoided



Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment As per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/less drawl from the Grid compared to schedule)	Remarks
11/8/2017	52	406.65	148.23	24.00	48.00	292.30	0.00	404.11	49.97	-207.78	80-100% Curtailment could be avoided
11/9/2017	53	412.65	146.45	24.50	49.00	292.30	0.00	404.11	50.00	-61.47	Curtailment could be completely avoided
11/10/2017	54	410.65	132.11	25.00	50.00	292.30	0.00	404.11	49.94	44.79	Curtailment could be completely avoided
11/11/2017	55	412.65	122.75	25.00	50.00	162.30	0.00	404.11	49.90	27.36	Curtailment could be completely avoided
11/12/2017	56	519.38	133.33	25.00	50.00	162.30	0.00	404.11	49.94	84.81	Curtailment could be completely avoided
11/13/2017	57	535.38	136.26	23.00	46.00	162.30	0.00	404.11	50.00	-227.97	Curtailment could be completely avoided
11/14/2017	58	529.38	122.21	21.00	42.00	162.30	0.00	404.11	49.90	-257.35	Curtailment could be completely avoided
11/15/2017	59	420.27	121.99	21.00	42.00	162.30	0.00	404.11	50.00	-128.08	Curtailment could be completely avoided
11/16/2017	60	511.00	132.44	21.00	42.00	162.30	0.00	404.11	50.02	44.52	Curtailment could be completely avoided
11/17/2017	61	490.00	129.35	23.00	46.00	162.30	0.00	404.11	49.96	-44.71	Curtailment could be completely avoided
11/18/2017	62	510.00	132.94	25.00	50.00	162.30	0.00	380.11	49.93	-186.41	Curtailment could be completely avoided
11/19/2017	63	560.00	133.77	24.00	48.00	68.70	0.00	380.11	49.86	-377.48	Curtailment could be completely avoided
11/20/2017	64	560.00	138.22	23.00	46.00	68.70	0.00	380.11	49.94	-385.42	Curtailment could be completely avoided
11/21/2017	65	560.00	149.21	25.00	50.00	68.70	0.00	380.11	50.04	-434.87	Curtailment could be completely avoided
11/22/2017	66	560.00	152.87	27.00	54.00	68.70	0.00	353.11	50.01	-290.41	Curtailment could be completely avoided
11/23/2017	67	580.00	152.34	28.50	57.00	0.00	0.00	353.11	49.98	-366.80	TN SLDC and Developers Data Mismatch
11/24/2017	68	590.00	155.04	30.00	60.00	0.00	0.00	353.11	49.99	-448.43	TN SLDC and Developers Data Mismatch
11/25/2017	69	572.00	150.36	28.50	57.00	0.00	0.00	353.11	50.00	-446.07	TN SLDC and Developers Data Mismatch
11/26/2017	70	560.00	165.95	27.00	54.00	0.00	0.00	353.11	49.95	-321.13	TN SLDC and Developers Data Mismatch
11/27/2017	71	560.00	194.24	27.50	55.00	0.00	0.00	353.11	49.99	-260.19	TN SLDC and Developers Data Mismatch
11/28/2017	72	560.00	245.60	28.00	56.00	0.00	0.00	355.11	50.01	-83.10	TN SLDC and Developers Data Mismatch
11/29/2017	48	510.00	434.98	21.00	42.00	0.00	0.00	133.11	49.98	-185.71	TN SLDC and Developers Data Mismatch
11/30/2017	49	509.99	410.84	19.50	39.00	349.00	0.00	146.61	49.92	-442.96	Curtailment could be completely avoided
12/1/2017	50	510.01	387.51	18.00	36.00	349.00	0.00	187.61	49.83	-400.54	Curtailment could be completely avoided
12/2/2017	51	499.99	391.14	18.50	37.00	349.00	0.00	183.50	49.97	-188.39	Curtailment could be completely avoided
12/3/2017	52	494.00	392.08	19.00	38.00	349.00	0.00	183.50	49.97	-313.90	Curtailment could be completely avoided
12/4/2017	53	477.27	391.96	20.50	41.00	200.00	0.00	183.50	50.14	-530.39	Curtailment could be completely avoided
12/5/2017	54	441.00	378.63	22.00	44.00	200.00	0.00	183.50	50.04	-388.54	Curtailment could be completely avoided
12/6/2017	55	558.00	388.12	22.00	44.00	200.00	0.00	183.50	50.05	-376.32	Curtailment could be completely avoided
12/7/2017	56	510.00	391.07	22.00	44.00	200.00	0.00	183.50	50.00	-379.07	Curtailment could be completely avoided
12/8/2017	57	526.00	396.57	31.00	62.00	200.00	0.00	183.50	49.93	-305.25	Curtailment could be completely avoided
12/9/2017	58	520.00	395.78	40.00	80.00	200.00	0.00	183.50	49.88	-101.23	Curtailment could be completely avoided
12/10/2017	59	499.99	397.99	43.50	87.00	200.00	0.00	183.50	49.94	-186.70	Curtailment could be completely avoided
12/11/2017	60	494.00	397.41	47.00	94.00	200.00	0.00	183.50	50.00	7.76	Curtailment could be completely avoided
12/12/2017	61	499.00	386.08	49.50	99.00	101.90	0.00	183.50	50.05	-93.50	Curtailment could be completely avoided
12/13/2017	62	510.00	380.85	52.00	104.00	101.90	0.00	170.00	49.98	7.36	Curtailment could be completely avoided



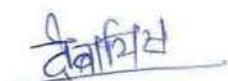
Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
12/14/2017	63	510.00	360.23	50.50	101.00	101.90	0.00	170.00	49.96	140.62	Curtailment could not be avoided
12/15/2017	64	510.00	351.78	49.00	98.00	101.90	0.00	170.00	49.97	18.02	Curtailment could be completely avoided
12/16/2017	65	510.00	354.74	53.50	107.00	0.00	0.00	170.00	50.01	174.66	TN SLDC and Developers Data Mismatch
12/17/2017	66	510.00	355.56	58.00	116.00	0.00	0.00	170.00	49.98	-20.42	TN SLDC and Developers Data Mismatch
12/18/2017	67	628.00	367.99	52.00	104.00	0.00	0.00	170.00	50.01	-143.42	TN SLDC and Developers Data Mismatch
12/19/2017	68	530.66	368.05	46.00	92.00	0.00	0.00	170.00	50.02	-196.30	TN SLDC and Developers Data Mismatch
12/20/2017	69	520.90	365.96	33.00	66.00	0.00	0.00	170.00	50.07	-107.59	TN SLDC and Developers Data Mismatch
12/21/2017	70	530.67	362.24	20.00	40.00	0.00	0.00	174.50	49.98	-38.69	TN SLDC and Developers Data Mismatch
12/22/2017	71	508.94	370.94	20.00	40.00	0.00	0.00	129.00	50.04	8.69	TN SLDC and Developers Data Mismatch
12/23/2017	72	508.93	375.44	20.00	40.00	0.00	0.00	129.00	50.00	-0.95	TN SLDC and Developers Data Mismatch
12/24/2017	48	481.00	366.50	19.00	38.00	395.00	0.00	4.11	50.02	-22.33	Curtailment could be completely avoided
12/25/2017	49	459.27	382.76	20.00	40.00	395.00	0.00	186.81	50.01	-155.67	Curtailment could be completely avoided
12/26/2017	50	481.00	366.93	21.00	42.00	395.00	0.00	200.31	50.06	-129.45	Curtailment could be completely avoided
12/27/2017	51	471.00	265.06	21.00	42.00	395.00	0.00	196.20	50.00	-87.71	Curtailment could be completely avoided
12/28/2017	52	466.00	270.87	21.00	42.00	288.20	0.00	196.20	50.02	-137.39	Curtailment could be completely avoided
12/29/2017	53	471.00	269.27	23.50	47.00	288.20	0.00	196.20	50.11	-43.61	Curtailment could be completely avoided
12/30/2017	54	471.00	270.30	26.00	52.00	288.20	0.00	196.20	50.04	28.15	Curtailment could be completely avoided
12/31/2017	55	471.00	291.84	26.50	53.00	288.20	0.00	196.20	50.00	78.17	Curtailment could be completely avoided
1/1/2018	56	481.00	279.90	27.00	54.00	288.20	0.00	196.20	49.96	323.38	Curtailment could not be avoided
1/2/2018	57	496.00	287.02	40.00	80.00	288.20	0.00	196.20	50.00	54.88	Curtailment could be completely avoided
1/3/2018	58	491.00	295.16	53.00	106.00	288.20	0.00	196.20	49.94	94.15	Curtailment could be completely avoided
1/4/2018	59	471.00	291.44	53.50	107.00	288.20	0.00	188.70	49.93	376.80	Curtailment could not be avoided
1/5/2018	60	466.00	117.28	54.00	108.00	0.00	0.00	148.70	49.98	296.27	TN SLDC and Developers Data Mismatch
1/6/2018	61	471.00	329.57	41.50	83.00	0.00	0.00	13.50	49.99	439.07	TN SLDC and Developers Data Mismatch
1/7/2018	62	441.00	370.64	29.00	58.00	0.00	0.00	13.50	49.95	18.90	TN SLDC and Developers Data Mismatch
1/8/2018	49	480.00	304.24	20.50	41.00	352.00	0.00	208.50	50.01	-313.52	Curtailment could be completely avoided
1/9/2018	50	470.00	304.62	20.00	40.00	352.00	0.00	221.80	50.00	-338.54	Curtailment could be completely avoided
1/10/2018	51	468.00	296.14	21.00	42.00	352.00	0.00	221.80	50.02	-436.73	80-100% Curtailment could be avoided
1/11/2018	52	416.00	281.87	22.00	44.00	305.60	0.00	221.80	50.04	-504.63	50-80% Curtailment could be avoided
1/12/2018	53	409.00	240.27	21.50	43.00	305.60	0.00	221.80	50.09	-576.61	50-80% Curtailment could be avoided
1/13/2018	54	411.67	178.01	21.00	42.00	305.60	300.00	221.80	50.04	-695.02	20-50% Curtailment could be avoided
1/14/2018	55	411.67	148.05	23.50	47.00	305.60	300.00	221.80	50.02	-851.43	20-50% Curtailment could be avoided
1/15/2018	56	422.35	136.97	26.00	52.00	305.60	300.00	221.80	50.01	-940.60	20-50% Curtailment could be avoided
1/16/2018	57	506.51	138.72	24.50	49.00	305.60	300.00	221.80	50.05	-927.40	20-50% Curtailment could be avoided
1/17/2018	58	235.84	136.88	23.00	46.00	305.60	300.00	221.80	50.02	-571.84	20-50% Curtailment could be avoided
1/18/2018	59	240.22	130.97	22.50	45.00	305.60	300.00	221.80	50.02	-387.12	20-50% Curtailment could be avoided



Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency In (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
1/19/2018	60	204.18	133.57	22.00	44.00	245.60	300.00	221.80	50.01	21.39	20-50% Curtailment could be avoided
1/20/2018	61	204.18	137.51	34.50	69.00	245.60	0.00	221.80	50.01	466.01	Curtailment could not be avoided
1/21/2018	62	204.18	140.05	47.00	94.00	245.60	0.00	221.80	49.97	452.16	Curtailment could not be avoided
1/22/2018	63	230.48	136.17	53.50	107.00	245.60	0.00	221.80	49.95	-93.24	80-100% Curtailment could be avoided
1/23/2018	64	409.18	131.91	60.00	120.00	169.40	0.00	221.80	50.00	-163.70	Curtailment could be completely avoided
1/24/2018	65	505.51	130.75	45.00	90.00	169.40	0.00	221.80	50.02	-303.42	Curtailment could be completely avoided
1/25/2018	66	609.67	129.73	30.00	60.00	169.40	0.00	221.80	49.95	-345.60	Curtailment could be completely avoided
1/26/2018	67	484.62	126.44	28.50	57.00	169.40	0.00	221.80	50.01	-312.90	Curtailment could be completely avoided
1/27/2018	68	521.67	123.58	27.00	54.00	0.00	0.00	35.30	49.99	-364.76	TN SLDC and Developers Data Mismatch
1/28/2018	69	467.24	124.47	25.50	51.00	0.00	0.00	13.30	50.01	-187.25	TN SLDC and Developers Data Mismatch
1/29/2018	53	233.00	165.27	29.00	58.00	379.00	0.00	161.00	50.05	-58.97	50-80% Curtailment could be avoided
1/30/2018	54	233.00	161.48	34.00	68.00	379.00	0.00	265.58	49.98	107.85	Curtailment could be completely avoided
1/31/2018	55	233.00	166.94	38.50	77.00	379.00	0.00	281.48	50.00	201.59	Curtailment could be completely avoided
2/1/2018	56	233.00	172.97	43.00	86.00	379.00	0.00	281.48	50.01	185.74	Curtailment could be completely avoided
2/2/2018	57	233.00	163.10	71.00	142.00	300.00	0.00	281.48	50.00	241.65	Curtailment could be completely avoided
2/3/2018	58	233.00	152.42	99.00	198.00	300.00	0.00	281.48	49.98	266.15	Curtailment could be completely avoided
2/4/2018	59	233.00	153.09	104.00	208.00	300.00	0.00	281.48	49.93	319.01	Curtailment could not be avoided
2/5/2018	60	345.90	166.40	109.00	218.00	300.00	0.00	274.40	49.95	227.09	Curtailment could be completely avoided
2/6/2018	61	538.00	254.90	98.00	196.00	200.00	0.00	274.40	50.02	-82.13	Curtailment could be completely avoided
2/7/2018	62	507.02	284.56	87.00	174.00	200.00	0.00	274.40	49.95	-50.05	Curtailment could be completely avoided
2/8/2018	63	466.31	305.15	88.50	177.00	200.00	0.00	254.40	50.01	-44.23	Curtailment could be completely avoided
2/9/2018	64	499.00	316.48	90.00	180.00	200.00	0.00	254.40	50.03	-77.76	Curtailment could be completely avoided
2/10/2018	65	513.65	330.44	89.50	179.00	0.00	0.00	254.40	49.99	-73.81	TN SLDC and Developers Data Mismatch
2/11/2018	66	456.00	338.32	89.00	178.00	0.00	0.00	254.40	49.94	8.86	TN SLDC and Developers Data Mismatch
2/12/2018	67	506.00	327.18	93.00	186.00	0.00	0.00	242.90	49.98	145.71	TN SLDC and Developers Data Mismatch
2/13/2018	68	506.00	353.41	97.00	194.00	0.00	0.00	238.50	49.97	108.07	TN SLDC and Developers Data Mismatch
2/14/2018	69	507.77	381.63	118.00	236.00	0.00	0.00	225.00	49.98	40.18	TN SLDC and Developers Data Mismatch
2/15/2018	70	456.00	409.32	139.00	278.00	0.00	0.00	225.00	49.97	37.84	TN SLDC and Developers Data Mismatch
2/16/2018	71	456.00	417.16	143.00	286.00	0.00	0.00	225.00	49.99	9.12	TN SLDC and Developers Data Mismatch
2/17/2018	72	401.67	413.94	147.00	294.00	0.00	0.00	225.00	49.98	-108.01	TN SLDC and Developers Data Mismatch
2/18/2018	49	397.00	171.70	21.00	42.00	382.00	0.00	163.20	49.98	-252.73	50-80% Curtailment could be avoided
2/19/2018	50	406.39	168.66	22.00	44.00	382.00	0.00	266.40	49.96	107.24	Curtailment could be completely avoided
2/20/2018	51	379.00	168.84	22.00	44.00	382.00	0.00	279.40	49.96	-50.07	Curtailment could be completely avoided
2/21/2018	52	336.00	165.22	22.00	44.00	382.00	0.00	279.40	50.01	92.55	Curtailment could be completely avoided
2/22/2018	53	279.00	169.80	20.50	41.00	300.00	0.00	279.40	50.02	-58.26	Curtailment could be completely avoided
2/23/2018	54	279.00	168.79	19.00	38.00	300.00	0.00	279.40	49.99	-111.80	80-100% Curtailment could be avoided



Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
2/24/2018	55	338.00	181.34	21.50	43.00	300.00	0.00	279.40	49.98	-226.33	80-100% Curtailment could be avoided
2/25/2018	56	279.00	171.62	24.00	48.00	300.00	0.00	279.40	50.00	-70.29	Curtailment could be completly avoided
2/26/2018	57	279.00	168.51	22.00	44.00	200.00	0.00	279.40	49.99	26.25	Curtailment could be completly avoided
2/27/2018	58	279.00	167.44	20.00	40.00	200.00	0.00	279.40	49.97	155.33	Curtailment could be completly avoided
2/28/2018	59	314.00	167.22	23.50	47.00	200.00	0.00	279.40	49.93	58.29	Curtailment could be completly avoided
3/1/2018	60	375.00	179.29	27.00	54.00	200.00	0.00	279.40	49.93	-5.89	Curtailment could be completly avoided
3/2/2018	61	476.00	179.82	42.50	85.00	100.00	0.00	279.40	49.93	-80.73	Curtailment could be completly avoided
3/3/2018	62	401.00	191.89	58.00	116.00	100.00	0.00	279.40	49.88	-123.43	Curtailment could be completly avoided
3/4/2018	63	391.00	246.45	56.00	112.00	100.00	0.00	279.40	49.96	-56.76	Curtailment could be completly avoided
3/5/2018	64	391.00	274.07	54.00	108.00	100.00	0.00	279.40	49.92	27.25	Curtailment could be completly avoided
3/6/2018	65	421.00	318.60	38.50	77.00	0.00	0.00	279.40	49.97	-4.47	TN SLDC and Developers Data Mismatch
3/7/2018	66	391.00	351.69	23.00	46.00	0.00	0.00	239.20	49.86	-66.51	TN SLDC and Developers Data Mismatch
3/8/2018	67	411.00	360.38	21.00	42.00	0.00	0.00	239.20	49.91	-115.79	TN SLDC and Developers Data Mismatch
3/9/2018	68	396.00	363.11	19.00	38.00	0.00	0.00	222.00	49.96	-72.52	TN SLDC and Developers Data Mismatch
3/10/2018	69	431.00	359.63	18.50	37.00	0.00	0.00	222.00	50.01	-342.15	TN SLDC and Developers Data Mismatch
3/11/2018	70	416.00	348.01	18.00	36.00	0.00	0.00	222.00	50.03	-368.75	TN SLDC and Developers Data Mismatch
3/12/2018	71	416.00	356.28	18.00	36.00	0.00	300.00	222.00	50.08	-492.88	TN SLDC and Developers Data Mismatch
3/13/2018	72	386.36	357.19	18.00	36.00	0.00	300.00	222.00	50.04	-611.77	TN SLDC and Developers Data Mismatch
3/14/2018	73	384.88	356.34	21.50	43.00	0.00	0.00	21.00	50.03	-405.88	TN SLDC and Developers Data Mismatch
3/15/2018	36	444.27	318.70	26.00	52.00	0.00	0.00	4.90	49.98	-154.02	TN SLDC and Developers Data Mismatch
3/16/2018	37	450.17	324.29	25.00	50.00	0.00	0.00	4.90	49.98	-71.55	TN SLDC and Developers Data Mismatch
3/17/2018	38	444.27	330.71	24.00	48.00	0.00	0.00	4.90	49.96	-9.03	TN SLDC and Developers Data Mismatch
3/18/2018	39	518.27	328.34	24.50	49.00	0.00	0.00	4.90	50.01	76.90	TN SLDC and Developers Data Mismatch
3/19/2018	40	527.53	342.36	25.00	50.00	0.00	0.00	4.90	50.03	43.62	TN SLDC and Developers Data Mismatch
3/20/2018	41	498.02	331.83	28.00	56.00	0.00	0.00	4.90	49.96	152.23	TN SLDC and Developers Data Mismatch
3/21/2018	42	493.83	322.95	31.00	62.00	0.00	0.00	4.90	49.99	188.50	TN SLDC and Developers Data Mismatch
3/22/2018	43	497.83	339.35	31.00	62.00	0.00	0.00	4.90	50.02	128.68	TN SLDC and Developers Data Mismatch
3/23/2018	44	523.27	341.67	31.00	62.00	0.00	0.00	4.90	50.01	92.29	TN SLDC and Developers Data Mismatch
3/24/2018	45	468.00	337.10	86.50	173.00	0.00	0.00	4.90	49.99	114.94	TN SLDC and Developers Data Mismatch
3/25/2018	46	416.00	335.63	142.00	284.00	0.00	0.00	4.90	49.92	89.76	TN SLDC and Developers Data Mismatch
3/26/2018	47	438.00	333.66	137.50	275.00	0.00	0.00	4.90	49.94	248.43	TN SLDC and Developers Data Mismatch
3/27/2018	48	525.45	327.85	133.00	266.00	0.00	0.00	4.90	50.00	72.77	TN SLDC and Developers Data Mismatch
3/28/2018	49	595.00	326.84	104.00	208.00	0.00	0.00	261.90	49.94	-49.16	TN SLDC and Developers Data Mismatch
3/29/2018	50	566.00	336.23	75.00	150.00	323.00	0.00	355.00	49.94	64.84	Curtailment could be completly avoided
3/30/2018	51	548.00	324.77	75.50	151.00	323.00	0.00	375.00	49.91	66.86	Curtailment could be completly avoided
3/31/2018	52	527.58	327.09	76.00	152.00	323.00	0.00	379.60	49.98	-39.42	Curtailment could be completly avoided

Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
4/1/2018	53	461.64	329.09	65.50	131.00	323.00	0.00	379.60	50.02	-130.08	Curtailment could be completely avoided
4/2/2018	54	471.00	319.55	55.00	110.00	200.00	0.00	379.60	49.98	-307.52	Curtailment could be completely avoided
4/3/2018	55	456.00	292.69	43.00	86.00	200.00	0.00	379.60	49.91	-313.45	Curtailment could be completely avoided
4/4/2018	56	510.89	302.42	31.00	62.00	200.00	0.00	415.60	49.93	-162.27	Curtailment could be completely avoided
4/5/2018	57	480.00	297.07	29.50	59.00	200.00	0.00	415.60	49.96	-3.09	Curtailment could be completely avoided
4/6/2018	58	476.00	296.59	28.00	56.00	464.00	0.00	415.60	49.88	149.15	Curtailment could be completely avoided
4/7/2018	59	534.82	287.92	27.50	55.00	464.00	0.00	415.60	49.92	72.16	Curtailment could be completely avoided
4/8/2018	60	560.00	292.83	27.00	54.00	464.00	0.00	415.60	49.94	92.07	Curtailment could be completely avoided
4/9/2018	61	525.00	298.46	30.50	61.00	464.00	0.00	415.60	49.99	113.26	Curtailment could be completely avoided
4/10/2018	62	491.00	383.91	34.00	68.00	300.00	0.00	418.35	49.92	-1.46	Curtailment could be completely avoided
4/11/2018	63	495.83	381.04	31.50	63.00	300.00	0.00	397.45	49.97	-41.30	Curtailment could be completely avoided
4/12/2018	64	549.00	384.62	29.00	58.00	300.00	0.00	397.45	49.92	92.87	Curtailment could be completely avoided
4/13/2018	65	501.57	386.08	28.50	57.00	300.00	0.00	401.45	49.98	12.45	Curtailment could be completely avoided
4/14/2018	66	513.27	363.80	28.00	56.00	200.00	0.00	366.95	49.93	73.89	Curtailment could be completely avoided
4/15/2018	67	524.93	359.27	56.00	112.00	200.00	0.00	354.35	49.96	65.14	Curtailment could be completely avoided
4/16/2018	68	473.27	352.45	84.00	168.00	200.00	0.00	350.35	49.95	28.30	Curtailment could be completely avoided
4/17/2018	69	457.27	363.80	85.50	171.00	200.00	0.00	350.35	49.97	25.89	Curtailment could be completely avoided
4/18/2018	70	444.27	365.04	87.00	174.00	94.10	0.00	345.75	49.95	34.09	Curtailment could be completely avoided
4/19/2018	71	465.38	367.67	90.00	180.00	94.10	0.00	345.75	49.99	21.18	Curtailment could be completely avoided
4/20/2018	72	394.27	369.11	93.00	186.00	94.10	0.00	343.00	49.99	71.45	Curtailment could be completely avoided
4/21/2018	73	464.41	373.55	102.50	205.00	94.10	0.00	21.00	50.01	-296.20	Curtailment could be completely avoided
4/22/2018	46	480.31	265.17	97.00	194.00	0.00	0.00	161.00	49.95	-28.69	TN SLDC and Developers Data Mismatch
4/23/2018	47	466.00	269.26	82.50	165.00	0.00	0.00	161.00	49.98	-19.25	TN SLDC and Developers Data Mismatch
4/24/2018	48	442.00	255.19	68.00	136.00	0.00	0.00	182.70	49.95	-65.21	TN SLDC and Developers Data Mismatch
4/25/2018	49	425.09	250.62	50.50	101.00	380.00	0.00	281.00	49.96	-29.85	Curtailment could be completely avoided
4/26/2018	50	506.91	247.11	33.00	66.00	380.00	0.00	284.10	49.92	188.56	Curtailment could be completely avoided
4/27/2018	51	458.00	246.11	33.00	66.00	380.00	0.00	284.10	49.99	123.97	Curtailment could be completely avoided
4/28/2018	52	454.00	239.75	33.00	66.00	380.00	0.00	284.10	50.01	65.60	Curtailment could be completely avoided
4/29/2018	53	438.00	236.40	32.00	64.00	197.00	0.00	284.10	50.05	-0.73	Curtailment could be completely avoided
4/30/2018	54	457.00	233.16	31.00	62.00	197.00	0.00	284.10	49.99	16.89	Curtailment could be completely avoided
5/1/2018	55	457.00	217.03	27.00	54.00	197.00	0.00	284.10	49.92	57.11	Curtailment could be completely avoided
5/2/2018	56	466.00	206.12	23.00	46.00	197.00	0.00	284.10	49.93	29.48	Curtailment could be completely avoided
5/3/2018	57	420.00	209.41	30.00	60.00	464.00	0.00	284.10	49.96	44.36	Curtailment could be completely avoided
5/4/2018	58	475.00	218.29	37.00	74.00	464.00	0.00	284.10	49.96	89.04	Curtailment could be completely avoided
5/5/2018	59	457.00	222.31	39.50	79.00	464.00	0.00	269.10	49.89	112.41	Curtailment could be completely avoided
5/6/2018	60	453.00	224.40	42.00	84.00	464.00	0.00	269.10	49.86	78.00	Curtailment could be completely avoided



Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/less drawl from the Grid compared to schedule)	Remarks
5/7/2018	61	456.00	206.34	76.50	153.00	250.00	0.00	269.10	49.97	107.47	Curtailment could be completely avoided
5/8/2018	62	466.00	217.89	111.00	222.00	250.00	0.00	269.10	49.89	217.43	Curtailment could be completely avoided
5/9/2018	63	414.27	212.15	133.00	266.00	250.00	0.00	269.10	49.96	275.10	Curtailment could not be avoided
5/10/2018	64	441.92	224.76	155.00	310.00	250.00	0.00	269.10	49.96	233.32	Curtailment could be completely avoided
5/11/2018	65	403.87	234.33	156.50	313.00	0.00	0.00	236.80	49.89	-0.04	TN SLDC and Developers Data Mismatch
5/12/2018	66	423.86	262.82	158.00	316.00	0.00	0.00	236.80	49.90	-32.25	TN SLDC and Developers Data Mismatch
5/13/2018	67	402.13	271.04	154.50	309.00	0.00	0.00	233.70	50.01	81.83	TN SLDC and Developers Data Mismatch
5/14/2018	68	402.14	271.88	151.00	302.00	0.00	0.00	233.70	49.95	125.25	TN SLDC and Developers Data Mismatch
5/15/2018	69	426.85	287.07	129.50	259.00	0.00	0.00	208.00	50.03	3.41	TN SLDC and Developers Data Mismatch
5/16/2018	70	499.86	315.86	108.00	216.00	0.00	0.00	208.00	49.93	-363.45	TN SLDC and Developers Data Mismatch
5/17/2018	71	447.28	312.25	108.50	217.00	0.00	0.00	208.00	50.04	-361.63	TN SLDC and Developers Data Mismatch
5/18/2018	72	431.03	322.16	109.00	218.00	0.00	0.00	206.50	50.02	-434.40	TN SLDC and Developers Data Mismatch
5/19/2018	48	399.86	276.97	143.00	286.00	362.00	0.00	20.60	49.97	-75.90	Curtailment could be completely avoided
5/20/2018	49	399.86	275.74	142.50	285.00	362.00	0.00	274.60	49.96	100.03	Curtailment could be completely avoided
5/21/2018	50	399.86	277.58	142.00	284.00	362.00	0.00	274.60	50.00	47.92	Curtailment could be completely avoided
5/22/2018	51	369.86	270.65	140.00	280.00	362.00	0.00	274.60	50.00	49.82	Curtailment could be completely avoided
5/23/2018	52	391.86	273.38	138.00	276.00	250.00	0.00	274.60	50.08	104.79	Curtailment could be completely avoided
5/24/2018	53	343.13	267.51	125.50	251.00	250.00	0.00	274.60	50.13	8.87	Curtailment could be completely avoided
5/25/2018	54	319.86	261.14	113.00	226.00	250.00	0.00	254.60	50.05	17.00	Curtailment could be completely avoided
5/26/2018	55	357.35	266.25	106.50	213.00	250.00	0.00	254.60	50.01	148.82	Curtailment could be completely avoided
5/27/2018	56	399.86	264.12	100.00	200.00	464.00	0.00	254.60	50.01	171.45	Curtailment could be completely avoided
5/28/2018	57	407.86	258.64	90.50	181.00	464.00	0.00	254.60	50.00	173.70	Curtailment could be completely avoided
5/29/2018	58	479.86	253.12	81.00	162.00	464.00	0.00	254.60	49.99	-127.62	Curtailment could be completely avoided
5/30/2018	59	469.86	260.03	77.50	155.00	464.00	0.00	254.60	49.96	-180.25	Curtailment could be completely avoided
5/31/2018	60	429.37	258.26	74.00	148.00	300.00	0.00	254.60	49.99	-172.98	Curtailment could be completely avoided
6/1/2018	61	393.86	263.44	75.50	151.00	300.00	0.00	254.60	49.97	-308.56	Curtailment could be completely avoided
6/2/2018	62	469.05	261.23	77.00	154.00	300.00	0.00	254.60	49.92	-262.82	Curtailment could be completely avoided
6/3/2018	63	529.86	253.95	77.50	155.00	300.00	0.00	254.60	49.94	-276.49	Curtailment could be completely avoided
6/4/2018	64	399.86	251.81	78.00	156.00	200.00	0.00	254.60	49.95	-199.33	Curtailment could be completely avoided
6/5/2018	65	478.13	277.06	98.50	197.00	200.00	0.00	242.10	50.00	4.72	Curtailment could be completely avoided
6/6/2018	66	449.77	309.34	119.00	238.00	200.00	0.00	228.10	49.97	-255.10	Curtailment could be completely avoided
6/7/2018	67	527.86	326.56	115.50	231.00	200.00	0.00	228.10	50.01	-291.47	Curtailment could be completely avoided
6/8/2018	68	413.58	334.17	112.00	224.00	0.00	0.00	228.10	50.05	-334.00	TN SLDC and Developers Data Mismatch
6/9/2018	69	365.25	345.59	92.00	184.00	0.00	0.00	208.10	50.06	-508.85	TN SLDC and Developers Data Mismatch
6/10/2018	70	358.13	338.10	72.00	144.00	0.00	0.00	208.10	50.03	-773.53	TN SLDC and Developers Data Mismatch
6/11/2018	71	440.79	295.77	58.50	117.00	0.00	0.00	43.50	50.05	-630.29	TN SLDC and Developers Data Mismatch

Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
6/12/2018	72	532.74	261.14	45.00	90.00	0.00	0.00	22.00	50.01	-483.57	TN SLDC and Developers Data Mismatch
6/13/2018	56	221.23	110.90	62.00	124.00	0.00	400.00	17.20	50.01	-434.92	TN SLDC and Developers Data Mismatch
6/14/2018	57	284.70	113.83	61.50	123.00	0.00	400.00	17.20	50.06	-310.62	TN SLDC and Developers Data Mismatch
6/15/2018	58	367.10	111.53	61.00	122.00	191.00	400.00	51.22	49.99	-155.70	50-80% Curtailment could be avoided
6/16/2018	59	310.25	112.00	59.50	119.00	191.00	400.00	462.52	50.01	131.56	80-100% Curtailment could be avoided
6/17/2018	60	353.27	110.23	58.00	116.00	191.00	400.00	445.32	50.02	36.92	50-80% Curtailment could be avoided
6/18/2018	61	353.27	105.58	64.50	129.00	191.00	400.00	445.32	50.00	8.76	50-80% Curtailment could be avoided
6/19/2018	62	390.42	106.18	71.00	142.00	100.00	400.00	439.07	50.01	-194.04	50-80% Curtailment could be avoided
6/20/2018	63	146.20	113.53	67.50	135.00	100.00	700.00	439.07	50.01	-587.91	Curtailment could not be avoided
6/21/2018	64	97.94	111.01	64.00	128.00	100.00	700.00	431.07	49.98	-449.57	Curtailment could not be avoided
6/22/2018	65	133.98	108.08	55.50	111.00	100.00	700.00	424.27	50.02	-353.25	Curtailment could not be avoided
6/23/2018	66	100.13	111.03	47.00	94.00	50.00	700.00	417.87	50.00	-346.09	Curtailment could not be avoided
6/24/2018	67	100.13	111.85	54.50	109.00	50.00	700.00	417.87	50.04	-424.03	Curtailment could not be avoided
6/25/2018	68	100.13	110.76	62.00	124.00	50.00	1000.00	397.87	50.02	-644.96	Curtailment could not be avoided
6/26/2018	69	100.13	113.54	63.50	127.00	50.00	1000.00	397.87	50.08	-461.95	Curtailment could not be avoided
6/27/2018	70	100.13	113.81	65.00	130.00	20.00	1000.00	397.87	50.01	-350.19	Curtailment could not be avoided
6/28/2018	71	120.80	111.43	67.00	134.00	20.00	1400.00	397.87	50.01	-378.44	Curtailment could not be avoided
6/29/2018	72	255.93	111.49	69.00	138.00	20.00	1400.00	360.37	50.02	-157.00	20-50% Curtailment could be avoided
6/30/2018	57	267.37	70.28	69.50	139.00	0.00	0.00	18.60	49.92	-303.66	TN SLDC and Developers Data Mismatch
7/1/2018	58	130.00	68.92	93.00	186.00	0.00	0.00	18.60	49.88	-33.34	TN SLDC and Developers Data Mismatch
7/2/2018	59	93.32	63.25	103.00	206.00	0.00	0.00	18.60	49.91	178.86	TN SLDC and Developers Data Mismatch
7/3/2018	60	224.00	64.66	113.00	226.00	0.00	0.00	18.60	49.89	6.98	TN SLDC and Developers Data Mismatch
7/4/2018	52	429.00	28.66	15.00	30.00	0.00	0.00	4.11	49.98	-822.16	TN SLDC and Developers Data Mismatch
7/5/2018	53	186.67	30.67	15.00	30.00	332.00	0.00	205.31	50.01	-902.14	Curtailment could not be avoided
7/6/2018	54	249.67	29.56	15.00	30.00	332.00	0.00	253.70	49.97	-802.12	Curtailment could not be avoided
7/7/2018	55	174.73	31.44	15.00	30.00	332.00	0.00	253.70	49.94	-553.86	Curtailment could not be avoided
7/8/2018	56	24.47	31.22	15.00	30.00	332.00	0.00	253.70	49.95	-150.75	Curtailment could not be avoided
7/9/2018	57	200.00	31.20	27.50	55.00	200.00	0.00	253.70	49.94	292.84	Curtailment could not be avoided
7/10/2018	58	100.00	25.61	40.00	80.00	200.00	0.00	253.70	49.92	341.46	Curtailment could not be avoided
7/11/2018	59	261.62	51.50	47.00	94.00	200.00	0.00	253.70	49.97	181.99	Curtailment could be completely avoided
7/12/2018	60	373.05	58.84	54.00	108.00	200.00	0.00	242.30	49.96	108.11	Curtailment could be completely avoided
7/13/2018	61	648.08	61.63	43.50	87.00	100.00	0.00	242.30	50.00	-142.22	Curtailment could be completely avoided
7/14/2018	62	563.87	61.63	33.00	66.00	100.00	0.00	242.30	49.94	-261.47	Curtailment could be completely avoided
7/15/2018	63	533.84	61.63	33.50	67.00	100.00	0.00	242.30	49.94	-230.56	Curtailment could be completely avoided
7/16/2018	64	304.89	61.63	34.00	68.00	100.00	0.00	242.30	49.91	-310.59	50-80% Curtailment could be avoided
7/17/2018	65	286.16	61.63	32.50	65.00	30.00	0.00	221.50	50.00	-82.28	Curtailment could be completely avoided



Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
7/18/2018	66	229.00	62.88	31.00	62.00	30.00	0.00	221.50	49.97	256.98	Curtailment could not be avoided
7/19/2018	67	229.00	63.35	26.00	52.00	30.00	0.00	80.50	50.02	102.24	Curtailment could not be avoided
7/20/2018	68	229.00	63.35	21.00	42.00	30.00	0.00	80.50	50.00	94.60	Curtailment could not be avoided
7/21/2018	69	421.05	63.35	21.00	42.00	0.00	0.00	80.50	49.98	-181.06	TN SLDC and Developers Data Mismatch
7/22/2018	70	651.00	63.35	21.00	42.00	0.00	0.00	80.50	50.01	-320.42	TN SLDC and Developers Data Mismatch
7/23/2018	71	516.09	64.32	20.50	41.00	0.00	0.00	80.50	49.96	-439.90	TN SLDC and Developers Data Mismatch
7/24/2018	72	499.00	66.78	20.00	40.00	0.00	0.00	80.50	49.98	-428.73	TN SLDC and Developers Data Mismatch
7/25/2018	37	0.00	1.85	10.00	20.00	279.00	2700.00	202.25	50.03	-708.00	Curtailment could not be avoided
7/26/2018	38	0.00	1.28	10.00	20.00	279.00	2700.00	210.45	50.01	-444.80	Curtailment could not be avoided
7/27/2018	39	0.00	1.23	10.50	21.00	279.00	2700.00	299.05	49.98	-366.78	Curtailment could not be avoided
7/28/2018	40	0.00	1.20	11.00	22.00	279.00	2700.00	312.05	49.98	-270.98	Curtailment could not be avoided
7/29/2018	41	0.00	0.00	14.00	28.00	240.00	2700.00	312.05	49.93	-289.77	Curtailment could not be avoided
7/30/2018	42	0.00	1.38	17.00	34.00	240.00	2700.00	312.05	49.91	-142.65	Curtailment could not be avoided
7/31/2018	43	0.00	2.06	17.00	34.00	240.00	2700.00	312.05	49.95	-129.01	Curtailment could not be avoided
8/1/2018	44	0.00	3.34	17.00	34.00	240.00	2700.00	312.05	49.99	-11.59	Curtailment could not be avoided
8/2/2018	45	0.00	3.27	17.50	35.00	240.00	2300.00	312.05	49.95	-7.60	Curtailment could not be avoided
8/3/2018	46	0.00	4.68	18.00	36.00	240.00	2300.00	305.45	49.98	39.40	Curtailment could not be avoided
8/4/2018	47	0.00	2.62	18.00	36.00	240.00	2300.00	305.45	49.98	-24.46	Curtailment could not be avoided
8/5/2018	48	0.00	2.83	18.00	36.00	240.00	2300.00	303.45	50.02	61.48	Curtailment could not be avoided
8/6/2018	49	0.00	2.99	18.00	36.00	220.00	2300.00	303.45	49.97	-147.90	Curtailment could not be avoided
8/7/2018	50	0.00	2.68	18.00	36.00	220.00	2300.00	303.45	49.99	-60.31	Curtailment could not be avoided
8/8/2018	51	0.00	3.40	16.50	33.00	220.00	2300.00	303.45	50.02	-30.96	Curtailment could not be avoided
8/9/2018	52	0.00	5.37	15.00	30.00	220.00	2300.00	303.45	50.02	-168.13	Curtailment could not be avoided
8/10/2018	53	0.00	7.39	14.00	28.00	200.00	2300.00	303.45	50.04	-311.75	Curtailment could not be avoided
8/11/2018	54	0.00	10.90	13.00	26.00	200.00	2300.00	303.45	50.02	-335.83	Curtailment could not be avoided
8/12/2018	55	0.00	14.79	13.00	26.00	200.00	2300.00	303.45	49.99	-415.57	Curtailment could not be avoided
8/13/2018	56	0.00	13.56	13.00	26.00	200.00	2300.00	303.45	49.98	-413.19	Curtailment could not be avoided
8/14/2018	57	0.00	12.40	13.00	26.00	150.00	2300.00	303.45	49.98	-192.92	Curtailment could not be avoided
8/15/2018	58	0.00	12.58	13.00	26.00	150.00	2300.00	303.45	49.99	-94.41	Curtailment could not be avoided
8/16/2018	59	0.00	11.58	13.00	26.00	150.00	2300.00	303.45	49.98	-245.91	Curtailment could not be avoided
8/17/2018	60	0.00	24.40	13.00	26.00	150.00	2300.00	303.45	50.01	-239.16	Curtailment could not be avoided
8/18/2018	61	0.00	22.49	12.50	25.00	100.00	2300.00	303.45	50.05	-116.61	Curtailment could not be avoided
8/19/2018	62	90.22	16.58	12.00	24.00	100.00	2300.00	303.45	50.02	-181.58	Curtailment could not be avoided
8/20/2018	63	0.00	13.67	12.50	25.00	100.00	2300.00	303.45	50.03	-201.38	Curtailment could not be avoided
8/21/2018	64	0.00	4.09	13.00	26.00	100.00	2300.00	275.45	50.01	-36.12	Curtailment could not be avoided
8/22/2018	65	0.00	8.13	12.00	24.00	50.00	2000.00	258.45	50.01	209.82	Curtailment could not be avoided



Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
8/23/2018	66	0.00	4.50	11.00	22.00	50.00	2000.00	258.45	50.02	69.34	Curtailment could not be avoided
8/24/2018	67	0.00	4.96	11.50	23.00	50.00	2000.00	258.45	50.09	13.60	Curtailment could not be avoided
8/25/2018	68	0.00	5.33	12.00	24.00	50.00	2000.00	256.85	50.04	-178.82	Curtailment could not be avoided
8/26/2018	69	0.00	4.14	11.50	23.00	20.00	2100.00	256.85	50.07	-500.13	Curtailment could not be avoided
8/27/2018	70	0.00	4.84	11.00	22.00	20.00	2100.00	256.85	50.02	-504.07	Curtailment could not be avoided
8/28/2018	71	0.00	5.02	11.50	23.00	20.00	2100.00	252.25	50.08	-187.57	Curtailment could not be avoided
8/29/2018	72	0.00	4.89	12.00	24.00	20.00	2100.00	252.25	50.14	-66.86	Curtailment could not be avoided
8/30/2018	73	0.00	11.03	19.00	38.00	0.00	400.00	177.00	50.14	-91.04	TN SLDC and Developers Data Mismatch
8/31/2018	40	53.27	3.78	11.00	22.00	417.00	1100.00	17.11	50.04	-373.16	Curtailment could not be avoided
9/1/2018	41	53.27	3.50	13.00	26.00	417.00	1100.00	313.31	49.99	-219.80	Curtailment could not be avoided
9/2/2018	42	53.27	3.46	15.00	30.00	417.00	1100.00	313.31	49.99	-131.10	Curtailment could not be avoided
9/3/2018	43	53.27	5.26	15.00	30.00	417.00	1100.00	313.31	49.99	-155.80	Curtailment could not be avoided
9/4/2018	44	53.27	5.95	15.00	30.00	250.00	1100.00	313.31	49.99	-72.24	Curtailment could not be avoided
9/5/2018	45	53.27	2.28	14.00	28.00	250.00	800.00	313.31	49.97	-75.14	Curtailment could not be avoided
9/6/2018	46	53.27	4.56	13.00	26.00	250.00	800.00	313.31	49.97	10.56	Curtailment could not be avoided
9/7/2018	47	53.27	6.44	13.00	26.00	250.00	800.00	313.31	50.01	31.43	Curtailment could not be avoided
9/8/2018	48	53.27	18.92	13.00	26.00	200.00	800.00	313.31	50.02	66.94	Curtailment could not be avoided
9/9/2018	49	53.27	10.25	22.00	44.00	200.00	800.00	368.81	50.01	276.40	Curtailment could not be avoided
9/10/2018	50	53.27	13.67	31.00	62.00	200.00	800.00	368.81	50.00	189.77	Curtailment could not be avoided
9/11/2018	51	53.27	11.21	33.50	67.00	200.00	800.00	368.81	49.99	-9.28	Curtailment could not be avoided
9/12/2018	52	53.27	9.89	36.00	72.00	180.00	800.00	368.81	49.98	-45.60	Curtailment could not be avoided
9/13/2018	53	53.27	8.78	33.50	67.00	180.00	250.00	368.81	50.00	86.70	Curtailment could not be avoided
9/14/2018	54	53.27	6.22	31.00	62.00	180.00	250.00	368.81	49.97	179.23	Curtailment could not be avoided
9/15/2018	55	53.27	0.00	31.00	62.00	180.00	250.00	368.81	49.98	307.21	Curtailment could not be avoided
9/16/2018	56	136.98	0.85	31.00	62.00	150.00	250.00	368.81	49.97	240.40	20-50% Curtailment could be avoided
9/17/2018	57	53.27	0.50	32.50	65.00	150.00	0.00	368.81	50.00	158.12	Curtailment could be completely avoided
9/18/2018	58	53.27	0.00	34.00	68.00	150.00	0.00	368.81	49.93	209.02	Curtailment could be completely avoided
9/19/2018	59	53.27	1.23	35.00	70.00	150.00	0.00	368.81	49.92	195.83	Curtailment could be completely avoided
9/20/2018	60	53.27	1.76	36.00	72.00	130.00	0.00	368.81	49.95	177.60	Curtailment could not be avoided
9/21/2018	61	112.54	3.17	25.00	50.00	130.00	0.00	368.81	50.02	263.13	Curtailment could not be avoided
9/22/2018	62	203.27	2.79	14.00	28.00	130.00	0.00	368.81	49.98	180.42	Curtailment could not be avoided
9/23/2018	63	176.30	5.83	14.50	29.00	130.00	0.00	368.81	49.98	25.74	80-100% Curtailment could be avoided
9/24/2018	64	224.30	10.08	15.00	30.00	100.00	0.00	333.81	50.01	-62.69	80-100% Curtailment could be avoided
9/25/2018	65	379.19	17.43	13.50	27.00	100.00	0.00	333.81	50.00	-210.16	80-100% Curtailment could be avoided
9/26/2018	66	279.43	30.10	12.00	24.00	100.00	0.00	333.81	49.95	-101.99	Curtailment could be completely avoided
9/27/2018	67	216.04	31.28	11.50	23.00	100.00	0.00	311.11	49.97	-115.40	50-80% Curtailment could be avoided



Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/less drawl from the Grid compared to schedule)	Remarks
9/28/2018	68	101.30	32.33	11.00	22.00	50.00	0.00	311.11	49.99	34.50	Curtailment could be completely avoided
9/29/2018	69	398.00	39.95	9.50	19.00	50.00	0.00	311.11	50.03	69.70	Curtailment could not be avoided
9/30/2018	70	328.00	35.62	8.00	16.00	50.00	0.00	311.11	50.00	159.09	Curtailment could not be avoided
10/1/2018	71	105.00	32.06	15.50	31.00	50.00	0.00	311.11	50.02	361.38	Curtailment could not be avoided
10/2/2018	72	253.58	37.17	23.00	46.00	20.00	0.00	311.11	49.99	378.28	Curtailment could not be avoided
10/3/2018	53	100.00	75.75	39.00	78.00	0.00	0.00	147.00	49.96	-555.71	TN SLDC and Developers Data Mismatch
10/4/2018	54	100.00	59.90	19.00	38.00	317.00	0.00	153.70	49.89	-563.12	Curtailment could not be avoided
10/5/2018	55	100.00	60.09	17.00	34.00	317.00	0.00	219.40	49.88	-521.13	Curtailment could not be avoided
10/6/2018	56	75.90	60.03	15.00	30.00	317.00	0.00	237.40	49.88	-334.87	Curtailment could not be avoided
10/7/2018	57	350.00	50.09	14.50	29.00	317.00	0.00	237.40	49.88	-216.48	50-80% Curtailment could be avoided
10/8/2018	58	277.44	51.60	14.00	28.00	200.00	0.00	237.40	49.80	6.76	Curtailment could be completely avoided
10/9/2018	59	250.00	84.80	14.00	28.00	200.00	0.00	227.40	49.83	-17.68	Curtailment could be completely avoided
10/10/2018	60	100.00	106.70	14.00	28.00	200.00	0.00	227.40	49.89	159.70	Curtailment could be completely avoided
10/11/2018	61	369.00	125.73	16.00	32.00	200.00	0.00	227.40	49.98	6.24	Curtailment could be completely avoided
10/12/2018	62	219.00	132.88	18.00	36.00	100.00	0.00	227.40	49.87	-49.76	Curtailment could be completely avoided
10/13/2018	63	219.00	133.09	18.00	36.00	100.00	0.00	227.40	49.92	-226.34	80-100% Curtailment could be avoided
10/14/2018	64	270.43	144.90	18.00	36.00	100.00	0.00	227.40	49.93	-282.29	80-100% Curtailment could be avoided
10/15/2018	65	255.00	140.31	15.00	30.00	100.00	300.00	227.40	49.99	-345.36	20-50% Curtailment could be avoided
10/16/2018	66	291.00	141.16	12.00	24.00	50.00	300.00	214.90	49.95	-210.41	50-80% Curtailment could be avoided
10/17/2018	67	464.43	149.42	11.50	23.00	50.00	300.00	214.90	50.04	-308.49	50-80% Curtailment could be avoided
10/18/2018	68	588.61	181.55	11.00	22.00	50.00	300.00	214.90	50.01	-655.65	50-80% Curtailment could be avoided
10/19/2018	69	338.25	188.11	11.50	23.00	50.00	0.00	196.90	50.03	-503.59	50-80% Curtailment could be avoided
10/20/2018	70	290.49	187.38	12.00	24.00	20.00	0.00	196.90	50.01	-176.77	Curtailment could be completely avoided
10/21/2018	71	175.13	189.97	13.00	26.00	20.00	0.00	190.20	50.00	176.29	Curtailment could not be avoided
10/22/2018	72	123.70	189.01	14.00	28.00	20.00	0.00	170.00	50.03	278.68	Curtailment could not be avoided
10/23/2018	56	141.03	75.00	41.00	82.00	360.00	300.00	2.75	50.01	-466.15	Curtailment could not be avoided
10/24/2018	57	100.00	73.97	33.00	66.00	360.00	0.00	277.55	50.02	-605.92	Curtailment could not be avoided
10/25/2018	58	24.47	73.86	25.00	50.00	360.00	0.00	279.95	49.94	-128.19	Curtailment could not be avoided
10/26/2018	59	24.47	73.60	26.00	52.00	360.00	0.00	279.95	49.83	127.73	Curtailment could not be avoided
10/27/2018	60	0.00	69.22	27.00	54.00	250.00	0.00	279.95	49.91	185.59	Curtailment could not be avoided
10/28/2018	61	200.00	74.55	29.00	58.00	250.00	0.00	277.20	49.99	-57.15	50-80% Curtailment could be avoided
10/29/2018	62	289.33	67.54	31.00	62.00	250.00	0.00	277.20	49.99	-74.29	80-100% Curtailment could be avoided
10/30/2018	63	200.00	64.46	31.50	63.00	250.00	0.00	277.20	49.97	-143.77	20-50% Curtailment could be avoided
10/31/2018	64	100.00	66.43	32.00	64.00	200.00	0.00	277.20	49.99	-156.46	20-50% Curtailment could be avoided
11/1/2018	65	100.00	57.54	24.00	48.00	200.00	300.00	265.00	49.93	-74.45	Curtailment could not be avoided
11/2/2018	66	100.00	62.83	16.00	32.00	200.00	300.00	262.60	50.00	-42.40	Curtailment could not be avoided



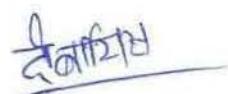
Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
11/3/2018	67	100.00	56.78	16.00	32.00	200.00	300.00	232.60	50.02	-44.26	Curtailment could not be avoided
11/4/2018	68	285.00	55.13	16.00	32.00	100.00	300.00	232.60	49.99	-282.59	20-50% Curtailment could be avoided
11/5/2018	69	236.00	55.13	16.00	32.00	100.00	0.00	212.60	50.00	-271.87	50-80% Curtailment could be avoided
11/6/2018	70	333.00	56.28	16.00	32.00	100.00	0.00	212.60	50.02	-626.06	20-50% Curtailment could be avoided
11/7/2018	71	203.00	58.86	16.50	33.00	100.00	0.00	206.00	49.98	-474.92	20-50% Curtailment could be avoided
11/8/2018	72	296.27	63.76	17.00	34.00	0.00	0.00	206.00	50.01	-139.27	TN SLDC and Developers Data Mismatch
11/9/2018	50	486.28	59.43	13.00	26.00	331.00	300.00	162.00	49.96	-407.67	20-50% Curtailment could be avoided
11/10/2018	51	329.29	64.34	14.00	28.00	331.00	300.00	235.50	49.88	-477.38	20-50% Curtailment could be avoided
11/11/2018	52	248.27	55.49	15.00	30.00	331.00	300.00	205.50	49.92	-663.85	Curtailment could not be avoided
11/12/2018	53	296.27	60.08	13.00	26.00	200.00	300.00	113.50	49.98	-457.41	20-50% Curtailment could be avoided
11/13/2018	54	201.27	60.70	11.00	22.00	200.00	300.00	113.50	49.97	-301.72	20-50% Curtailment could be avoided
11/14/2018	55	189.01	64.25	11.50	23.00	200.00	300.00	113.50	49.90	-165.42	20-50% Curtailment could be avoided
11/15/2018	56	187.02	64.65	12.00	24.00	200.00	300.00	120.00	49.97	-639.18	Curtailment could not be avoided
11/16/2018	57	174.00	60.82	11.50	23.00	150.00	600.00	120.00	49.98	-536.02	Curtailment could not be avoided
11/17/2018	58	383.00	55.59	11.00	22.00	150.00	600.00	120.00	49.90	-965.10	20-50% Curtailment could be avoided
11/18/2018	59	167.98	62.82	11.50	23.00	150.00	600.00	120.00	49.97	-767.06	Curtailment could not be avoided
11/19/2018	60	132.68	60.59	12.00	24.00	150.00	600.00	120.00	50.00	-499.01	Curtailment could not be avoided
11/20/2018	61	0.00	62.56	10.50	21.00	100.00	600.00	120.00	49.88	-113.75	Curtailment could not be avoided
11/21/2018	62	29.65	61.10	9.00	18.00	100.00	600.00	108.50	49.99	135.11	Curtailment could not be avoided
11/22/2018	63	0.00	58.92	9.50	19.00	100.00	600.00	108.50	49.99	82.01	Curtailment could not be avoided
11/23/2018	64	0.00	63.44	10.00	20.00	100.00	600.00	108.50	49.99	-346.20	Curtailment could not be avoided
11/24/2018	65	64.49	61.27	8.50	17.00	50.00	600.00	46.50	49.94	-673.44	Curtailment could not be avoided
11/25/2018	66	170.68	59.33	7.00	14.00	50.00	600.00	46.50	49.98	-465.32	Curtailment could not be avoided
11/26/2018	67	100.00	59.89	7.50	15.00	50.00	600.00	46.50	50.05	-224.23	Curtailment could not be avoided
11/27/2018	68	241.01	65.81	8.00	16.00	50.00	600.00	46.50	49.99	-14.87	20-50% Curtailment could be avoided
11/28/2018	69	412.27	65.10	9.00	18.00	20.00	300.00	40.00	50.01	-92.37	80-100% Curtailment could be avoided
11/29/2018	70	431.41	61.40	10.00	20.00	20.00	300.00	40.00	50.01	-125.63	80-100% Curtailment could be avoided
11/30/2018	71	180.79	67.77	10.00	20.00	20.00	300.00	40.00	49.98	-300.26	20-50% Curtailment could be avoided
12/1/2018	72	101.54	67.38	10.00	20.00	20.00	300.00	40.00	49.95	-136.94	Curtailment could not be avoided
12/2/2018	49	226.07	9.20	27.00	54.00	0.00	298.00	112.00	50.00	-231.60	TN SLDC and Developers Data Mismatch
12/3/2018	50	276.11	9.66	18.00	36.00	0.00	298.00	121.40	50.09	-230.51	TN SLDC and Developers Data Mismatch
12/4/2018	51	273.27	12.09	18.00	36.00	0.00	298.00	158.90	49.99	-290.01	TN SLDC and Developers Data Mismatch
12/5/2018	52	273.27	9.01	18.00	36.00	303.00	298.00	182.01	50.07	-327.06	20-50% Curtailment could be avoided
12/6/2018	53	273.27	15.03	18.00	36.00	303.00	397.00	224.61	50.03	-429.38	Curtailment could not be avoided
12/7/2018	54	273.27	20.37	18.00	36.00	303.00	397.00	220.50	50.02	-605.14	Curtailment could not be avoided
12/8/2018	55	297.27	26.82	18.50	37.00	303.00	397.00	226.50	49.99	-784.12	Curtailment could not be avoided

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Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
12/9/2018	56	297.27	29.27	19.00	38.00	200.00	397.00	226.50	50.00	-740.27	Curtailment could not be avoided
12/10/2018	57	297.27	31.80	34.50	69.00	200.00	397.00	226.50	49.94	-708.18	20-50% Curtailment could be avoided
12/11/2018	58	201.27	32.55	50.00	100.00	200.00	397.00	226.50	49.92	173.52	20-50% Curtailment could be avoided
12/12/2018	59	177.07	30.63	50.50	101.00	200.00	397.00	226.50	49.96	185.82	20-50% Curtailment could be avoided
12/13/2018	60	177.27	29.49	51.00	102.00	100.00	397.00	226.50	49.99	122.11	20-50% Curtailment could be avoided
12/14/2018	61	201.07	28.33	59.00	118.00	100.00	0.00	226.50	49.98	158.13	Curtailment could not be avoided
12/15/2018	62	319.00	28.40	67.00	134.00	100.00	0.00	226.50	50.02	119.43	Curtailment could not be avoided
12/16/2018	63	386.27	28.53	66.50	133.00	100.00	0.00	226.50	49.97	108.37	Curtailment could not be avoided
12/17/2018	64	386.27	29.18	66.00	132.00	50.00	0.00	226.50	50.00	250.45	Curtailment could not be avoided
12/18/2018	65	388.27	31.58	70.00	140.00	50.00	0.00	207.50	49.99	422.51	Curtailment could not be avoided
12/19/2018	66	436.27	28.37	74.00	148.00	50.00	0.00	158.00	50.04	480.64	Curtailment could not be avoided
12/20/2018	67	481.24	41.61	94.50	189.00	50.00	0.00	118.00	50.02	343.25	Curtailment could not be avoided
12/21/2018	68	511.25	9.03	115.00	230.00	0.00	0.00	118.00	49.99	231.66	TN SLDC and Developers Data Mismatch
12/22/2018	69	603.79	114.18	100.00	200.00	0.00	0.00	118.00	50.00	98.30	TN SLDC and Developers Data Mismatch
12/23/2018	70	495.55	163.92	85.00	170.00	0.00	0.00	112.00	50.05	64.99	TN SLDC and Developers Data Mismatch
12/24/2018	71	591.24	175.32	77.00	154.00	0.00	0.00	112.00	49.98	-58.31	TN SLDC and Developers Data Mismatch
12/25/2018	72	336.24	180.61	69.00	138.00	0.00	0.00	112.00	50.04	76.49	TN SLDC and Developers Data Mismatch
12/26/2018	73	152.99	186.17	99.00	198.00	0.00	0.00	112.00	49.97	246.33	TN SLDC and Developers Data Mismatch
12/27/2018	44	219.00	48.68	12.00	24.00	354.00	200.00	207.00	50.02	-467.84	Curtailment could not be avoided
12/28/2018	45	124.00	48.55	19.50	39.00	354.00	0.00	263.80	49.99	-92.93	20-50% Curtailment could be avoided
12/29/2018	46	100.00	37.16	27.00	54.00	354.00	0.00	263.80	50.01	-15.53	Curtailment could not be avoided
12/30/2018	47	130.15	26.42	27.00	54.00	354.00	0.00	263.80	50.02	247.37	50-80% Curtailment could be avoided
12/31/2018	48	24.47	29.39	27.00	54.00	300.00	0.00	263.80	50.03	264.40	Curtailment could not be avoided
1/1/2019	49	200.00	29.97	53.00	106.00	300.00	300.00	263.80	50.06	204.19	20-50% Curtailment could be avoided
1/2/2019	50	100.00	29.47	79.00	158.00	300.00	300.00	263.80	50.00	-234.36	Curtailment could not be avoided
1/3/2019	51	148.00	32.37	81.50	163.00	300.00	300.00	263.80	50.01	-366.78	Curtailment could not be avoided
1/4/2019	52	72.47	34.19	84.00	168.00	250.00	300.00	263.80	50.02	-197.70	Curtailment could not be avoided
1/5/2019	53	200.00	36.07	58.00	116.00	250.00	600.00	263.80	50.05	-373.30	Curtailment could not be avoided
1/6/2019	54	24.47	36.58	32.00	64.00	250.00	600.00	263.80	50.02	-121.20	Curtailment could not be avoided
1/7/2019	55	0.00	35.58	25.50	51.00	250.00	600.00	263.80	49.98	45.46	Curtailment could not be avoided
1/8/2019	56	52.20	34.97	19.00	38.00	200.00	600.00	263.80	50.03	124.06	Curtailment could not be avoided
1/9/2019	57	0.00	35.32	19.00	38.00	200.00	0.00	263.80	50.08	146.32	Curtailment could not be avoided
1/10/2019	58	23.44	36.21	19.00	38.00	200.00	0.00	263.80	50.02	251.58	Curtailment could be completely avoided
1/11/2019	59	0.00	37.92	19.00	38.00	200.00	0.00	263.80	50.03	302.48	Curtailment could be completely avoided
1/12/2019	60	200.00	35.41	19.00	38.00	150.00	0.00	263.80	50.01	-134.48	50-80% Curtailment could be avoided
1/13/2019	61	170.04	34.10	19.00	38.00	150.00	0.00	263.80	50.00	-224.71	20-50% Curtailment could be avoided

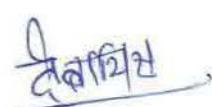


Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
1/14/2019	62	149.68	33.28	19.00	38.00	150.00	0.00	263.80	50.02	-348.47	20-50% Curtailment could be avoided
1/15/2019	63	145.60	33.82	19.00	38.00	150.00	0.00	244.80	50.01	-506.16	Curtailment could not be avoided
1/16/2019	64	45.00	34.20	19.00	38.00	100.00	0.00	244.80	49.96	-579.60	Curtailment could not be avoided
1/17/2019	65	100.00	36.04	19.00	38.00	100.00	0.00	238.70	49.97	-596.94	Curtailment could not be avoided
1/18/2019	66	24.47	36.42	19.00	38.00	100.00	0.00	235.70	49.95	-530.55	Curtailment could not be avoided
1/19/2019	67	199.24	13.26	19.00	38.00	100.00	0.00	210.00	49.99	-596.71	Curtailment could not be avoided
1/20/2019	68	78.37	36.59	19.00	38.00	50.00	0.00	210.00	49.99	-444.58	Curtailment could not be avoided
1/21/2019	69	24.47	45.35	17.50	35.00	50.00	0.00	210.00	50.01	-373.09	Curtailment could not be avoided
1/22/2019	70	100.00	38.87	16.00	32.00	50.00	0.00	210.00	50.00	-182.31	20-50% Curtailment could be avoided
1/23/2019	71	100.00	36.02	16.00	32.00	50.00	0.00	210.00	50.03	-104.11	20-50% Curtailment could be avoided
1/24/2019	72	200.00	33.12	16.00	32.00	0.00	0.00	210.00	50.01	-54.04	TN SLDC and Developers Data Mismatch
1/25/2019	45	0.00	36.67	17.50	35.00	327.00	1100.00	138.60	49.99	-633.03	Curtailment could not be avoided
1/26/2019	46	0.00	45.78	18.00	36.00	327.00	1100.00	237.10	49.95	-352.49	Curtailment could not be avoided
1/27/2019	47	0.00	49.20	17.50	35.00	327.00	1100.00	237.10	49.94	-150.11	Curtailment could not be avoided
1/28/2019	48	0.00	47.05	17.00	34.00	327.00	1100.00	237.10	49.99	-182.10	Curtailment could not be avoided
1/29/2019	49	0.00	44.31	15.50	31.00	300.00	800.00	237.10	49.98	-11.66	Curtailment could not be avoided
1/30/2019	50	0.00	39.18	14.00	28.00	300.00	800.00	237.10	50.00	-4.43	Curtailment could not be avoided
1/31/2019	51	0.00	44.00	14.00	28.00	300.00	800.00	237.10	50.06	-194.46	Curtailment could not be avoided
2/1/2019	52	0.00	40.27	14.00	28.00	300.00	800.00	237.10	50.05	-329.25	Curtailment could not be avoided
2/2/2019	53	0.00	37.24	17.50	35.00	250.00	1100.00	237.10	50.05	-505.52	Curtailment could not be avoided
2/3/2019	54	0.00	40.61	21.00	42.00	250.00	1100.00	237.10	49.99	-224.52	Curtailment could not be avoided
2/4/2019	55	0.00	39.46	20.00	40.00	250.00	1100.00	237.10	49.99	-33.89	Curtailment could not be avoided
2/5/2019	56	0.00	38.74	19.00	38.00	250.00	1100.00	225.10	50.02	51.97	Curtailment could not be avoided
2/6/2019	57	100.00	41.02	17.50	35.00	200.00	1100.00	225.10	50.05	-120.94	Curtailment could not be avoided
2/7/2019	58	100.00	35.49	16.00	32.00	200.00	1100.00	225.10	50.02	-268.88	Curtailment could not be avoided
2/8/2019	59	100.00	36.23	16.00	32.00	200.00	1100.00	225.10	50.01	-159.24	Curtailment could not be avoided
2/9/2019	60	100.00	37.54	16.00	32.00	200.00	1100.00	225.10	50.01	-46.81	Curtailment could not be avoided
2/10/2019	61	100.00	35.63	18.00	36.00	150.00	1100.00	225.10	50.02	-571.76	Curtailment could not be avoided
2/11/2019	62	100.00	39.72	20.00	40.00	150.00	1100.00	225.10	49.97	-531.34	Curtailment could not be avoided
2/12/2019	63	24.47	37.38	20.00	40.00	150.00	1100.00	206.10	50.00	-452.23	Curtailment could not be avoided
2/13/2019	64	24.47	38.43	20.00	40.00	150.00	1100.00	206.10	49.99	-113.51	Curtailment could not be avoided
2/14/2019	65	100.00	47.93	18.50	37.00	100.00	700.00	206.10	50.01	-82.47	Curtailment could not be avoided
2/15/2019	66	100.00	41.11	17.00	34.00	100.00	700.00	206.10	49.96	53.75	Curtailment could not be avoided
2/16/2019	67	200.00	55.86	16.00	32.00	100.00	700.00	206.10	50.05	-30.33	20-50% Curtailment could be avoided
2/17/2019	68	153.39	51.63	15.00	30.00	100.00	700.00	200.10	50.05	-145.17	Curtailment could not be avoided
2/18/2019	69	100.00	55.81	15.50	31.00	50.00	700.00	178.00	50.12	-170.73	Curtailment could not be avoided

Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less draw from the Grid compared to schedule)	Remarks
2/19/2019	70	189.00	59.17	16.00	32.00	50.00	700.00	178.00	50.02	-37.83	20-50% Curtailment could be avoided
2/20/2019	71	201.27	62.37	16.50	33.00	50.00	700.00	178.00	49.99	53.43	20-50% Curtailment could be avoided
2/21/2019	72	77.74	61.90	17.00	34.00	50.00	700.00	49.00	49.97	141.42	Curtailment could not be avoided
2/22/2019	43	100.00	24.38	10.50	21.00	0.00	1300.00	138.00	50.00	-491.73	TN SLDC and Developers Data Mismatch
2/23/2019	44	100.00	24.06	10.00	20.00	355.00	1300.00	161.10	49.98	-179.88	Curtailment could not be avoided
2/24/2019	45	100.00	21.50	11.50	23.00	355.00	1300.00	262.49	49.93	-157.91	Curtailment could not be avoided
2/25/2019	46	100.00	20.94	13.00	26.00	355.00	1300.00	262.49	49.96	-170.84	Curtailment could not be avoided
2/26/2019	47	100.00	27.08	13.50	27.00	355.00	1300.00	262.49	49.91	-87.75	Curtailment could not be avoided
2/27/2019	48	24.47	22.25	14.00	28.00	300.00	1300.00	262.49	50.01	-115.72	Curtailment could not be avoided
2/28/2019	49	39.53	21.98	13.00	26.00	300.00	1300.00	262.49	49.98	-62.72	Curtailment could not be avoided
3/1/2019	50	24.47	20.86	12.00	24.00	300.00	1300.00	262.49	49.95	129.90	Curtailment could not be avoided
3/2/2019	51	100.00	21.30	12.00	24.00	300.00	1300.00	262.49	49.92	145.40	Curtailment could not be avoided
3/3/2019	52	100.00	20.79	12.00	24.00	250.00	1300.00	262.49	49.98	-43.79	Curtailment could not be avoided
3/4/2019	53	100.00	22.50	12.50	25.00	250.00	1000.00	262.49	50.01	-245.66	Curtailment could not be avoided
3/5/2019	54	100.00	23.10	13.00	26.00	250.00	1000.00	262.49	50.01	-254.47	Curtailment could not be avoided
3/6/2019	55	100.00	24.03	13.00	26.00	250.00	1000.00	262.49	49.95	-328.70	Curtailment could not be avoided
3/7/2019	56	200.00	22.87	13.00	26.00	200.00	1000.00	262.49	50.03	-277.88	Curtailment could not be avoided
3/8/2019	57	200.00	23.37	12.50	25.00	200.00	800.00	262.49	50.00	-408.93	Curtailment could not be avoided
3/9/2019	58	50.50	22.22	12.00	24.00	200.00	800.00	262.49	49.97	-241.95	Curtailment could not be avoided
3/10/2019	59	200.00	22.32	12.00	24.00	200.00	800.00	262.49	49.97	-132.11	Curtailment could not be avoided
3/11/2019	60	158.00	23.68	12.00	24.00	150.00	800.00	262.49	50.01	-121.48	Curtailment could not be avoided
3/12/2019	61	100.59	22.69	11.00	22.00	150.00	600.00	262.49	50.03	-132.52	Curtailment could not be avoided
3/13/2019	62	100.00	24.34	10.00	20.00	150.00	600.00	262.49	49.98	-68.19	Curtailment could not be avoided
3/14/2019	63	153.27	24.58	10.00	20.00	150.00	600.00	262.49	50.00	-128.05	Curtailment could not be avoided
3/15/2019	64	193.27	22.78	10.00	20.00	100.00	600.00	242.49	50.01	-446.12	Curtailment could not be avoided
3/16/2019	65	153.27	23.66	12.00	24.00	100.00	600.00	242.49	50.04	-510.06	Curtailment could not be avoided
3/17/2019	66	77.74	23.93	14.00	28.00	100.00	600.00	242.49	49.99	-375.62	Curtailment could not be avoided
3/18/2019	67	77.74	23.48	13.50	27.00	100.00	600.00	232.29	50.01	-288.45	Curtailment could not be avoided
3/19/2019	68	53.27	23.83	13.00	26.00	50.00	600.00	229.19	50.04	-343.67	Curtailment could not be avoided
3/20/2019	69	79.72	23.97	13.00	26.00	50.00	0.00	209.19	50.04	-328.18	Curtailment could not be avoided
3/21/2019	70	176.71	24.95	13.00	26.00	50.00	0.00	209.19	50.00	-270.63	20-50% Curtailment could be avoided
3/22/2019	71	53.27	25.59	14.50	29.00	50.00	0.00	203.00	49.98	-35.92	Curtailment could not be avoided
3/23/2019	72	108.47	26.27	16.00	32.00	0.00	0.00	203.00	49.96	-24.85	TN SLDC and Developers Data Mismatch
3/24/2019	73	53.70	24.88	37.00	74.00	0.00	0.00	138.00	50.03	-190.49	TN SLDC and Developers Data Mismatch
3/25/2019	49	25.00	24.35	7.50	15.00	365.00	2200.00	239.50	50.01	-207.56	Curtailment could not be avoided
3/26/2019	50	25.00	24.32	8.00	16.00	365.00	2200.00	259.50	50.01	-200.16	Curtailment could not be avoided



Block wise curtailment analysis for curtailed blocks

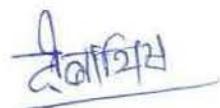
Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/less drawl from the Grid compared to schedule)	Remarks
3/27/2019	51	53.27	24.01	8.50	17.00	365.00	2200.00	270.00	49.99	-205.99	Curtailment could not be avoided
3/28/2019	52	53.27	24.52	9.00	18.00	365.00	2200.00	270.00	50.05	-26.36	Curtailment could not be avoided
3/29/2019	53	53.27	24.39	11.00	22.00	300.00	2200.00	270.00	50.06	-44.43	Curtailment could not be avoided
3/30/2019	54	0.00	25.94	13.00	26.00	300.00	2200.00	270.00	50.02	149.11	Curtailment could not be avoided
3/31/2019	55	50.00	25.34	13.00	26.00	300.00	2200.00	270.00	50.00	63.53	Curtailment could not be avoided
4/1/2019	56	50.00	25.26	13.00	26.00	300.00	2200.00	270.00	50.04	-37.27	Curtailment could not be avoided
4/2/2019	57	25.00	25.28	10.00	20.00	250.00	1900.00	270.00	50.05	50.65	Curtailment could not be avoided
4/3/2019	58	25.00	26.04	7.00	14.00	250.00	1900.00	270.00	49.98	153.33	Curtailment could not be avoided
4/4/2019	59	53.27	25.74	7.50	15.00	250.00	1900.00	270.00	49.98	195.08	Curtailment could not be avoided
4/5/2019	60	53.27	25.77	8.00	16.00	250.00	1900.00	270.00	49.99	125.94	Curtailment could not be avoided
4/6/2019	61	53.27	25.23	9.00	18.00	200.00	1700.00	270.00	50.00	176.00	Curtailment could not be avoided
4/7/2019	62	53.27	24.15	10.00	20.00	200.00	1700.00	270.00	50.04	183.34	Curtailment could not be avoided
4/8/2019	63	53.27	24.65	10.00	20.00	200.00	1700.00	250.00	50.00	178.84	Curtailment could not be avoided
4/9/2019	64	53.27	24.99	10.00	20.00	200.00	1700.00	250.00	50.01	83.25	Curtailment could not be avoided
4/10/2019	65	53.27	23.83	9.00	18.00	150.00	1300.00	234.90	50.03	-243.91	Curtailment could not be avoided
4/11/2019	66	53.27	24.09	8.00	16.00	150.00	1300.00	234.90	50.02	-345.30	Curtailment could not be avoided
4/12/2019	67	53.27	24.39	8.00	16.00	150.00	1300.00	214.90	50.02	-214.69	Curtailment could not be avoided
4/13/2019	68	53.27	23.34	8.00	16.00	150.00	1300.00	208.00	50.01	-11.45	Curtailment could not be avoided
4/14/2019	69	53.27	24.07	7.50	15.00	100.00	600.00	208.00	50.04	25.43	Curtailment could not be avoided
4/15/2019	70	53.27	24.84	7.00	14.00	100.00	600.00	208.00	49.98	-127.60	Curtailment could not be avoided
4/16/2019	71	53.27	24.95	7.00	14.00	100.00	600.00	208.00	49.99	-233.21	Curtailment could not be avoided
4/17/2019	72	53.27	24.34	7.00	14.00	100.00	600.00	208.00	49.98	-234.82	Curtailment could not be avoided
4/18/2019	49	0.00	51.16	24.50	49.00	0.00	0.00	12.00	49.96	-149.06	TN SLDC and Developers Data Mismatch
4/19/2019	50	0.00	48.65	17.00	34.00	0.00	0.00	12.00	49.97	-0.84	TN SLDC and Developers Data Mismatch
4/20/2019	51	100.00	46.20	18.00	36.00	0.00	0.00	12.00	49.99	-102.61	TN SLDC and Developers Data Mismatch
4/21/2019	52	200.00	45.68	19.00	38.00	0.00	0.00	12.00	49.97	-203.66	TN SLDC and Developers Data Mismatch
4/22/2019	53	168.98	45.75	19.00	38.00	0.00	0.00	12.00	50.04	-117.78	TN SLDC and Developers Data Mismatch
4/23/2019	54	108.96	45.73	19.00	38.00	0.00	0.00	12.00	50.00	-328.70	TN SLDC and Developers Data Mismatch
4/24/2019	55	171.44	49.14	18.50	37.00	0.00	0.00	12.00	49.98	-714.77	TN SLDC and Developers Data Mismatch
4/25/2019	56	433.00	47.69	18.00	36.00	0.00	0.00	12.00	49.96	-687.59	TN SLDC and Developers Data Mismatch
4/26/2019	57	368.00	49.52	16.50	33.00	274.00	0.00	139.10	50.04	-680.27	20-50% Curtailment could be avoided
4/27/2019	58	323.75	46.77	15.00	30.00	274.00	0.00	197.30	50.00	-328.84	20-50% Curtailment could be avoided
4/28/2019	59	333.34	49.44	15.50	31.00	274.00	0.00	197.30	50.02	-400.75	20-50% Curtailment could be avoided
4/29/2019	60	283.00	51.80	16.00	32.00	274.00	0.00	197.30	50.03	-415.70	20-50% Curtailment could be avoided
4/30/2019	61	318.25	47.08	15.00	30.00	200.00	0.00	197.30	50.03	-329.69	50-80% Curtailment could be avoided
5/1/2019	62	164.46	31.65	14.00	28.00	200.00	0.00	197.30	50.01	-207.04	20-50% Curtailment could be avoided

Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
5/2/2019	63	101.18	44.90	15.00	30.00	200.00	0.00	185.30	50.00	-227.20	Curtailment could not be avoided
5/3/2019	64	145.20	48.51	16.00	32.00	200.00	0.00	185.30	49.98	-288.49	20-50% Curtailment could be avoided
5/4/2019	65	423.41	45.74	18.50	37.00	150.00	0.00	185.30	50.00	-265.84	80-100% Curtailment could be avoided
5/5/2019	66	207.71	42.06	21.00	42.00	150.00	0.00	185.30	49.96	-120.15	50-80% Curtailment could be avoided
5/6/2019	67	200.71	47.66	21.00	42.00	150.00	0.00	185.30	50.00	44.67	Curtailment could be completely avoided
5/7/2019	68	296.78	47.61	21.00	42.00	150.00	0.00	174.30	50.02	185.29	Curtailment could not be avoided
5/8/2019	69	334.96	46.74	19.00	38.00	80.00	0.00	164.00	49.99	-126.52	Curtailment could be completely avoided
5/9/2019	70	302.27	38.90	17.00	34.00	80.00	0.00	164.00	49.98	-146.21	Curtailment could be completely avoided
5/10/2019	71	250.71	52.09	20.00	40.00	80.00	0.00	150.00	49.98	-93.98	Curtailment could be completely avoided
5/11/2019	72	205.08	65.75	23.00	46.00	80.00	0.00	150.00	50.01	34.82	Curtailment could be completely avoided
5/12/2019	47	219.00	21.96	17.50	35.00	314.00	0.00	146.80	50.00	1.86	50-80% Curtailment could be avoided
5/13/2019	48	309.00	20.02	17.00	34.00	314.00	0.00	215.80	49.97	30.24	80-100% Curtailment could be avoided
5/14/2019	49	309.00	24.42	18.00	36.00	314.00	0.00	230.80	50.03	-130.52	50-80% Curtailment could be avoided
5/15/2019	50	283.14	24.86	19.00	38.00	314.00	0.00	230.80	50.04	-213.38	20-50% Curtailment could be avoided
5/16/2019	51	199.00	23.93	19.00	38.00	200.00	0.00	230.80	50.00	-249.26	20-50% Curtailment could be avoided
5/17/2019	52	219.00	24.37	19.00	38.00	200.00	0.00	230.80	50.01	-227.47	20-50% Curtailment could be avoided
5/18/2019	53	147.44	25.78	20.50	41.00	200.00	0.00	215.80	50.05	-215.57	20-50% Curtailment could be avoided
5/19/2019	54	147.44	24.75	22.00	44.00	200.00	0.00	215.80	50.00	-166.78	20-50% Curtailment could be avoided
5/20/2019	55	174.86	25.64	22.00	44.00	150.00	0.00	215.80	49.93	-355.44	20-50% Curtailment could be avoided
5/21/2019	56	219.00	23.36	22.00	44.00	150.00	0.00	215.80	49.97	-475.97	20-50% Curtailment could be avoided
5/22/2019	57	309.00	23.74	22.50	45.00	150.00	0.00	215.80	50.00	-632.83	20-50% Curtailment could be avoided
5/23/2019	58	309.00	24.43	23.00	46.00	150.00	0.00	215.80	49.96	-759.16	20-50% Curtailment could be avoided
5/24/2019	59	283.14	22.04	22.50	45.00	100.00	0.00	215.80	50.02	-781.18	20-50% Curtailment could be avoided
5/25/2019	60	219.00	22.08	22.00	44.00	100.00	0.00	215.80	49.97	-681.21	20-50% Curtailment could be avoided
5/26/2019	61	269.00	24.35	22.50	45.00	100.00	0.00	215.80	49.99	-656.72	20-50% Curtailment could be avoided
5/27/2019	62	147.44	18.49	23.00	46.00	100.00	0.00	215.80	49.93	-529.34	Curtailment could not be avoided
5/28/2019	63	147.44	19.79	22.50	45.00	50.00	0.00	215.80	49.98	-371.91	20-50% Curtailment could be avoided
5/29/2019	64	124.00	25.16	22.00	44.00	50.00	0.00	212.30	50.00	-384.67	Curtailment could not be avoided
5/30/2019	65	124.00	21.72	21.00	42.00	50.00	0.00	212.30	50.02	-149.63	20-50% Curtailment could be avoided
5/31/2019	66	124.00	29.74	20.00	40.00	50.00	0.00	212.30	49.96	-229.00	20-50% Curtailment could be avoided
6/1/2019	67	124.00	29.39	20.00	40.00	20.00	0.00	204.80	50.01	141.70	Curtailment could not be avoided
6/2/2019	68	124.00	36.17	20.00	40.00	20.00	0.00	204.80	49.97	374.90	Curtailment could not be avoided
6/3/2019	69	191.15	37.68	37.00	74.00	20.00	0.00	194.80	50.03	256.92	Curtailment could not be avoided
6/4/2019	70	309.00	36.02	54.00	108.00	20.00	0.00	194.80	49.97	85.39	Curtailment could not be avoided
6/5/2019	71	362.27	41.32	68.70	137.40	0.00	0.00	194.80	50.02	90.66	TN SLDC and Developers Data Mismatch
6/6/2019	72	283.58	43.95	83.40	166.80	0.00	0.00	189.00	50.00	-127.12	TN SLDC and Developers Data Mismatch

Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/less drawl from the Grid compared to schedule)	Remarks
6/7/2019	45	100.00	73.33	22.00	44.00	313.00	0.00	205.10	50.00	-280.93	Curtailment could not be avoided
6/8/2019	46	100.00	69.58	22.00	44.00	313.00	0.00	223.70	49.95	-93.17	20-50% Curtailment could be avoided
6/9/2019	47	100.00	71.83	22.00	44.00	313.00	0.00	223.70	49.98	-271.51	Curtailment could not be avoided
6/10/2019	48	100.00	88.39	22.00	44.00	313.00	0.00	223.70	50.00	-608.95	Curtailment could not be avoided
6/11/2019	49	251.50	95.44	19.50	39.00	260.00	600.00	223.70	50.01	-1093.97	Curtailment could not be avoided
6/12/2019	50	219.00	87.38	17.00	34.00	260.00	600.00	223.70	50.00	-813.43	Curtailment could not be avoided
6/13/2019	51	219.00	90.23	17.50	35.00	260.00	600.00	223.70	50.03	-804.52	Curtailment could not be avoided
6/14/2019	52	24.47	90.79	18.00	36.00	260.00	600.00	223.70	50.01	-575.58	Curtailment could not be avoided
6/15/2019	53	200.00	94.58	20.00	40.00	240.00	600.00	223.70	50.04	-599.26	Curtailment could not be avoided
6/16/2019	54	132.15	92.17	22.00	44.00	240.00	600.00	223.70	50.04	-668.61	Curtailment could not be avoided
6/17/2019	55	100.00	96.64	22.00	44.00	240.00	600.00	223.70	49.95	-510.75	Curtailment could not be avoided
6/18/2019	56	100.00	96.86	22.00	44.00	240.00	600.00	223.70	50.01	-308.03	Curtailment could not be avoided
6/19/2019	57	24.47	98.55	22.00	44.00	180.00	300.00	223.70	50.02	-224.64	Curtailment could not be avoided
6/20/2019	58	199.33	93.18	22.00	44.00	180.00	300.00	223.70	49.96	-81.76	20-50% Curtailment could be avoided
6/21/2019	59	100.00	97.08	21.50	43.00	180.00	300.00	223.70	49.96	-317.35	Curtailment could not be avoided
6/22/2019	60	24.47	94.51	21.00	42.00	180.00	300.00	223.70	50.03	-316.74	Curtailment could not be avoided
6/23/2019	61	100.00	93.14	19.00	38.00	150.00	600.00	223.70	50.01	-751.14	Curtailment could not be avoided
6/24/2019	62	141.03	91.13	17.00	34.00	150.00	600.00	223.70	49.99	-551.49	Curtailment could not be avoided
6/25/2019	63	100.00	88.24	17.50	35.00	150.00	600.00	223.70	50.00	-470.61	Curtailment could not be avoided
6/26/2019	64	100.00	90.19	18.00	36.00	150.00	600.00	223.70	49.98	-402.45	Curtailment could not be avoided
6/27/2019	65	200.00	93.34	18.00	36.00	100.00	300.00	223.70	49.98	-253.24	20-50% Curtailment could be avoided
6/28/2019	66	100.67	89.97	18.00	36.00	100.00	300.00	209.70	49.99	-146.16	Curtailment could not be avoided
6/29/2019	67	100.00	92.48	18.00	36.00	100.00	300.00	209.70	50.03	-224.90	Curtailment could not be avoided
6/30/2019	68	100.00	87.57	18.00	36.00	100.00	300.00	203.60	50.01	-325.85	Curtailment could not be avoided
7/1/2019	69	100.00	86.95	16.50	33.00	50.00	800.00	189.00	50.05	-254.60	Curtailment could not be avoided
7/2/2019	70	100.00	84.64	15.00	30.00	50.00	800.00	189.00	50.01	-238.66	Curtailment could not be avoided
7/3/2019	71	214.00	87.10	15.00	30.00	50.00	800.00	189.00	50.01	-350.10	Curtailment could not be avoided
7/4/2019	72	321.37	87.32	15.00	30.00	50.00	800.00	150.00	50.01	-266.56	20-50% Curtailment could be avoided
7/5/2019	73	333.00	51.28	16.50	33.00	0.00	0.00	128.00	50.04	-321.02	TN SLDC and Developers Data Mismatch
7/6/2019	43	296.86	16.76	10.50	21.00	0.00	300.00	116.00	49.98	-36.03	TN SLDC and Developers Data Mismatch
7/7/2019	44	195.00	26.97	11.00	22.00	287.00	300.00	156.00	50.00	25.56	20-50% Curtailment could be avoided
7/8/2019	45	100.00	21.52	11.00	22.00	287.00	300.00	156.00	49.97	141.75	Curtailment could not be avoided
7/9/2019	46	100.00	23.40	11.00	22.00	287.00	300.00	192.28	49.94	142.44	Curtailment could not be avoided
7/10/2019	47	190.10	22.50	10.00	20.00	287.00	300.00	192.28	49.94	55.88	20-50% Curtailment could be avoided
7/11/2019	48	200.00	22.27	9.00	18.00	250.00	300.00	192.28	49.96	124.66	20-50% Curtailment could be avoided
7/12/2019	49	200.00	21.99	8.50	17.00	250.00	0.00	192.28	50.04	234.85	Curtailment could be completely avoided



Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
7/13/2019	50	199.90	22.72	8.00	16.00	250.00	0.00	192.28	49.98	318.81	Curtailment could not be avoided
7/14/2019	51	195.00	24.00	8.00	16.00	250.00	0.00	196.68	50.02	90.76	50-80% Curtailment could be avoided
7/15/2019	52	195.00	21.81	8.00	16.00	200.00	0.00	196.68	50.04	33.84	50-80% Curtailment could be avoided
7/16/2019	53	195.00	21.37	11.00	22.00	200.00	0.00	196.68	50.08	-99.37	20-50% Curtailment could be avoided
7/17/2019	54	195.00	20.55	14.00	28.00	200.00	0.00	196.68	49.98	-98.66	20-50% Curtailment could be avoided
7/18/2019	55	100.00	20.26	14.50	29.00	200.00	0.00	196.68	49.90	-55.52	Curtailment could not be avoided
7/19/2019	56	100.00	17.92	15.00	30.00	150.00	0.00	196.68	49.98	43.73	20-50% Curtailment could be avoided
7/20/2019	57	80.00	21.32	22.00	44.00	150.00	0.00	207.68	50.02	173.65	Curtailment could not be avoided
7/21/2019	58	100.00	22.04	29.00	58.00	150.00	0.00	207.68	49.92	243.38	Curtailment could not be avoided
7/22/2019	59	285.00	21.90	31.50	63.00	150.00	0.00	207.68	49.86	30.64	Curtailment could be completely avoided
7/23/2019	60	205.01	19.02	34.00	68.00	100.00	0.00	207.68	49.90	-334.35	20-50% Curtailment could be avoided
7/24/2019	61	195.00	17.64	29.50	59.00	100.00	0.00	207.68	49.92	-506.88	20-50% Curtailment could be avoided
7/25/2019	62	195.00	18.61	25.00	50.00	100.00	0.00	207.68	50.02	-201.69	20-50% Curtailment could be avoided
7/26/2019	63	195.00	17.90	23.50	47.00	100.00	0.00	207.68	50.01	-296.88	20-50% Curtailment could be avoided
7/27/2019	64	195.00	20.91	22.00	44.00	80.00	0.00	203.28	50.02	-356.52	20-50% Curtailment could be avoided
7/28/2019	65	195.00	15.88	16.50	33.00	80.00	0.00	203.28	49.96	-529.06	20-50% Curtailment could be avoided
7/29/2019	66	195.00	20.17	11.00	22.00	80.00	0.00	203.28	49.97	-579.92	Curtailment could not be avoided
7/30/2019	67	195.00	21.67	10.50	21.00	80.00	0.00	195.28	49.98	-485.27	20-50% Curtailment could be avoided
7/31/2019	68	195.00	20.68	10.00	20.00	50.00	0.00	195.28	49.99	-426.22	20-50% Curtailment could be avoided
8/1/2019	69	123.80	0.00	10.00	20.00	50.00	0.00	195.28	50.00	-302.74	Curtailment could not be avoided
8/2/2019	70	123.80	21.02	10.00	20.00	50.00	0.00	195.28	49.95	-211.51	20-50% Curtailment could be avoided
8/3/2019	71	70.00	23.99	10.50	21.00	50.00	0.00	186.00	49.96	-31.26	Curtailment could not be avoided
8/4/2019	72	285.00	21.37	11.00	22.00	0.00	0.00	186.00	49.99	94.94	TN SLDC and Developers Data Mismatch
8/5/2019	73	338.70	22.44	13.00	26.00	0.00	0.00	30.00	49.97	-26.06	TN SLDC and Developers Data Mismatch
8/6/2019	74	429.73	34.16	15.00	30.00	0.00	0.00	11.00	49.97	34.60	TN SLDC and Developers Data Mismatch
8/7/2019	75	472.36	37.31	15.50	31.00	0.00	0.00	11.00	50.02	58.14	TN SLDC and Developers Data Mismatch
8/8/2019	41	366.61	62.40	13.00	26.00	0.00	0.00	117.00	50.00	-81.59	TN SLDC and Developers Data Mismatch
8/9/2019	42	340.99	63.52	12.00	24.00	267.00	0.00	160.60	50.00	-145.50	50-80% Curtailment could be avoided
8/10/2019	43	319.61	60.82	11.50	23.00	267.00	0.00	177.60	49.98	-35.03	80-100% Curtailment could be avoided
8/11/2019	44	294.61	39.17	11.00	22.00	267.00	0.00	184.50	49.98	-82.24	50-80% Curtailment could be avoided
8/12/2019	45	315.39	46.32	10.50	21.00	267.00	0.00	184.50	50.04	-354.68	20-50% Curtailment could be avoided
8/13/2019	46	266.61	34.63	10.00	20.00	150.00	0.00	184.50	49.98	-350.07	20-50% Curtailment could be avoided
8/14/2019	47	291.61	35.92	10.00	20.00	150.00	0.00	184.50	50.00	-560.62	20-50% Curtailment could be avoided
8/15/2019	48	202.07	26.98	10.00	20.00	150.00	0.00	184.50	50.01	-527.82	20-50% Curtailment could be avoided
8/16/2019	49	336.27	29.76	8.00	16.00	150.00	0.00	184.50	50.01	-558.52	20-50% Curtailment could be avoided
8/17/2019	50	248.27	27.87	6.00	12.00	100.00	0.00	184.50	49.97	-489.59	20-50% Curtailment could be avoided

Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
8/18/2019	51	248.27	31.49	6.00	12.00	100.00	0.00	184.50	50.02	-538.72	20-50% Curtailment could be avoided
8/19/2019	52	248.27	34.59	6.00	12.00	100.00	0.00	184.50	50.03	-527.23	20-50% Curtailment could be avoided
8/20/2019	53	146.87	31.59	7.50	15.00	100.00	0.00	178.50	50.05	-593.19	Curtailment could not be avoided
8/21/2019	54	143.44	43.78	9.00	18.00	80.00	0.00	178.50	50.01	-179.66	20-50% Curtailment could be avoided
8/22/2019	55	100.00	39.22	9.50	19.00	80.00	0.00	61.50	49.97	-13.21	50-80% Curtailment could be avoided
8/23/2019	56	100.00	39.76	10.00	20.00	80.00	0.00	61.50	49.93	205.04	Curtailment could not be avoided
8/24/2019	57	100.00	34.62	17.50	35.00	80.00	0.00	70.50	49.97	4.18	50-80% Curtailment could be avoided
8/25/2019	58	285.00	32.95	25.00	50.00	60.00	0.00	70.50	49.87	20.82	Curtailment could be completely avoided
8/26/2019	59	265.00	26.62	22.50	45.00	60.00	0.00	70.50	49.97	53.56	Curtailment could be completely avoided
8/27/2019	60	285.00	31.82	20.00	40.00	60.00	0.00	70.50	50.00	-116.00	Curtailment could be completely avoided
8/28/2019	61	285.00	29.43	14.50	29.00	60.00	300.00	70.50	49.99	-439.30	20-50% Curtailment could be avoided
8/29/2019	62	388.27	31.92	9.00	18.00	50.00	300.00	70.50	49.96	-506.55	20-50% Curtailment could be avoided
8/30/2019	63	335.00	40.46	9.50	19.00	50.00	300.00	70.50	49.98	-508.35	20-50% Curtailment could be avoided
8/31/2019	64	255.00	56.38	10.00	20.00	50.00	300.00	70.50	50.01	-566.59	20-50% Curtailment could be avoided
9/1/2019	65	234.04	59.51	9.00	18.00	50.00	0.00	61.50	50.02	-548.65	20-50% Curtailment could be avoided
9/2/2019	66	123.44	61.13	8.00	16.00	10.00	0.00	61.50	50.00	-378.42	20-50% Curtailment could be avoided
9/3/2019	67	93.44	67.36	8.00	16.00	10.00	0.00	61.50	50.01	-326.04	20-50% Curtailment could be avoided
9/4/2019	68	151.42	73.87	8.00	16.00	10.00	0.00	59.40	49.99	-13.43	Curtailment could be completely avoided
9/5/2019	69	285.00	73.65	8.50	17.00	10.00	0.00	44.40	49.97	-154.70	Curtailment could be completely avoided
9/6/2019	70	338.27	70.79	9.00	18.00	10.00	0.00	44.40	50.00	-155.53	Curtailment could be completely avoided
9/7/2019	71	103.44	70.31	9.00	18.00	10.00	0.00	37.50	50.01	-147.93	50-80% Curtailment could be avoided
9/8/2019	72	176.71	68.94	9.00	18.00	10.00	0.00	37.50	50.02	-196.87	50-80% Curtailment could be avoided
9/9/2019	73	162.53	67.02	7.50	15.00	10.00	0.00	22.00	50.08	-337.77	20-50% Curtailment could be avoided
9/10/2019	37	248.27	89.44	14.00	28.00	255.00	0.00	208.00	50.01	-550.97	20-50% Curtailment could be avoided
9/11/2019	38	177.07	50.97	13.00	26.00	255.00	0.00	267.10	50.00	-324.04	20-50% Curtailment could be avoided
9/12/2019	39	177.07	18.91	13.50	27.00	255.00	0.00	286.00	50.04	-34.28	20-50% Curtailment could be avoided
9/13/2019	40	177.07	19.29	14.00	28.00	255.00	0.00	286.00	50.06	-33.46	20-50% Curtailment could be avoided
9/14/2019	41	153.27	21.70	16.00	32.00	200.00	0.00	286.00	50.01	-68.58	20-50% Curtailment could be avoided
9/15/2019	42	100.00	29.56	18.00	36.00	200.00	0.00	286.00	50.02	-30.51	20-50% Curtailment could be avoided
9/16/2019	43	100.00	26.67	18.00	36.00	200.00	0.00	286.00	50.00	16.96	20-50% Curtailment could be avoided
9/17/2019	44	100.00	23.76	18.00	36.00	200.00	0.00	286.00	49.99	156.39	80-100% Curtailment could be avoided
9/18/2019	45	100.00	30.49	16.00	32.00	200.00	0.00	286.00	50.00	104.13	20-50% Curtailment could be avoided
9/19/2019	46	100.00	32.01	14.00	28.00	200.00	0.00	286.00	50.02	-65.66	Curtailment could not be avoided
9/20/2019	47	100.00	31.53	13.50	27.00	200.00	0.00	286.00	49.99	-214.08	Curtailment could not be avoided
9/21/2019	48	100.00	32.90	13.00	26.00	200.00	0.00	329.00	49.99	-301.15	Curtailment could not be avoided
9/22/2019	49	100.00	36.44	13.50	27.00	200.00	300.00	329.00	50.01	-387.24	Curtailment could not be avoided



Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
9/23/2019	50	100.00	37.44	14.00	28.00	200.00	300.00	329.00	49.97	-397.87	Curtailment could not be avoided
9/24/2019	51	100.00	42.94	15.50	31.00	200.00	300.00	329.00	49.99	-367.74	Curtailment could not be avoided
9/25/2019	52	24.47	41.07	17.00	34.00	200.00	300.00	329.00	50.04	-70.37	Curtailment could not be avoided
9/26/2019	53	100.00	40.83	20.50	41.00	150.00	0.00	329.00	50.08	-282.68	Curtailment could not be avoided
9/27/2019	54	100.00	39.80	24.00	48.00	150.00	0.00	329.00	50.03	-409.30	Curtailment could not be avoided
9/28/2019	55	100.00	41.36	24.50	49.00	150.00	0.00	329.00	50.01	-305.91	Curtailment could not be avoided
9/29/2019	56	24.47	33.80	25.00	50.00	150.00	0.00	329.00	49.99	-175.61	Curtailment could not be avoided
9/30/2019	57	90.46	39.52	24.00	48.00	100.00	0.00	329.00	50.00	-456.02	Curtailment could not be avoided
10/1/2019	58	100.00	40.42	23.00	46.00	100.00	0.00	329.00	50.00	-589.61	Curtailment could not be avoided
10/2/2019	59	310.67	48.83	22.50	45.00	100.00	300.00	329.00	50.05	-754.25	20-50% Curtailment could be avoided
10/3/2019	60	200.00	43.33	22.00	44.00	100.00	300.00	329.00	49.97	-545.30	Curtailment could not be avoided
10/4/2019	61	24.47	42.35	23.50	47.00	50.00	300.00	329.00	50.05	-487.43	Curtailment could not be avoided
10/5/2019	62	0.00	46.11	25.00	50.00	50.00	300.00	329.00	50.01	-608.56	Curtailment could not be avoided
10/6/2019	63	100.00	42.14	24.50	49.00	50.00	300.00	309.00	50.05	-647.73	Curtailment could not be avoided
10/7/2019	64	150.00	43.68	24.00	48.00	50.00	800.00	309.00	50.05	-494.02	Curtailment could not be avoided
10/8/2019	65	0.00	44.07	20.00	40.00	20.00	800.00	309.00	50.09	-284.51	Curtailment could not be avoided
10/9/2019	66	0.00	41.54	16.00	32.00	20.00	800.00	309.00	50.06	-244.72	Curtailment could not be avoided
10/10/2019	67	0.00	48.47	16.50	33.00	20.00	800.00	309.00	50.03	-356.19	Curtailment could not be avoided
10/11/2019	68	200.00	49.14	17.00	34.00	20.00	800.00	300.00	49.99	-331.15	Curtailment could not be avoided
10/12/2019	69	53.27	54.49	26.00	52.00	0.00	0.00	289.50	49.97	-289.07	TN SLDC and Developers Data Mismatch
10/13/2019	70	0.00	47.84	35.00	70.00	0.00	0.00	289.50	49.92	12.42	TN SLDC and Developers Data Mismatch
10/14/2019	71	142.19	51.52	40.50	81.00	0.00	0.00	280.00	49.91	18.44	TN SLDC and Developers Data Mismatch
10/15/2019	72	239.64	52.54	46.00	92.00	0.00	0.00	280.00	49.99	-21.69	TN SLDC and Developers Data Mismatch
10/16/2019	39	273.27	25.33	14.00	28.00	0.00	0.00	6.50	50.02	-6.27	TN SLDC and Developers Data Mismatch
10/17/2019	40	273.27	22.10	14.00	28.00	277.00	0.00	6.50	50.04	32.72	80-100% Curtailment could be avoided
10/18/2019	41	298.27	25.08	14.00	28.00	277.00	0.00	207.80	50.01	156.01	Curtailment could be completely avoided
10/19/2019	42	298.27	22.39	14.00	28.00	277.00	0.00	236.80	49.97	159.88	Curtailment could be completely avoided
10/20/2019	43	283.94	23.84	14.00	28.00	277.00	0.00	236.80	49.98	-18.02	50-80% Curtailment could be avoided
10/21/2019	44	273.27	22.24	14.00	28.00	250.00	0.00	236.80	49.97	-138.90	50-80% Curtailment could be avoided
10/22/2019	45	273.27	21.64	12.50	25.00	250.00	300.00	236.80	49.99	-255.06	20-50% Curtailment could be avoided
10/23/2019	46	273.27	23.98	11.00	22.00	250.00	300.00	257.80	50.00	-253.91	20-50% Curtailment could be avoided
10/24/2019	47	220.00	24.85	10.50	21.00	250.00	300.00	257.80	49.96	-324.04	Curtailment could not be avoided
10/25/2019	48	123.80	24.81	10.00	20.00	250.00	300.00	277.80	49.93	-325.71	Curtailment could not be avoided
10/26/2019	49	100.00	23.11	11.50	23.00	250.00	600.00	277.80	49.96	-473.56	Curtailment could not be avoided
10/27/2019	50	130.86	23.97	13.00	26.00	250.00	600.00	277.80	49.93	-193.79	Curtailment could not be avoided
10/28/2019	51	123.43	25.95	13.00	26.00	250.00	600.00	277.80	49.93	13.82	Curtailment could not be avoided

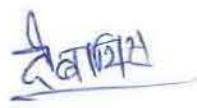
Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
10/29/2019	52	100.00	25.40	13.00	26.00	200.00	600.00	277.80	49.97	-17.36	Curtailment could not be avoided
10/30/2019	53	100.00	24.16	17.50	35.00	200.00	900.00	277.80	50.00	-160.73	Curtailment could not be avoided
10/31/2019	54	190.00	25.24	22.00	44.00	200.00	900.00	277.80	50.01	-362.23	Curtailment could not be avoided
11/1/2019	55	200.00	23.89	23.00	46.00	200.00	900.00	277.80	50.00	-414.43	Curtailment could not be avoided
11/2/2019	56	195.00	18.15	24.00	48.00	150.00	900.00	277.80	50.00	-314.80	Curtailment could not be avoided
11/3/2019	57	100.00	20.12	21.50	43.00	150.00	900.00	277.80	50.00	-232.57	Curtailment could not be avoided
11/4/2019	58	100.00	19.22	19.00	38.00	150.00	900.00	277.80	49.91	-307.62	Curtailment could not be avoided
11/5/2019	59	100.00	24.91	20.00	40.00	150.00	900.00	277.80	49.97	-246.40	Curtailment could not be avoided
11/6/2019	60	100.00	26.19	21.00	42.00	100.00	900.00	277.80	49.98	-344.38	Curtailment could not be avoided
11/7/2019	61	100.00	26.91	19.00	38.00	100.00	900.00	277.80	49.96	-477.34	Curtailment could not be avoided
11/8/2019	62	100.00	25.57	17.00	34.00	100.00	900.00	277.80	49.92	-635.09	Curtailment could not be avoided
11/9/2019	63	100.00	26.14	18.00	36.00	100.00	900.00	257.80	49.99	-628.52	Curtailment could not be avoided
11/10/2019	64	24.47	24.52	19.00	38.00	50.00	900.00	257.80	50.01	-469.42	Curtailment could not be avoided
11/11/2019	65	190.00	20.93	20.00	40.00	50.00	900.00	257.80	50.05	-548.08	Curtailment could not be avoided
11/12/2019	66	295.00	22.84	21.00	42.00	50.00	900.00	257.80	50.01	-670.04	Curtailment could not be avoided
11/13/2019	67	335.00	22.25	20.50	41.00	50.00	1200.00	248.80	50.03	-658.64	Curtailment could not be avoided
11/14/2019	68	166.14	23.77	20.00	40.00	20.00	1200.00	237.80	50.00	-707.96	Curtailment could not be avoided
11/15/2019	69	24.47	23.72	14.50	29.00	20.00	900.00	227.00	49.97	-104.72	Curtailment could not be avoided
11/16/2019	70	24.47	22.08	9.00	18.00	20.00	900.00	227.00	49.97	-190.01	Curtailment could not be avoided
11/17/2019	71	48.27	21.78	9.50	19.00	20.00	900.00	227.00	49.97	-302.23	Curtailment could not be avoided
11/18/2019	72	24.47	22.05	10.00	20.00	0.00	900.00	227.00	49.97	-352.59	TN SLDC and Developers Data Mismatch
11/19/2019	38	40.00	0.00	12.00	24.00	0.00	200.00	5.50	49.98	-236.56	TN SLDC and Developers Data Mismatch
11/20/2019	39	248.00	7.28	11.50	23.00	271.00	200.00	246.70	50.02	18.18	20-50% Curtailment could be avoided
11/21/2019	40	223.99	3.12	11.00	22.00	271.00	200.00	287.80	50.01	131.59	20-50% Curtailment could be avoided
11/22/2019	41	124.00	8.98	12.50	25.00	271.00	200.00	287.80	50.03	-116.31	Curtailment could not be avoided
11/23/2019	42	124.00	3.43	14.00	28.00	271.00	200.00	287.80	50.00	-298.81	Curtailment could not be avoided
11/24/2019	43	148.00	0.92	13.50	27.00	200.00	200.00	316.80	50.03	-439.42	Curtailment could not be avoided
11/25/2019	44	148.00	2.96	13.00	26.00	200.00	200.00	316.80	50.05	-425.22	Curtailment could not be avoided
11/26/2019	45	148.00	0.00	12.50	25.00	200.00	500.00	316.80	50.03	-513.95	Curtailment could not be avoided
11/27/2019	46	136.69	0.54	12.00	24.00	200.00	500.00	316.80	50.02	-326.00	Curtailment could not be avoided
11/28/2019	47	124.00	0.00	12.00	24.00	200.00	500.00	316.80	50.04	-328.72	Curtailment could not be avoided
11/29/2019	48	100.00	0.00	12.00	24.00	200.00	500.00	316.80	49.97	-307.92	Curtailment could not be avoided
11/30/2019	49	100.00	3.27	10.50	21.00	200.00	800.00	316.80	49.98	-423.94	Curtailment could not be avoided
12/1/2019	50	100.00	0.00	9.00	18.00	200.00	800.00	339.80	50.00	-501.40	Curtailment could not be avoided
12/2/2019	51	60.00	2.91	9.50	19.00	200.00	800.00	345.80	50.01	-525.22	Curtailment could not be avoided
12/3/2019	52	124.00	3.57	10.00	20.00	200.00	800.00	355.80	49.99	-365.47	Curtailment could not be avoided



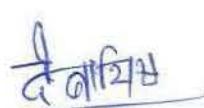
Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) {+ve/-ve : over/Less drawl from the Grid compared to schedule}	Remarks
12/4/2019	53	100.00	3.34	9.50	19.00	200.00	800.00	355.80	50.10	-352.22	Curtailment could not be avoided
12/5/2019	54	100.00	0.00	9.00	18.00	200.00	800.00	355.80	50.02	-313.20	Curtailment could not be avoided
12/6/2019	55	24.47	0.35	9.50	19.00	200.00	800.00	355.80	49.96	-421.06	Curtailment could not be avoided
12/7/2019	56	24.47	0.00	10.00	20.00	200.00	800.00	355.80	49.98	-382.92	Curtailment could not be avoided
12/8/2019	57	93.03	0.00	11.00	22.00	200.00	800.00	355.80	49.92	-314.43	Curtailment could not be avoided
12/9/2019	58	200.00	0.00	12.00	24.00	200.00	800.00	355.80	49.98	-248.98	Curtailment could not be avoided
12/10/2019	59	200.00	0.00	12.00	24.00	150.00	800.00	355.80	49.99	-174.81	Curtailment could not be avoided
12/11/2019	60	106.97	0.00	12.00	24.00	150.00	800.00	355.80	50.01	-114.74	Curtailment could not be avoided
12/12/2019	61	100.00	0.00	11.00	22.00	150.00	600.00	355.80	50.01	-81.12	Curtailment could not be avoided
12/13/2019	62	100.00	0.00	10.00	20.00	150.00	600.00	355.80	50.04	-90.57	Curtailment could not be avoided
12/14/2019	63	100.00	0.00	10.00	20.00	100.00	600.00	355.80	50.04	-404.25	Curtailment could not be avoided
12/15/2019	64	123.80	0.00	10.00	20.00	100.00	600.00	355.80	50.02	-494.40	Curtailment could not be avoided
12/16/2019	65	77.74	0.00	10.50	21.00	100.00	600.00	355.80	50.05	-528.13	Curtailment could not be avoided
12/17/2019	66	77.74	0.00	11.00	22.00	100.00	600.00	355.80	50.02	-342.01	Curtailment could not be avoided
12/18/2019	67	105.47	0.00	11.00	22.00	0.00	600.00	339.80	50.02	-207.45	TN SLDC and Developers Data Mismatch
12/19/2019	68	153.27	9.43	11.00	22.00	0.00	600.00	339.80	50.04	-100.27	TN SLDC and Developers Data Mismatch
12/20/2019	69	53.27	25.12	10.50	21.00	0.00	300.00	321.20	50.07	-135.05	TN SLDC and Developers Data Mismatch
12/21/2019	70	53.27	28.16	10.00	20.00	0.00	300.00	321.20	50.01	146.30	TN SLDC and Developers Data Mismatch
12/22/2019	71	0.00	31.32	9.50	19.00	0.00	300.00	321.20	50.03	-34.16	TN SLDC and Developers Data Mismatch
12/23/2019	72	135.28	30.41	9.00	18.00	0.00	300.00	321.20	50.10	-350.07	TN SLDC and Developers Data Mismatch
12/24/2019	73	224.63	19.81	11.50	23.00	0.00	0.00	20.00	50.11	-310.51	TN SLDC and Developers Data Mismatch
12/25/2019	41	223.44	19.90	40.50	81.00	272.00	800.00	196.50	50.02	-574.97	Curtailment could not be avoided
12/26/2019	42	273.44	17.89	39.00	78.00	272.00	800.00	251.50	50.01	-752.95	Curtailment could not be avoided
12/27/2019	43	223.39	18.47	39.50	79.00	272.00	800.00	254.80	50.08	-585.44	Curtailment could not be avoided
12/28/2019	44	263.63	21.00	40.00	80.00	272.00	800.00	254.80	50.00	-213.49	Curtailment could not be avoided
12/29/2019	45	224.46	19.63	43.50	87.00	250.00	800.00	254.80	50.04	-204.34	Curtailment could not be avoided
12/30/2019	46	24.47	17.94	47.00	94.00	250.00	800.00	254.80	49.97	-243.94	Curtailment could not be avoided
12/31/2019	47	24.47	19.79	41.00	82.00	250.00	800.00	254.80	49.97	-212.22	Curtailment could not be avoided
1/1/2020	48	53.76	21.51	35.00	70.00	250.00	800.00	254.80	49.97	-195.64	Curtailment could not be avoided
1/2/2020	49	200.00	28.37	25.00	50.00	200.00	800.00	254.80	50.02	-99.81	Curtailment could not be avoided
1/3/2020	50	98.19	24.89	15.00	30.00	200.00	800.00	254.80	49.94	-91.39	Curtailment could not be avoided
1/4/2020	51	72.47	26.62	16.00	32.00	200.00	800.00	254.80	49.93	-47.73	Curtailment could not be avoided
1/5/2020	52	24.47	25.19	17.00	34.00	200.00	800.00	254.80	49.93	-205.74	Curtailment could not be avoided
1/6/2020	53	24.47	28.06	16.50	33.00	150.00	1300.00	277.80	50.05	-465.36	Curtailment could not be avoided
1/7/2020	54	24.47	29.86	16.00	32.00	150.00	1300.00	277.80	50.02	-661.37	Curtailment could not be avoided
1/8/2020	55	33.75	31.88	15.00	30.00	150.00	1300.00	277.80	49.96	-685.14	Curtailment could not be avoided



Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
1/9/2020	56	24.47	30.26	14.00	28.00	150.00	1300.00	277.80	49.95	-511.51	Curtailment could not be avoided
1/10/2020	57	85.45	32.15	17.50	35.00	150.00	1300.00	277.80	49.99	-374.93	Curtailment could not be avoided
1/11/2020	58	34.75	33.20	21.00	42.00	150.00	1300.00	277.80	49.92	-166.70	Curtailment could not be avoided
1/12/2020	59	200.00	30.84	19.50	39.00	150.00	1300.00	297.80	49.99	-85.55	Curtailment could not be avoided
1/13/2020	60	110.00	32.63	18.00	36.00	150.00	1300.00	297.80	49.94	-105.06	Curtailment could not be avoided
1/14/2020	61	200.00	31.97	21.00	42.00	150.00	1300.00	297.80	49.98	-309.48	Curtailment could not be avoided
1/15/2020	62	252.88	33.90	24.00	48.00	150.00	1300.00	297.80	49.98	-591.73	Curtailment could not be avoided
1/16/2020	63	191.88	34.12	23.50	47.00	150.00	1300.00	297.80	49.97	-493.81	Curtailment could not be avoided
1/17/2020	64	252.88	31.16	23.00	46.00	150.00	1300.00	297.80	50.00	-395.78	Curtailment could not be avoided
1/18/2020	65	200.00	34.37	22.00	44.00	100.00	1300.00	297.80	50.06	-290.30	Curtailment could not be avoided
1/19/2020	66	115.00	30.69	21.00	42.00	100.00	1300.00	297.80	50.01	-286.17	Curtailment could not be avoided
1/20/2020	67	150.00	34.37	21.50	43.00	100.00	1300.00	297.80	50.01	-310.78	Curtailment could not be avoided
1/21/2020	68	24.47	37.39	22.00	44.00	100.00	1300.00	267.00	49.99	-236.56	Curtailment could not be avoided
1/22/2020	69	100.00	37.37	22.50	45.00	50.00	300.00	267.00	49.99	-79.49	Curtailment could not be avoided
1/23/2020	70	100.00	34.06	23.00	46.00	50.00	300.00	267.00	50.00	-78.50	Curtailment could not be avoided
1/24/2020	71	100.00	37.38	23.00	46.00	50.00	300.00	267.00	50.02	-8.31	Curtailment could not be avoided
1/25/2020	72	24.47	32.79	23.00	46.00	50.00	300.00	267.00	50.04	91.23	Curtailment could not be avoided
1/26/2020	45	223.44	35.08	19.50	39.00	446.00	0.00	290.30	49.98	-246.36	20-50% Curtailment could be avoided
1/27/2020	46	223.44	37.45	19.00	38.00	446.00	0.00	323.90	49.94	-239.49	20-50% Curtailment could be avoided
1/28/2020	47	100.79	35.06	19.00	38.00	446.00	0.00	344.90	49.94	-320.37	Curtailment could not be avoided
1/29/2020	48	131.16	36.40	19.00	38.00	446.00	0.00	368.90	49.98	-234.17	Curtailment could not be avoided
1/30/2020	49	331.21	38.31	19.00	38.00	250.00	0.00	368.90	50.00	-359.14	20-50% Curtailment could be avoided
1/31/2020	50	250.25	37.38	19.00	38.00	250.00	0.00	368.90	49.98	-304.07	20-50% Curtailment could be avoided
2/1/2020	51	219.00	35.07	19.50	39.00	250.00	0.00	368.90	50.02	-265.73	20-50% Curtailment could be avoided
2/2/2020	52	47.91	35.68	20.00	40.00	250.00	300.00	368.90	50.02	-138.23	Curtailment could not be avoided
2/3/2020	53	271.44	35.51	20.00	40.00	150.00	500.00	368.90	50.08	-276.59	20-50% Curtailment could be avoided
2/4/2020	54	209.47	38.18	20.00	40.00	150.00	500.00	368.90	50.04	-263.55	Curtailment could not be avoided
2/5/2020	55	433.00	35.01	20.00	40.00	150.00	500.00	368.90	49.99	-57.72	50-80% Curtailment could be avoided
2/6/2020	56	47.91	38.21	20.00	40.00	150.00	500.00	368.90	50.00	-170.00	Curtailment could not be avoided
2/7/2020	57	343.00	31.24	23.00	46.00	100.00	500.00	368.90	50.03	-441.51	20-50% Curtailment could be avoided
2/8/2020	58	361.88	35.61	26.00	52.00	100.00	500.00	368.90	49.90	-595.99	20-50% Curtailment could be avoided
2/9/2020	59	271.88	36.38	26.00	52.00	100.00	500.00	368.90	50.01	-578.80	Curtailment could not be avoided
2/10/2020	60	77.35	32.26	26.00	52.00	100.00	500.00	368.90	50.02	29.27	Curtailment could not be avoided
2/11/2020	61	276.32	31.19	24.50	49.00	50.00	200.00	368.90	50.04	-144.32	50-80% Curtailment could be avoided
2/12/2020	62	252.88	34.36	23.00	46.00	50.00	200.00	368.90	50.00	-230.74	20-50% Curtailment could be avoided
2/13/2020	63	203.73	34.11	22.50	45.00	50.00	200.00	368.90	50.00	-377.45	20-50% Curtailment could be avoided



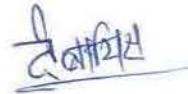
Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
2/14/2020	64	77.35	34.53	22.00	44.00	50.00	200.00	331.60	50.07	-649.90	Curtailment could not be avoided
2/15/2020	65	94.00	34.91	21.00	42.00	20.00	0.00	331.60	50.06	-234.15	Curtailment could not be avoided
2/16/2020	66	100.00	32.81	20.00	40.00	20.00	0.00	331.60	50.01	109.26	Curtailment could not be avoided
2/17/2020	67	24.47	11.35	20.00	40.00	20.00	0.00	331.60	49.95	129.92	Curtailment could be completely avoided
2/18/2020	68	24.47	11.21	20.00	40.00	20.00	0.00	331.60	49.96	117.31	Curtailment could be completely avoided
2/19/2020	69	24.47	11.83	19.00	38.00	0.00	0.00	319.00	49.97	-9.14	TN SLDC and Developers Data Mismatch
2/20/2020	70	134.34	15.34	18.00	36.00	0.00	0.00	319.00	49.95	-170.18	TN SLDC and Developers Data Mismatch
2/21/2020	71	483.00	16.71	19.50	39.00	0.00	0.00	319.00	49.97	-21.42	TN SLDC and Developers Data Mismatch
2/22/2020	72	483.00	22.64	21.00	42.00	0.00	0.00	319.00	50.01	-224.43	TN SLDC and Developers Data Mismatch
2/23/2020	37	148.06	10.54	15.00	30.00	250.86	0.00	236.00	50.00	-297.20	Curtailment could not be avoided
2/24/2020	38	200.12	8.60	16.00	32.00	250.86	0.00	298.50	50.02	72.76	50-80% Curtailment could be avoided
2/25/2020	39	152.88	10.26	16.00	32.00	250.86	0.00	302.60	50.01	166.49	80-100% Curtailment could be avoided
2/26/2020	40	152.88	15.24	16.00	32.00	250.86	0.00	302.60	50.01	47.11	20-50% Curtailment could be avoided
2/27/2020	41	123.95	17.68	15.50	31.00	200.00	0.00	302.60	50.00	-7.26	20-50% Curtailment could be avoided
2/28/2020	42	153.27	15.59	15.00	30.00	200.00	0.00	302.60	49.99	-56.29	20-50% Curtailment could be avoided
2/29/2020	43	153.27	15.94	15.50	31.00	200.00	0.00	302.60	50.02	-158.19	20-50% Curtailment could be avoided
3/1/2020	44	153.27	20.75	16.00	32.00	200.00	0.00	302.60	50.03	-198.07	20-50% Curtailment could be avoided
3/2/2020	45	135.51	16.97	14.00	28.00	150.00	0.00	302.60	49.97	-277.14	Curtailment could not be avoided
3/3/2020	46	135.51	15.95	12.00	24.00	150.00	0.00	302.60	49.97	-154.22	20-50% Curtailment could be avoided
3/4/2020	47	135.51	19.85	12.00	24.00	150.00	0.00	302.60	49.99	-223.70	Curtailment could not be avoided
3/5/2020	48	96.65	24.46	12.00	24.00	150.00	0.00	302.60	50.01	-297.69	Curtailment could not be avoided
3/6/2020	49	224.51	20.11	11.50	23.00	100.00	0.00	302.60	50.04	47.45	Curtailment could be completely avoided
3/7/2020	50	135.51	23.70	11.00	22.00	100.00	0.00	302.60	50.02	-6.38	50-80% Curtailment could be avoided
3/8/2020	51	135.51	24.51	11.00	22.00	100.00	0.00	302.60	50.01	36.89	Curtailment could be completely avoided
3/9/2020	52	85.65	23.97	11.00	22.00	100.00	0.00	302.60	50.00	-191.76	Curtailment could not be avoided
3/10/2020	53	235.51	27.95	15.00	30.00	100.00	0.00	342.60	49.97	-490.76	20-50% Curtailment could be avoided
3/11/2020	54	98.74	23.75	19.00	38.00	100.00	0.00	342.60	49.99	-386.87	Curtailment could not be avoided
3/12/2020	55	235.51	24.14	19.00	38.00	100.00	0.00	342.60	49.94	-270.17	20-50% Curtailment could be avoided
3/13/2020	56	59.98	27.87	19.00	38.00	100.00	0.00	342.60	49.98	-308.11	Curtailment could not be avoided
3/14/2020	57	212.55	29.17	18.50	37.00	100.00	0.00	342.60	49.99	-287.08	20-50% Curtailment could be avoided
3/15/2020	58	235.51	25.43	18.00	36.00	100.00	0.00	342.60	49.90	-290.70	20-50% Curtailment could be avoided
3/16/2020	59	59.98	24.47	18.50	37.00	100.00	0.00	342.60	49.93	-289.49	Curtailment could not be avoided
3/17/2020	60	135.51	24.63	19.00	38.00	100.00	0.00	342.60	49.96	-392.95	Curtailment could not be avoided
3/18/2020	61	59.98	23.26	35.50	71.00	100.00	0.00	342.60	50.01	-444.95	Curtailment could not be avoided
3/19/2020	62	180.70	16.68	52.00	104.00	100.00	0.00	342.60	49.99	-418.44	20-50% Curtailment could be avoided
3/20/2020	63	235.51	21.37	37.50	75.00	100.00	0.00	332.60	50.00	-309.14	20-50% Curtailment could be avoided



Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
3/21/2020	64	235.51	21.29	23.00	46.00	100.00	0.00	332.60	50.00	-311.20	20-50% Curtailment could be avoided
3/22/2020	65	235.51	22.49	20.00	40.00	50.00	0.00	332.60	50.02	-530.20	20-50% Curtailment could be avoided
3/23/2020	66	225.70	24.55	17.00	34.00	50.00	0.00	332.60	49.98	-494.38	20-50% Curtailment could be avoided
3/24/2020	67	135.51	24.15	17.50	35.00	50.00	0.00	314.60	50.03	-407.23	Curtailment could not be avoided
3/25/2020	68	59.98	26.33	18.00	36.00	50.00	0.00	310.50	49.98	-321.12	Curtailment could not be avoided
3/26/2020	69	135.51	21.97	17.00	34.00	0.00	0.00	310.50	50.04	-423.90	TN SLDC and Developers Data Mismatch
3/27/2020	70	158.96	23.60	16.00	32.00	0.00	0.00	303.00	50.00	-338.71	TN SLDC and Developers Data Mismatch
3/28/2020	71	292.98	25.79	16.00	32.00	0.00	0.00	303.00	50.04	-296.29	TN SLDC and Developers Data Mismatch
3/29/2020	72	292.98	24.96	16.00	32.00	0.00	0.00	303.00	50.01	-410.86	TN SLDC and Developers Data Mismatch
3/30/2020	37	279.51	1.00	14.00	28.00	225.00	0.00	240.00	50.01	-830.23	Curtailment could not be avoided
3/31/2020	38	203.98	0.00	9.00	18.00	225.00	0.00	244.00	49.99	-680.76	Curtailment could not be avoided
4/1/2020	39	111.36	0.00	8.50	17.00	225.00	0.00	253.00	50.00	-404.24	Curtailment could not be avoided
4/2/2020	40	106.73	0.00	8.00	16.00	225.00	0.00	283.00	50.00	-421.98	Curtailment could not be avoided
4/3/2020	41	146.30	0.00	9.00	18.00	200.00	0.00	283.00	50.03	-369.03	Curtailment could not be avoided
4/4/2020	42	48.27	0.00	10.00	20.00	200.00	0.00	283.00	49.95	-276.96	Curtailment could not be avoided
4/5/2020	43	123.80	0.00	10.50	21.00	200.00	0.00	283.00	49.97	-227.63	Curtailment could not be avoided
4/6/2020	44	81.56	0.00	11.00	22.00	200.00	0.00	283.00	50.01	-377.41	Curtailment could not be avoided
4/7/2020	45	223.80	0.00	11.50	23.00	150.00	300.00	283.00	49.93	-599.71	Curtailment could not be avoided
4/8/2020	46	123.80	0.00	12.00	24.00	150.00	300.00	313.00	49.95	-571.30	Curtailment could not be avoided
4/9/2020	47	223.80	0.00	12.00	24.00	150.00	300.00	337.00	49.93	-658.11	Curtailment could not be avoided
4/10/2020	48	123.80	0.00	12.00	24.00	150.00	300.00	337.00	49.90	-489.95	Curtailment could not be avoided
4/11/2020	49	48.27	0.00	8.50	17.00	250.00	0.00	337.00	49.99	-284.72	Curtailment could not be avoided
4/12/2020	50	196.84	0.00	5.00	10.00	250.00	0.00	337.00	49.92	-166.27	20-50% Curtailment could be avoided
4/13/2020	51	123.80	0.00	6.00	12.00	250.00	0.00	337.00	49.89	-77.42	Curtailment could not be avoided
4/14/2020	52	123.80	0.00	7.00	14.00	250.00	0.00	337.00	49.97	-94.45	Curtailment could not be avoided
4/15/2020	53	123.80	0.00	8.50	17.00	200.00	0.00	337.00	50.02	-177.28	Curtailment could not be avoided
4/16/2020	54	223.80	0.00	10.00	20.00	200.00	0.00	337.00	49.99	-431.58	20-50% Curtailment could be avoided
4/17/2020	55	259.31	0.00	11.00	22.00	200.00	300.00	337.00	49.93	-714.62	Curtailment could not be avoided
4/18/2020	56	207.26	0.00	12.00	24.00	200.00	300.00	337.00	49.97	-453.36	Curtailment could not be avoided
4/19/2020	57	159.31	0.00	11.00	22.00	150.00	300.00	337.00	49.99	-368.47	Curtailment could not be avoided
4/20/2020	58	104.80	0.00	10.00	20.00	150.00	300.00	337.00	49.99	-154.13	Curtailment could not be avoided
4/21/2020	59	292.97	0.00	10.00	20.00	150.00	300.00	337.00	49.98	-154.17	20-50% Curtailment could be avoided
4/22/2020	60	353.86	0.00	10.00	20.00	150.00	300.00	337.00	49.97	-240.56	20-50% Curtailment could be avoided
4/23/2020	61	285.52	0.00	10.50	21.00	100.00	0.00	337.00	49.99	-114.27	80-100% Curtailment could be avoided
4/24/2020	62	127.96	0.00	11.00	22.00	100.00	0.00	337.00	50.01	-213.57	Curtailment could not be avoided
4/25/2020	63	135.51	0.00	11.50	23.00	100.00	0.00	337.00	50.03	-517.70	Curtailment could not be avoided



Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
4/26/2020	64	259.31	0.00	12.00	24.00	100.00	0.00	337.00	50.04	-615.63	20-50% Curtailment could be avoided
4/27/2020	65	107.98	0.00	10.50	21.00	100.00	0.00	337.00	50.05	-671.42	Curtailment could not be avoided
4/28/2020	66	131.78	0.00	9.00	18.00	100.00	0.00	328.00	50.00	-705.19	Curtailment could not be avoided
4/29/2020	67	197.32	0.00	9.50	19.00	100.00	0.00	328.00	50.01	-671.88	Curtailment could not be avoided
4/30/2020	68	159.31	0.00	10.00	20.00	100.00	0.00	328.00	50.00	-482.17	Curtailment could not be avoided
5/1/2020	69	83.78	0.00	10.00	20.00	50.00	0.00	285.00	50.02	-509.56	Curtailment could not be avoided
5/2/2020	70	137.07	0.00	10.00	20.00	50.00	0.00	285.00	49.96	-535.31	Curtailment could not be avoided
5/3/2020	71	83.78	0.00	10.50	21.00	50.00	0.00	285.00	49.95	-360.86	Curtailment could not be avoided
5/4/2020	72	134.32	0.00	11.00	22.00	50.00	0.00	285.00	50.01	-281.85	Curtailment could not be avoided
5/5/2020	73	85.09	0.00	10.00	20.00	0.00	0.00	21.00	50.05	-528.31	TN SLDC and Developers Data Mismatch
5/6/2020	39	77.35	19.06	9.50	19.00	235.00	1300.00	204.10	49.99	-272.55	Curtailment could not be avoided
5/7/2020	40	55.17	11.54	9.00	18.00	235.00	1300.00	271.10	50.01	39.65	Curtailment could not be avoided
5/8/2020	41	0.00	11.66	9.50	19.00	235.00	1000.00	271.10	50.00	-149.28	Curtailment could not be avoided
5/9/2020	42	23.95	1.79	10.00	20.00	200.00	1000.00	271.10	49.97	-231.12	Curtailment could not be avoided
5/10/2020	43	0.00	6.42	10.00	20.00	200.00	1000.00	271.10	50.01	-315.87	Curtailment could not be avoided
5/11/2020	44	0.00	7.85	10.00	20.00	200.00	1000.00	271.10	50.00	-308.48	Curtailment could not be avoided
5/12/2020	45	0.00	2.18	11.50	23.00	200.00	1000.00	271.10	49.98	-358.86	Curtailment could not be avoided
5/13/2020	46	0.00	1.21	13.00	26.00	150.00	1000.00	271.10	49.99	-353.38	Curtailment could not be avoided
5/14/2020	47	52.88	8.99	14.00	28.00	150.00	1300.00	271.10	50.02	-569.19	Curtailment could not be avoided
5/15/2020	48	52.88	10.50	15.00	30.00	150.00	1300.00	271.10	49.99	-454.10	Curtailment could not be avoided
5/16/2020	49	138.33	18.11	11.50	23.00	150.00	1300.00	284.10	50.06	-489.54	Curtailment could not be avoided
5/17/2020	50	252.88	21.05	8.00	16.00	200.00	1300.00	284.10	50.04	-328.95	Curtailment could not be avoided
5/18/2020	51	195.08	22.49	9.00	18.00	200.00	1300.00	304.10	50.05	-281.65	Curtailment could not be avoided
5/19/2020	52	152.88	24.76	10.00	20.00	200.00	1300.00	308.10	50.05	-375.17	Curtailment could not be avoided
5/20/2020	53	152.88	24.54	10.00	20.00	200.00	1300.00	308.10	50.09	-553.77	Curtailment could not be avoided
5/21/2020	54	152.88	23.07	10.00	20.00	200.00	1300.00	305.10	50.00	-628.30	Curtailment could not be avoided
5/22/2020	55	152.88	23.24	9.50	19.00	200.00	1300.00	305.10	49.98	-654.18	Curtailment could not be avoided
5/23/2020	56	52.88	22.86	9.00	18.00	200.00	1300.00	292.10	50.00	-328.25	Curtailment could not be avoided
5/24/2020	57	80.54	25.34	10.00	20.00	200.00	1100.00	79.00	49.98	-26.22	Curtailment could not be avoided
5/25/2020	58	52.88	26.24	11.00	22.00	50.00	1100.00	79.00	49.97	63.99	Curtailment could not be avoided
5/26/2020	59	52.88	24.92	10.50	21.00	50.00	1100.00	79.00	49.95	43.74	Curtailment could not be avoided
5/27/2020	60	52.88	29.68	10.00	20.00	50.00	1100.00	79.00	49.95	102.65	Curtailment could not be avoided
5/28/2020	61	52.88	28.74	10.00	20.00	50.00	600.00	79.00	49.99	99.56	Curtailment could not be avoided
5/29/2020	62	52.88	25.52	10.00	20.00	50.00	600.00	79.00	49.97	-96.22	Curtailment could not be avoided
5/30/2020	63	52.88	30.65	9.00	18.00	50.00	600.00	79.00	49.98	-154.17	Curtailment could not be avoided
5/31/2020	64	52.88	28.25	8.00	16.00	50.00	600.00	79.00	49.87	-9.61	Curtailment could not be avoided

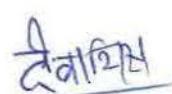


Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
6/1/2020	65	52.88	27.25	10.00	20.00	50.00	0.00	79.00	50.01	36.84	Curtailment could not be avoided
6/2/2020	66	52.88	26.80	12.00	24.00	0.00	0.00	79.00	49.97	58.70	TN SLDC and Developers Data Mismatch
6/3/2020	67	149.87	29.63	12.00	24.00	0.00	0.00	79.00	50.00	-155.79	TN SLDC and Developers Data Mismatch
6/4/2020	68	458.67	28.29	12.00	24.00	0.00	0.00	79.00	49.99	-207.27	TN SLDC and Developers Data Mismatch
6/5/2020	69	161.77	26.64	13.00	26.00	0.00	0.00	55.00	50.10	-95.38	TN SLDC and Developers Data Mismatch
6/6/2020	70	77.35	29.92	14.00	28.00	0.00	0.00	39.00	50.01	4.41	TN SLDC and Developers Data Mismatch
6/7/2020	71	100.79	28.97	14.00	28.00	0.00	0.00	39.00	50.01	-88.25	TN SLDC and Developers Data Mismatch
6/8/2020	72	100.79	26.90	14.00	28.00	0.00	0.00	39.00	49.91	-103.03	TN SLDC and Developers Data Mismatch
6/9/2020	73	163.01	24.84	30.00	60.00	0.00	0.00	3.00	49.95	143.03	TN SLDC and Developers Data Mismatch
6/10/2020	74	438.31	24.58	46.00	92.00	0.00	0.00	3.00	49.89	-52.09	TN SLDC and Developers Data Mismatch
6/11/2020	75	486.29	23.28	45.00	90.00	0.00	0.00	3.00	49.96	-184.27	TN SLDC and Developers Data Mismatch
6/12/2020	76	592.29	26.51	44.00	88.00	0.00	0.00	3.00	49.86	7.41	TN SLDC and Developers Data Mismatch
6/13/2020	39	52.88	0.00	27.60	55.20	0.00	300.00	170.00	49.97	-31.75	TN SLDC and Developers Data Mismatch
6/14/2020	40	52.88	0.00	33.20	66.40	238.00	300.00	233.00	50.02	-58.32	Curtailment could not be avoided
6/15/2020	41	52.88	0.00	29.60	59.20	238.00	300.00	235.10	49.98	114.36	Curtailment could not be avoided
6/16/2020	42	52.88	0.42	26.00	52.00	238.00	300.00	235.10	49.95	-172.29	Curtailment could not be avoided
6/17/2020	43	52.88	2.35	26.50	53.00	238.00	600.00	235.10	49.99	-451.85	Curtailment could not be avoided
6/18/2020	44	52.88	0.00	27.00	54.00	200.00	600.00	235.10	50.01	-325.88	Curtailment could not be avoided
6/19/2020	45	52.88	2.33	26.50	53.00	200.00	900.00	235.10	49.97	-510.23	Curtailment could not be avoided
6/20/2020	46	52.88	0.00	26.00	52.00	200.00	900.00	235.10	49.98	-403.61	Curtailment could not be avoided
6/21/2020	47	52.88	0.00	25.50	51.00	200.00	900.00	235.10	49.98	-327.40	Curtailment could not be avoided
6/22/2020	48	52.88	0.00	25.00	50.00	150.00	900.00	235.10	49.98	-300.81	Curtailment could not be avoided
6/23/2020	49	52.88	0.00	24.00	48.00	150.00	900.00	235.10	49.96	-358.42	Curtailment could not be avoided
6/24/2020	50	52.88	0.21	23.00	46.00	150.00	900.00	235.10	49.98	-356.02	Curtailment could not be avoided
6/25/2020	51	52.88	0.97	24.50	49.00	150.00	900.00	235.10	49.96	-321.89	Curtailment could not be avoided
6/26/2020	52	52.88	2.23	26.00	52.00	200.00	900.00	274.10	49.93	-229.99	Curtailment could not be avoided
6/27/2020	53	52.88	7.77	24.50	49.00	200.00	900.00	270.10	50.00	-380.61	Curtailment could not be avoided
6/28/2020	54	52.88	5.03	23.00	46.00	200.00	900.00	274.10	50.01	-391.89	Curtailment could not be avoided
6/29/2020	55	52.88	5.02	23.00	46.00	200.00	900.00	274.10	50.04	-14.42	Curtailment could not be avoided
6/30/2020	56	52.88	5.77	23.00	46.00	150.00	900.00	274.10	50.00	-18.96	Curtailment could not be avoided
7/1/2020	57	77.35	7.65	22.50	45.00	150.00	300.00	274.10	50.05	-224.89	Curtailment could not be avoided
7/2/2020	58	77.35	7.01	22.00	44.00	150.00	300.00	274.10	50.04	-101.50	Curtailment could not be avoided
7/3/2020	59	77.35	8.71	21.00	42.00	150.00	300.00	274.10	50.04	-68.43	Curtailment could not be avoided
7/4/2020	60	52.88	3.88	20.00	40.00	100.00	300.00	274.10	50.00	122.28	Curtailment could not be avoided
7/5/2020	61	52.88	1.90	44.00	88.00	100.00	0.00	274.10	50.06	101.70	Curtailment could be completely avoided
7/6/2020	62	52.88	2.68	68.00	136.00	100.00	0.00	274.10	50.02	99.23	Curtailment could be completely avoided

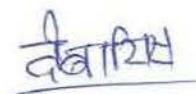
Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
7/7/2020	63	52.88	4.28	66.50	133.00	100.00	0.00	272.00	50.05	-91.40	Curtailment could not be avoided
7/8/2020	64	52.88	0.00	65.00	130.00	50.00	0.00	272.00	50.04	19.92	50-80% Curtailment could be avoided
7/9/2020	65	77.35	0.00	49.50	99.00	50.00	0.00	272.00	50.06	-385.42	Curtailment could not be avoided
7/10/2020	66	52.88	0.00	34.00	68.00	50.00	0.00	238.00	50.02	-98.72	Curtailment could not be avoided
7/11/2020	67	52.88	0.00	42.50	85.00	50.00	0.00	238.00	49.98	311.64	Curtailment could not be avoided
7/12/2020	68	52.88	0.00	51.00	102.00	20.00	0.00	238.00	50.00	353.64	Curtailment could not be avoided
7/13/2020	69	94.71	4.23	87.00	174.00	20.00	0.00	238.00	50.00	151.03	Curtailment could not be avoided
7/14/2020	70	94.71	49.37	123.00	246.00	20.00	0.00	238.00	50.00	-10.56	Curtailment could be completely avoided
7/15/2020	71	118.15	51.17	101.00	202.00	20.00	0.00	228.00	50.01	-203.97	50-80% Curtailment could be avoided
7/16/2020	72	118.15	53.57	79.00	158.00	0.00	0.00	228.00	49.98	-18.19	TN SLDC and Developers Data Mismatch
7/17/2020	49	296.53	51.84	29.50	59.00	0.00	0.00	208.00	50.02	-777.16	TN SLDC and Developers Data Mismatch
7/18/2020	50	315.74	53.47	16.00	32.00	315.00	0.00	208.00	50.02	-1072.12	20-50% Curtailment could be avoided
7/19/2020	51	205.76	50.88	16.50	33.00	315.00	0.00	257.70	50.03	-901.88	Curtailment could not be avoided
7/20/2020	52	136.21	49.56	17.00	34.00	315.00	0.00	287.70	49.99	-862.77	Curtailment could not be avoided
7/21/2020	53	177.88	49.80	18.50	37.00	315.00	0.00	287.70	50.07	-742.89	Curtailment could not be avoided
7/22/2020	54	177.88	40.20	20.00	40.00	200.00	0.00	287.70	50.03	-654.77	Curtailment could not be avoided
7/23/2020	55	174.88	0.00	19.50	39.00	200.00	0.00	257.70	49.93	-409.77	Curtailment could not be avoided
7/24/2020	56	152.88	0.00	19.00	38.00	200.00	0.00	257.70	49.92	-5.45	20-50% Curtailment could be avoided
7/25/2020	57	77.35	0.00	18.50	37.00	200.00	0.00	257.70	49.92	54.46	Curtailment could not be avoided
7/26/2020	58	77.35	0.00	18.00	36.00	150.00	0.00	257.70	49.93	-17.38	Curtailment could not be avoided
7/27/2020	59	77.35	0.00	17.50	35.00	150.00	0.00	257.70	49.89	-515.20	Curtailment could not be avoided
7/28/2020	60	88.45	0.00	17.00	34.00	150.00	0.00	257.70	49.88	-494.81	Curtailment could not be avoided
7/29/2020	61	252.88	0.00	18.50	37.00	150.00	0.00	257.70	49.97	-596.90	20-50% Curtailment could be avoided
7/30/2020	62	245.60	0.00	20.00	40.00	200.00	0.00	257.70	50.00	-543.44	20-50% Curtailment could be avoided
7/31/2020	63	200.88	0.00	19.50	39.00	200.00	0.00	261.00	50.01	-386.29	20-50% Curtailment could be avoided
8/1/2020	64	200.88	0.00	19.00	38.00	200.00	0.00	277.00	50.05	-145.78	20-50% Curtailment could be avoided
8/2/2020	65	266.88	0.00	42.50	85.00	200.00	0.00	277.00	49.99	155.78	Curtailment could be completely avoided
8/3/2020	66	77.35	0.00	66.00	132.00	100.00	0.00	277.00	49.95	60.27	Curtailment could be completely avoided
8/4/2020	67	215.18	0.00	66.00	132.00	100.00	0.00	266.00	49.95	90.33	Curtailment could be completely avoided
8/5/2020	68	233.88	0.00	66.00	132.00	100.00	0.00	266.00	49.97	-206.20	50-80% Curtailment could be avoided
8/6/2020	69	273.88	0.00	54.00	108.00	100.00	0.00	266.00	50.02	-354.63	50-80% Curtailment could be avoided
8/7/2020	70	194.02	0.00	42.00	84.00	20.00	0.00	250.00	50.02	-265.38	20-50% Curtailment could be avoided
8/8/2020	71	109.35	0.00	40.50	81.00	20.00	0.00	250.00	49.98	-294.02	Curtailment could not be avoided
8/9/2020	72	77.35	0.00	39.00	78.00	20.00	0.00	250.00	50.00	-278.81	Curtailment could not be avoided
8/10/2020	41	317.66	0.00	123.90	247.80	0.00	500.00	208.00	50.02	-318.30	TN SLDC and Developers Data Mismatch
8/11/2020	42	451.87	0.00	103.20	206.40	281.00	500.00	208.00	50.02	-671.03	20-50% Curtailment could be avoided



Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
8/12/2020	43	395.95	0.00	82.65	165.30	281.00	500.00	270.50	50.03	-896.47	20-50% Curtailment could be avoided
8/13/2020	44	286.72	0.00	62.10	124.20	281.00	500.00	270.50	50.02	-967.23	Curtailment could not be avoided
8/14/2020	45	262.74	0.00	38.80	77.60	281.00	0.00	270.50	49.98	-1057.88	Curtailment could not be avoided
8/15/2020	46	128.67	0.00	15.50	31.00	220.00	0.00	270.50	49.93	-935.39	Curtailment could not be avoided
8/16/2020	47	150.14	0.00	14.25	28.50	220.00	0.00	270.50	49.90	-537.59	Curtailment could not be avoided
8/17/2020	48	150.14	0.00	13.00	26.00	220.00	0.00	270.50	49.95	-147.07	Curtailment could not be avoided
8/18/2020	49	225.67	0.00	12.00	24.00	220.00	0.00	270.50	49.97	-103.82	20-50% Curtailment could be avoided
8/19/2020	50	225.67	0.00	11.00	22.00	200.00	0.00	270.50	49.92	-136.52	20-50% Curtailment could be avoided
8/20/2020	51	331.05	0.00	11.50	23.00	200.00	0.00	301.50	49.94	-276.42	50-80% Curtailment could be avoided
8/21/2020	52	296.88	0.00	12.00	24.00	200.00	0.00	301.50	49.93	-256.48	20-50% Curtailment could be avoided
8/22/2020	53	458.39	0.00	15.50	31.00	200.00	0.00	301.50	49.99	-277.45	50-80% Curtailment could be avoided
8/23/2020	54	298.60	0.00	19.00	38.00	200.00	0.00	301.50	50.01	-385.65	20-50% Curtailment could be avoided
8/24/2020	55	381.10	0.00	19.00	38.00	200.00	0.00	289.50	50.02	-516.99	20-50% Curtailment could be avoided
8/25/2020	56	276.67	0.00	19.00	38.00	200.00	0.00	289.50	50.02	-516.57	20-50% Curtailment could be avoided
8/26/2020	57	191.67	1.76	30.35	60.70	200.00	0.00	289.50	50.05	-714.06	Curtailment could not be avoided
8/27/2020	58	314.88	4.51	41.70	83.40	150.00	0.00	289.50	50.00	-843.69	20-50% Curtailment could be avoided
8/28/2020	59	221.88	3.54	46.85	93.70	150.00	0.00	289.50	50.01	-842.28	Curtailment could not be avoided
8/29/2020	60	358.81	0.00	52.00	104.00	150.00	0.00	289.50	49.98	-514.87	20-50% Curtailment could be avoided
8/30/2020	61	101.14	1.59	52.20	104.40	150.00	0.00	273.50	49.98	-239.82	Curtailment could not be avoided
8/31/2020	62	396.88	0.00	52.40	104.80	150.00	0.00	273.50	49.96	-153.98	Curtailment could be completely avoided
9/1/2020	63	320.87	0.00	52.90	105.80	150.00	0.00	273.50	49.98	-162.25	80-100% Curtailment could be avoided
9/2/2020	64	220.80	13.49	53.40	106.80	150.00	0.00	273.50	50.00	-422.70	20-50% Curtailment could be avoided
9/3/2020	65	224.67	4.06	57.40	114.80	150.00	0.00	273.50	49.94	-511.57	20-50% Curtailment could be avoided
9/4/2020	66	158.28	3.73	61.40	122.80	50.00	0.00	273.50	49.95	-476.56	20-50% Curtailment could be avoided
9/5/2020	67	163.67	3.13	70.55	141.10	50.00	0.00	265.00	50.02	-468.35	20-50% Curtailment could be avoided
9/6/2020	68	268.67	5.16	79.70	159.40	50.00	0.00	265.00	50.05	-494.63	20-50% Curtailment could be avoided
9/7/2020	69	260.06	0.44	80.95	161.90	50.00	0.00	265.00	50.06	-772.84	20-50% Curtailment could be avoided
9/8/2020	70	101.14	24.34	82.20	164.40	0.00	0.00	265.00	50.03	-566.09	TN SLDC and Developers Data Mismatch
9/9/2020	71	101.14	23.20	84.70	169.40	0.00	0.00	265.00	50.01	-216.06	TN SLDC and Developers Data Mismatch
9/10/2020	72	101.14	21.37	87.20	174.40	0.00	0.00	265.00	50.01	-290.36	TN SLDC and Developers Data Mismatch
9/11/2020	38	100.00	6.52	40.80	81.60	0.00	1200.00	239.00	50.01	-164.91	TN SLDC and Developers Data Mismatch
9/12/2020	39	252.88	3.10	40.80	81.60	265.00	1200.00	243.00	50.05	-217.98	Curtailment could not be avoided
9/13/2020	40	237.40	2.20	40.80	81.60	265.00	1200.00	268.00	50.02	-3.33	Curtailment could not be avoided
9/14/2020	41	269.89	1.37	40.85	81.70	265.00	900.00	268.00	50.00	-279.67	Curtailment could not be avoided
9/15/2020	42	47.91	2.43	40.90	81.80	265.00	900.00	268.00	49.97	273.88	Curtailment could not be avoided
9/16/2020	43	152.88	8.05	40.90	81.80	200.00	900.00	268.00	50.06	173.06	Curtailment could not be avoided



Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
9/17/2020	44	252.88	9.94	40.90	81.80	200.00	900.00	268.00	50.03	-85.34	Curtailment could not be avoided
9/18/2020	45	77.35	7.55	54.25	108.50	200.00	900.00	290.00	50.01	-421.94	Curtailment could not be avoided
9/19/2020	46	152.88	9.61	67.60	135.20	200.00	900.00	310.00	49.98	-521.91	Curtailment could not be avoided
9/20/2020	47	77.35	8.90	55.10	110.20	250.00	900.00	310.00	50.07	-376.96	Curtailment could not be avoided
9/21/2020	48	77.35	7.40	42.60	85.20	250.00	900.00	310.00	50.01	-480.82	Curtailment could not be avoided
9/22/2020	49	129.17	7.62	41.15	82.30	250.00	600.00	310.00	50.05	-397.14	Curtailment could not be avoided
9/23/2020	50	52.88	6.16	39.70	79.40	250.00	600.00	297.00	50.03	1.82	Curtailment could not be avoided
9/24/2020	51	52.88	2.78	40.15	80.30	200.00	600.00	66.00	50.08	-148.90	Curtailment could not be avoided
9/25/2020	52	52.88	1.81	40.60	81.20	200.00	600.00	65.00	50.02	-67.25	Curtailment could not be avoided
9/26/2020	53	52.88	0.00	40.65	81.30	200.00	600.00	65.00	50.11	-91.25	Curtailment could not be avoided
9/27/2020	54	52.88	0.00	40.70	81.40	200.00	600.00	65.00	49.98	-175.15	Curtailment could not be avoided
9/28/2020	55	52.88	0.00	41.15	82.30	100.00	600.00	65.00	50.04	-201.37	Curtailment could not be avoided
9/29/2020	56	52.88	0.00	41.60	83.20	100.00	600.00	65.00	50.07	-151.87	Curtailment could not be avoided
9/30/2020	57	52.88	0.00	41.65	83.30	100.00	0.00	65.00	50.11	-93.53	Curtailment could not be avoided
10/1/2020	58	52.88	0.00	41.70	83.40	100.00	0.00	65.00	50.03	11.43	Curtailment could not be avoided
10/2/2020	59	52.88	0.00	42.20	84.40	50.00	0.00	65.00	49.96	169.49	Curtailment could not be avoided
10/3/2020	60	52.88	0.00	42.70	85.40	50.00	0.00	65.00	49.95	181.31	Curtailment could not be avoided
10/4/2020	61	52.88	0.00	47.25	94.50	50.00	0.00	65.00	49.98	123.56	Curtailment could not be avoided
10/5/2020	62	52.88	0.00	51.80	103.60	50.00	0.00	65.00	49.92	166.17	Curtailment could not be avoided
10/6/2020	63	52.88	0.00	56.85	113.70	50.00	0.00	65.00	49.94	150.57	Curtailment could not be avoided
10/7/2020	64	52.88	0.00	61.90	123.80	50.00	0.00	65.00	49.96	222.77	Curtailment could not be avoided
10/8/2020	65	138.32	0.00	95.25	190.50	50.00	0.00	65.00	50.00	235.15	Curtailment could not be avoided
10/9/2020	66	200.93	0.00	128.60	257.20	50.00	0.00	65.00	49.98	316.58	Curtailment could not be avoided
10/10/2020	67	152.88	0.00	125.15	250.30	50.00	0.00	65.00	49.99	308.19	Curtailment could not be avoided
10/11/2020	68	176.32	0.00	121.70	243.40	50.00	0.00	37.00	49.98	150.71	Curtailment could not be avoided
10/12/2020	69	176.32	0.00	100.10	200.20	50.00	0.00	37.00	50.02	299.23	Curtailment could not be avoided
10/13/2020	70	176.32	0.00	78.50	157.00	50.00	0.00	37.00	49.99	465.67	Curtailment could not be avoided
10/14/2020	71	276.32	0.00	96.00	192.00	0.00	0.00	37.00	50.00	53.89	TN SLDC and Developers Data Mismatch
10/15/2020	72	276.32	0.00	113.50	227.00	0.00	0.00	34.00	50.00	-31.65	TN SLDC and Developers Data Mismatch
10/16/2020	37	272.05	2.29	37.55	75.10	234.00	500.00	232.00	50.01	-1095.93	Curtailment could not be avoided
10/17/2020	38	100.79	0.00	38.50	77.00	234.00	500.00	270.50	49.97	-495.02	Curtailment could not be avoided
10/18/2020	39	52.88	0.29	39.00	78.00	234.00	500.00	270.50	50.02	-136.68	Curtailment could not be avoided
10/19/2020	40	152.87	2.26	39.50	79.00	234.00	500.00	270.50	50.00	-52.93	Curtailment could not be avoided
10/20/2020	41	100.79	4.69	38.50	77.00	200.00	0.00	270.50	49.94	38.34	20-50% Curtailment could be avoided
10/21/2020	42	110.00	1.11	37.50	75.00	200.00	0.00	270.50	49.97	245.65	Curtailment could not be avoided
10/22/2020	43	252.88	0.00	37.95	75.90	200.00	0.00	270.50	50.03	-214.56	20-50% Curtailment could be avoided



Block wise curtailment analysis for curtailed blocks

Date	Block	Margin in ISGS Generators (MW)	Margin in State Generators (MW)	Margin in Hydro Generators (50% of Hydro) (MW)	Hydro (MW)	Solar Curtailment as per TN SLDC Data (MW)	Wind Curtailment As per TN SLDC Data (MW)	Solar Curtailment Submitted by Developers (MW)	Grid Frequency in (Hz)	ISGS Deviation (MW) (+ve/-ve : over/Less drawl from the Grid compared to schedule)	Remarks
10/23/2020	44	252.88	0.00	38.40	76.80	200.00	0.00	294.50	50.01	-454.02	20-50% Curtailment could be avoided
10/24/2020	45	252.88	0.00	31.80	63.60	200.00	0.00	312.50	50.03	-354.02	20-50% Curtailment could be avoided
10/25/2020	46	219.21	0.00	25.20	50.40	200.00	0.00	316.50	49.99	-338.10	20-50% Curtailment could be avoided
10/26/2020	47	152.88	0.00	18.10	36.20	200.00	0.00	316.50	50.01	-410.46	Curtailment could not be avoided
10/27/2020	48	77.35	0.00	11.00	22.00	200.00	0.00	316.50	49.95	-490.25	Curtailment could not be avoided
10/28/2020	49	77.35	0.00	13.50	27.00	150.00	500.00	316.50	49.97	-516.38	Curtailment could not be avoided
10/29/2020	50	52.88	0.00	16.00	32.00	150.00	500.00	316.50	49.97	-77.54	Curtailment could not be avoided
10/30/2020	51	52.88	0.00	17.50	35.00	150.00	500.00	316.50	49.97	196.51	Curtailment could not be avoided
10/31/2020	52	52.88	0.00	19.00	38.00	150.00	500.00	316.50	49.93	189.34	Curtailment could not be avoided
11/1/2020	53	106.12	0.00	34.00	68.00	100.00	500.00	316.50	50.08	71.51	Curtailment could not be avoided
11/2/2020	54	52.88	0.00	49.00	98.00	100.00	500.00	316.50	49.99	72.70	Curtailment could not be avoided
11/3/2020	55	52.88	0.00	45.50	91.00	100.00	500.00	316.50	49.97	93.54	Curtailment could not be avoided
11/4/2020	56	52.88	0.00	42.00	84.00	100.00	500.00	316.50	49.97	176.80	Curtailment could not be avoided
11/5/2020	57	52.88	0.00	51.50	103.00	100.00	300.00	316.50	49.94	194.42	Curtailment could not be avoided
11/6/2020	58	52.88	0.00	61.00	122.00	100.00	300.00	316.50	49.87	195.50	Curtailment could not be avoided
11/7/2020	59	52.88	0.00	66.00	132.00	100.00	300.00	314.50	49.91	138.75	Curtailment could not be avoided
11/8/2020	60	158.35	0.00	71.00	142.00	100.00	300.00	316.50	49.89	172.99	50-80% Curtailment could be avoided
11/9/2020	61	251.00	0.00	42.00	84.00	100.00	300.00	316.50	49.99	-315.90	20-50% Curtailment could be avoided
11/10/2020	62	152.88	2.01	13.00	26.00	100.00	300.00	294.50	49.97	138.49	20-50% Curtailment could be avoided
11/11/2020	63	208.35	0.00	11.50	23.00	100.00	300.00	294.50	49.98	113.86	20-50% Curtailment could be avoided
11/12/2020	64	252.88	0.00	10.00	20.00	100.00	300.00	294.50	49.99	234.47	80-100% Curtailment could be avoided
11/13/2020	65	270.85	0.00	9.00	18.00	50.00	0.00	294.50	49.97	167.80	Curtailment could not be avoided
11/14/2020	66	176.32	0.00	8.00	16.00	50.00	0.00	294.50	49.87	250.01	Curtailment could not be avoided
11/15/2020	67	176.32	0.00	28.00	56.00	50.00	0.00	294.50	49.97	174.39	Curtailment could not be avoided
11/16/2020	68	176.32	0.00	48.00	96.00	50.00	0.00	294.50	50.00	55.43	Curtailment could not be avoided
11/17/2020	69	176.32	0.00	56.50	113.00	20.00	0.00	294.50	49.97	-271.75	20-50% Curtailment could be avoided
11/18/2020	70	371.06	0.00	65.00	130.00	20.00	0.00	294.50	49.92	-24.29	Curtailment could be completely avoided
11/19/2020	71	270.27	0.00	66.50	133.00	20.00	0.00	294.50	49.98	206.23	Curtailment could not be avoided
11/20/2020	72	310.35	0.58	68.00	136.00	20.00	0.00	294.50	49.97	263.37	Curtailment could not be avoided

