BEFORE

THE CENTRAL ELECTRICITY REGULATORY COMMISSION,

NEW DELHI

PETITION NO. 225/TL/2024

IN THE MATTER OF

Application under Section-14 & 15 of the Electricity Act, 2003 read with Central Electricity Regulatory Commission (Procedure, Terms and Conditions for Grant of Transmission License and other related matters) Regulations, 2024 for Grant of separate Transmission License for Augmentation of 2x500 MVA, 400/230kV transformation capacity (3rd & 4th ICTs) at Karur PS and Implementation of 1 no. of 230kV line bay at Karur 400/230kV PS for interconnection of REGS of M/s Nannai Solar Park Pvt. Ltd. on Regulated Tariff Mechanism (RTM) route

AND IN THE MATTER OF

Karur Transmission Limited

....Petitioner

Versus

JSW Renew Energy Limited and Ors.

....Respondents



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Petitioner

Place: Ahmedabad

Date: 05.11.2024

BEFORE

THE CENTRAL ELECTRICITY REGULATORY COMMISSION, NEW DELHI

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AND IN THE MATTER OF

Karur Transmission Limited

....Petitioner

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JSW Renew Energy Limited and Ors.

....Respondents



MEMO OF PARTIES

Karur Transmission Limited

Having its registered office at;

C/o Karur Transmission Limited,

C 105, Anand Niketan

New Delhi 110021

..... Petitioner

Versus

1. JSW Renew Energy Limited

JSW Centre,

Bandra Kurla Complex,

Bandra (E), Mumbai - 400051

2. Chief Executive Officer, CTU Planning,

POWERGRID Corporation of India Limited,

Saudamini, Plot No.2, Sector-29,

Gurgaon-122 001

....Respondents



Petitioner

Place: Ahmedabad Date: 05.11.2024

BEFORE

THE CENTRAL ELECTRICITY REGULATORY COMMISSION, NEW DELHI

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IN THE MATTER OF

Application under Section-14 & 15 of the Electricity Act, 2003 read with Central Electricity Regulatory Commission (Procedure, Terms and Conditions for Grant of Transmission License and other related matters) Regulations, 2024 for Grant of separate Transmission License for Augmentation of 2x500 MVA, 400/230kV transformation capacity (3rd & 4th ICTs) at Karur PS and Implementation of 1 no. of 230kV line bay at Karur 400/230kV PS for interconnection of REGS of M/s Nannai Solar Park Pvt. Ltd. on Regulated Tariff Mechanism (RTM) route

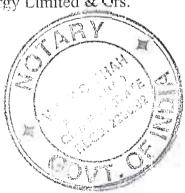
AND IN THE MATTER OF

Karur Transmission Limited

....Petitioner

Versus

JSW Renew Energy Limited & Ors.



....Respondents





VI

VIJAY C. SHAF

S. No. 8498 1

NOTARY GOVT. OF INDIA

AFFIDAVIT

5 NOV 2024

I, Bhavesh Kundalia, son of Sh. Pradyumna Kundalia, aged about 61 years, R/o A63, Luv Kush Towers, Thaltej, Ahmedabad do hereby solemnly affirm and state on oath as under:

1. That I am the Authorised Representative, of the Petitioner, Karur Transmission Limited, and I am fully conversant with the facts and circumstances of the case and I have been duly authorized and am, therefore, competent to affirm this affidavit.

That I have read the accompanying submissions being submitted on behalf of Karur Transmission Limited and have understood the contents thereof and that the contents therein are true and correct to the best of my knowledge and belief.

DEPONENT

VERIFICATION

I, Bhavesh Kundalia, the above named deponent do hereby verify that the contents of this affidavit are true and correct to the best of my knowledge and belief, no part of it is false and nothing material has been concealed therefrom.

Verified by me on this November, 2024, at Ahmedabad



DEPONENT

SOLEMNLY AFFIRMED BEFORE ME

VIJAY C. SHAH NOTARY GOVT, OF INDIA

5 NOV 2021

BEFORE

THE CENTRAL ELECTRICITY REGULATORY COMMISSION, NEW DELHI

PETITION NO. 225/TL/2024

IN THE MATTER OF

Application under Section-14 & 15 of the Electricity Act, 2003 read with Central Electricity Regulatory Commission (Procedure, Terms and Conditions for Grant of Transmission License and other related matters) Regulations, 2024 for Grant of separate Transmission License for Augmentation of 2x500 MVA, 400/230kV transformation capacity (3rd & 4th ICTs) at Karur PS and Implementation of 1 no. of 230kV line bay at Karur 400/230kV PS for interconnection of REGS of M/s Nannai Solar Park Pvt. Ltd. on Regulated Tariff Mechanism (RTM) route

AND IN THE MATTER OF

Karur Transmission Limited

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....Respondents



PETITION / APPLICATION UNDER SECTION 14 & 15 OF THE ELECTRICITY ACT, 2003 FOR GRANT OF TRANSMISSION LICENSE

MOST RESPECTFULLY SHOWETH:

- 1. The present application is being filed by Karur Transmission Limited (herein after referred to as "Petitioner") under Section 14 of the Electricity Act, 2003 read with Central Electricity Regulatory Commission (Procedure, Terms and Conditions for Grant of Transmission License and other related matters) Regulations, 2024 for grant of separate Transmission License for Augmentation of 2x500 MVA, 400/230kV transformation capacity (3rd & 4th ICTs) at Karur PS and Implementation of 1 no. of 230kV line bay at Karur 400/230kV PS for interconnection of REGS of M/s Nannai Solar Park Pvt. Ltd. on RTM route.
- 2. It is most respectfully submitted that Ministry of Power, Government of India, vide Gazette Notification dated 10.10.2019 has notified PFC Consulting Limited to be the Bid Process Coordinator (Hereinafter referred as "BPC") for the purpose of selection of Bidder as Transmission Service Provider (Hereinafter referred as "TSP") to establish below mentioned project through Tariff Based Competitive Bidding process on build, own, operate and maintain basis:



SN	Name of the Transmission Element
1	Establishment of 2x500 MVA, 400/230 kV Karur Pooling Station (at a location in between Karur Wind zone and Tiruppur wind zone)
 4 Nos. of 230kV line bays for interconnection of wind 2x500MVA, 400/230kV ICTs 400kV ICT bay - 2 nos. 230kV ICT bay - 2 nos. 400kV line bay - 4 nos. 400kV reactor bay - 2 nos. 230kV line bays - 4 nos. 230kV line bays - 4 nos. 230kV Bus coupler bay- 1 no.* 	
	 230kV Transfer Bus Coupler (TBC) bay - 1 no.* Space provision for Phase-II: 400/230kV ICTs along with bays: 3 nos. 230kV line bays: 5 nos. 230 kV Bus Sectionaliser bays: 2 nos.
	Future provisions (Additional Space for): i. 400/230kV ICTs along with bays: 3 nos. ii. 400kV line bays: 6 nos. 230kV line bays: 7 nos.
2	LILO of both circuits of Pugalur – Pugalur (HVDC) 400 kV D/c line (with Quad Moose ACSR Conductor) at Karur PS
3	2x125 MVAr, 400 kV Bus reactors at Karur PS

Note:

3. Thereafter, a Company under the Companies Act 2013 by the name "Karur Transmission Limited" having its registered office at C 105, Anand



^{*} To fulfil the requirement of bus switching scheme.

Niketan, New Delhi, 110021 has been incorporated on 20.11.2019 by PFC Consulting Ltd. (Bid Process Coordinator) as its 100% wholly owned subsidiary to initiate the activities for execution of the Project and subsequently to act as Transmission Service Provider after being acquired by the successful bidder selected through Tariff Based Competitive Bidding process.

- 4. Subsequently, BPC initiated the process for selection of the successful bidder to acquire the TSP in accordance with the "Tariff Based Competitive Bidding Guidelines for Transmission Service" and "Guidelines for Encouraging Competition in Development of Transmission Projects" issued by Government of India, Ministry of Power under section 63 of The Electricity Act, 2003 and as amended from time to time. Subsequent to the process of competitive bidding conducted by the BPC, M/s. Adani Energy Solutions Limited (AESL) (Previously known as Adani Transmission Limited (ATL)) had been declared as the successful bidder. The Letter of Intent dated 22nd December, 2021 was issued to M/s. Adani Energy Solutions Limited (AESL) by the BPC.
- 5. Thereafter in accordance with the RFP documents, Adani Energy Solutions
 Limited (AESL) on 18th January, 2022 acquired Karur Transmission
 Limited, after execution of the Share Purchase Agreement and completing
 all procedural requirements specified.



- 6. Subsequently, based on the application filed by the Karur Transmission Limited before this Hon'ble Commission, Transmission license for the project scope was granted vide its order in Petition No. 102/TL/2022 dated 16th June, 2022. Copy of this Hon'ble Commission's order dated 16th June, 2022 along with the Transmission License is enclosed and marked as **Annexure-1**.
- 7. In addition to above scope of work, National Committee on Transmission (NCT), vide its Minutes of the 18th Meeting dated 05.03.2024, notified Augmentation of 2x500 MVA, 400/230 kV transformation capacity (3rd & 4th ICTs) at Karur PS on Regulated Tariff Mechanism (RTM) to Karur Transmission Limited in line with the MoP office order dated 28.10.2021. The MoP office order dated 28.10.2021 was issued with reference to the Re-constitution of the National Committee on Transmission (NCT) and Terms of Reference of NCT. The Terms of Reference of the NCT as specified in the order is as under:

"viii. The NCT shall recommend to Ministry of Power (MoP) for implementation of the ISTS for projects with cost more than Rs 500 crore, along with their mode of implementation i.e. Tariff Based Competitive Bidding (TBCB) / Regulated Tariff Mechanism (RTM), as per the existing Tariff Policy. However, the NCT shall approve the ISTS costing between Rs 100 crore to Rs.500 crore or such limit as prescribed by MoP from time to time, along with their mode of implementation under intimation to MoP. The ISTS costing less than or equal to Rs. 100 crores, or such limit as prescribed by MoP



from time to time, will be approved by the CTU along with their mode of implementation under intimation to the NCT and MoP. After approval of the ISTS by the NCT or the CTU (as the case may be), the TBCB project shall be allocated to Bid Process Coordinators through Gazette Notification, while the RTM project shall be allocated to CTU."

8. In the above background, NCT approved the Augmentation of 2x500 MVA, 400/230 kV transformation capacity (3rd & 4th ICTs) at Karur PS on Regulated Tariff Mechanism (RTM) to Karur Transmission Limited. The copies of NCT Minutes of the 18th Meeting dated 05.03.2024 and MoP office order 28.10.2021 are enclosed as **Annexure - 2** and **Annexure - 3** respectively.

The Scope of the Project for Augmentation of 2x500 MVA, 400/230 kV transformation capacity (3rd & 4th ICTs) at Karur PS is as follows:

(₹ Crores)	Remark
	Approved to be implemented under RTM by Karur Transmission Limited

Detailed scope of the Scheme is given below:



SN	Scope of the Transmission	Capacity/ km
	Scheme	
1	Augmentation of 2x500	i. 500 MVA, 400/230 kV ICTs – 2
	MVA, 400/230 kV	Nos.
	transformation capacity (3rd	ii. 400 kV ICT bay – 2 Nos.
	& 4 th ICTs) at Karur PS	iii. 230 kV ICT bay – 2 Nos.

- Chief Engineer & Member Secretary (NCT), vide its letter dated 11.03.2024, requested Central Transmission Utility of India Limited (CTUIL) to take necessary action for implementation of the above scheme.
 A copy of letter dated 11.03.2024 is attached as Annexure 4.
- 10. Thereafter, CTUIL, vide its letter dated 12.03.2024, requested the Petitioner to initiate the necessary actions for implementation of the aforementioned transmission scheme. A copy of letter dated 12.03.2024 is attached as **Annexure 5.**
- 11. Further, Consultation Meeting for Evolving Transmission Schemes (CMETS) in Western Region, vide its Minutes of the 34th Meeting dated 29.10.2024, approved implementation of 1 no. of 230kV line bay at Karur 400/230kV PS for interconnection of REGS of M/s Nannai Solar Park Pvt. Ltd. on Regulated Tariff Mechanism (RTM) to Karur Transmission Limited in line with the MoP office order dated 28.10.2021. The MoP office order dated 28.10.2021 was issued with reference to the Re-constitution of the National Committee on Transmission (NCT) and Terms of Reference



of NCT. The Terms of Reference of the NCT as specified in the order is as under:

"viii. The NCT shall recommend to Ministry of Power (MoP) for implementation of the ISTS for projects with cost more than Rs 500 crore, along with their mode of implementation i.e. Tariff Based Competitive Bidding (TBCB) / Regulated Tariff Mechanism (RTM), as per the existing Tariff Policy. However, the NCT shall approve the ISTS costing between Rs 100 crore to Rs.500 crore or such limit as prescribed by MoP from time to time, along with their mode of implementation under intimation to MoP. The ISTS costing less than or equal to Rs. 100 crores, or such limit as prescribed by MoP from time to time, will be approved by the CTU along with their mode of implementation under intimation to the NCT and MoP. After approval of the ISTS by the NCT or the CTU (as the case may be), the TBCB project shall be allocated to Bid Process Coordinators through Gazette Notification, while the RTM project shall be allocated to CTU."

- 12. In the above background, CTU approved the implementation of 1 no. of 230kV line bay at Karur 400/230kV PS for interconnection of REGS of M/s Nannai Solar Park Pvt. Ltd. on Regulated Tariff Mechanism (RTM) to Karur Transmission Limited. The copies of CMETS Minutes dated 29.10.2024 of the 34th Meeting held on 24.09.2024 and MoP office order 28.10.2021 are enclosed as **Annexure 6** and **Annexure 3** respectively.
- 13. Thereafter, CTUIL, vide its letter dated 23.10.2024, requested the Petitioner to initiate the necessary actions for implementation of the



aforementioned transmission scheme. A copy of letter dated 23.10.2024 is attached as **Annexure** -7.

The Scope of the Project as indicated in CTUIL letter dated 23.10.2024 is as follows:

SN	Name of the scheme and	Estimated Cost	Remark
	Implementation	(₹ Crores)	
	timeframe		
1	Implementation of 1 no. of	5.57	Approved to be
	230kV line bay at Karur		implemented
	400/230kV PS for		under RTM by
	interconnection of REGS		Karur
	of M/s Nannai Solar Park		Transmission
	Pvt. Ltd.		Limited
	15 months from the date of		
	issuance of OM by CTUIL		
	i.e. 23/01/2026		

Detailed scope of the Scheme is given below:

SN	Scope of the Transmission	Capacity/ km
	Scheme	
1	1 no. of 230kV line bay at Karur 400/230kV PS for interconnection of REGS of M/s Nannai Solar Park Pvt.	•
	Ltd.	



- 14. It is humbly submitted that Section-14 of the Electricity Act, 2003 provides that the Appropriate Commission may, on an application made under Section-15 of the Electricity Act, 2003, grant Licence to any person to transmit electricity as a transmission licensee in any area as may be specified in the Licence. The word 'person' has been defined in Section 2(49) of the Act to include any company or body corporate or association or body of individuals, whether incorporated or not, or artificial juridical person. Therefore, the Petitioner under Section 14 of the Electricity Act, 2003 is filing the present Petition/Application inter-alia seeking grant of Transmission Licence for the Project as explained above.
- 15. The Hon'ble Commission in its CERC (Procedure, Terms & Conditions for grant of Transmission Licence and other related matters) Regulations, 2024 had prescribed the form of Application and also the amount of fee for making an Application for a Transmission Licence and the Petitioner is submitting herewith the Application in such prescribed format along with the fees as per Regulation 5(1) of the said Regulation. Copy of duly filled Form-I of Karur Transmission Limited is enclosed herewith and marked as Annexure 8.
- 16. It is most respectfully submitted that the copy of the Application for grant of Transmission Licence is being forwarded to each of the Respondents as



- per Regulation 5(3) of CERC (Procedure, Terms and Conditions of Transmission Licence and other related matters) Regulations, 2024.
- 17. It is further submitted that the Petitioner is submitting/furnishing a copy of the instant Application to Central Transmission Utility, as required under Section 15(3) of the Act and Regulation 5(3) of CERC (Procedure, Terms and Conditions of Transmission Licence and other related matters) Regulations, 2024 for the recommendation, if any, in accordance with Section 15(4) simultaneously along with submission of this petition to Hon'ble Commission.
- 18. The Petitioner has posted the Application for grant of Transmission Licence on the website www.adanienergysolutions.com as required under Regulation 5(4) of CERC (Procedure, Terms and Conditions of Transmission Licence and other related matters) Regulations, 2024 so as to facilitate the access to the Application by any person through internet. The petitioner shall publish a notice of its application in Form II prescribed under Regulation 5(5) of CERC (Procedure, Terms and Conditions of Transmission Licence and other related matters) Regulations, 2024 for inviting comments from general public. This notice shall also be uploaded on website of the petitioner.



- 19. Keeping in view of the above, the Petitioner fulfils the eligibility criteria for grant of transmission licence as stipulated in Central Electricity Regulatory Commission (Procedure, Terms and Conditions for grant of Transmission Licence and other related matters) Regulations, 2024 and therefore the Hon'ble Commission may be pleased to grant the license as prayed for.
- 20. The Petitioner shall also comply with all the other requirements as provided in the Transmission License Regulations including posting the public notice in Form-II on its website, service on the beneficiaries of the Petitioner's Transmission System. The Petitioner shall place the compliance report on record before the Hon'ble Commission.
- 21. On completion of the Project, the Applicant shall approach the Hon'ble Commission with the actual cost incurred for determination of transmission charges in accordance with Section 61, 62 of the Electricity Act, 2003.

22. PRAYER

The Petitioner hereby humbly prays the Hon'ble Commission to:

a) Grant Separate Transmission Licence to the Applicant for implementation of "Augmentation of 2x500 MVA, 400/230kV transformation capacity (3rd & 4th ICTs) at Karur PS" and



"Implementation of 1 no. of 230kV line bay at Karur 400/230kV PS

for interconnection of REGS of M/s Nannai Solar Park Pvt. Ltd." on

Regulated Tariff Mechanism (RTM) basis with detailed scope as per

para 8 and para 13 respectively.

b) Allow the Applicant liberty to approach the Hon'ble Commission for

determination of transmission charges for the additional scope of work

in the proposed Transmission license in this petition in accordance

with Section 61, 62 of the Electricity Act, 2003.

c) Condone any inadvertent errors omissions/ errors / shortcomings and

permit the Petitioner to add/change/modify/alter these filings and

make further submissions as may be required at a future date.

d) Pass any such other order / orders, as may be deemed fit and proper in

the facts and circumstances of the case.

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Petitioner

Place: Ahmedabad

Date: 05.11.2024

CENTRAL ELECTRICITY REGULATORY COMMISSION NEW DELHI

Petition No. 102/TL/2022

Coram: Shri I. S. Jha, Member Shri Arun Goyal, Member Shri P. K. Singh, Member

Date of order: 16th June, 2022

In the matter of

Application under Section 14, Section 15, Section 79(1)(e) of the Electricity Act, 2003 read with the Central Electricity Regulatory Commission (Procedure, Terms and Conditions for Grant of Transmission License and other related matters) Regulations, 2009 with respect to Grant of Transmission License to Karur Transmission Limited.

And In the matter of

Karur Transmission Limited, C 105, Anand Niketan, New Delhi-110021.

..... Petitioner

Versus

- JSW Renew Energy Limited JSW Centre, Bandra Kurla Complex, Bandra (E), Mumbai – 400051
- 2. PFC Consulting Limited, First Floor, Urja Nidhi,1, Barakhamba Lane, Connaught Place, New Delhi-110 001
- 3. Chief Executive Officer, CTUIL Planning, Power Grid Corporation of India Limited, Saudamini, Plot No.2, Sector-29, Gurgaon-122 001

.....Respondents

Parties present:

Shri Bhavesh Kundalia, KTL Shri Afaq Pothiawala, KTL Shri Naresh Desai, KTL Shri Siddharth Sharma, CTUIL Shri Ranjeet Singh Rajput, CTUIL Shri Anil Kr. Meena, CTUIL Shri Sanjay Nayak, PFCCL



Shri Manish Agrawal, PFCCL Ms. Nirmala Meena, PFCCL Shri Kunal Kumar, PFCCL

ORDER

The Petitioner, Karur Transmission Limited, has filed the present Petition for grant of transmission licence under Section 14, Section 15 and Section 79(1)(e) of the Electricity Act, 2003 (hereinafter referred to as "the Act") read with the Central Electricity Regulatory Commission (Procedure, Terms and Conditions for grant of Transmission Licence and other related matters) Regulations, 2009 (hereinafter referred to as "Transmission Licence Regulations") to establish "Transmission Scheme for evacuation of power from RE sources in Karur/Tiruppur Wind Energy Zone (Tamil Nadu) (1000 MW) under Phase-I" (hereinafter referred to as "Transmission System" or "Project") on Build, Own, Operate and Maintain (BOOM) basis comprising of the following elements:

	Name of the Transmission Element	Scheduled COD in months from Effective Date
1.	Establishment of 2x500 MVA, 400/230 kV Karur Pooling Station (at a location in between Karur Wind zone and Tiruppur wind zone) 4 Nos. of 230 kV line bays for interconnection of wind projects 2x500MVA, 400/230 kV ICTs 400kV ICT bay – 2 nos. 230kV ICT bay – 2 nos. 400kV line bay – 4 nos. 400kV reactor bay – 2 nos. 230kV line bays – 4 nos. 230kV Bus coupler bay- 1 no.* 230kV Transfer Bus Coupler (TBC) bay - 1 no.* Space provision for Phase-II: i. 400/230kV ICTs along with bays: 3 nos.	Matching with schedule of RE developers or 18 months from the date of transfer of SPV whichever is later

	Name of the Transmission Element	Scheduled COD in months from Effective Date
	ii. 230kV line bays: 5 nos.	
	iii. 230 kV Bus Sectionaliser bays: 2 nos.	
	Future provisions (Additional Space for):	
	i. 400/230kV ICTs along with bays: 3 nos.	
	ii. 400kV line bays: 6 nos.	
	iii. 230kV line bays: 7 nos.	
2.	LILO of both circuits of Pugalur - Pugalur (HVDC) 400	
	kV D/c line (with Quad Moose ACSR Conductor) at	
	Karur PS	
3.	2x125 MVAr, 400 kV Bus reactors at Karur PS	

Note:

- 2. Based on the competitive bidding carried out by PFC Consulting Limited (PFCCL) in its capacity as the Bid Process Coordinator (BPC) in accordance with the Guidelines issued by Ministry of Power, Government of India under Section 63 of the Act, Karur Transmission Limited (KTL) emerged as the successful bidder with the lowest levelized transmission charges of Rs. 183.54 million per annum.
- 3. The Commission after considering the application of the Petitioner in the light of the provisions of the Act and the Transmission Licence Regulations, in its order dated 13.5.2022, *prima facie* proposed to grant transmission licence to the Petitioner. Relevant extract of order dated 13.5.2022 is extracted as under:
 - "18. We have considered the submissions of the Petitioner and BPC. The proviso to Clause 2.4 of the RfP provides that "if for any reason attributable to the BPC, the said activities are not completed by the selected bidder within the above period of ten (10) days as mentioned in this clause, such period of 10 days shall be extended, on a day to day basis till the end of the Bid validity period". Though Lol was issued on 22.12.2021, BPC, vide its letter dated 18.1.2022, in terms of Clauses 2.4, 2.5 and 2.6 of RfP extended the date upto 28.1.2022 for completion of all activities by the successful bidder. The selected bidder furnished the Contract Performance Guarantee to the Long Term Transmission Customers of the Project for an amount of Rs.

^{*} To fulfil the requirement of bus switching scheme.

- 7.13 crore and has acquired hundred percent equity-holding in the applicant company on 10.1.2022 after execution of the Share Purchase Agreement. The TSP on behalf of the selected bidder filed the Application through e-filing for grant of transmission licence and adoption of tariff on 27.1.2022. Considering the material on record, we are primafacie of the view that the Petitioner satisfies the conditions for grant of inter-State transmission licence under Section 15 of the Act read with Transmission Licence Regulations for construction, operation and maintenance of the Transmission System as described in para 1 of this order. We therefore, direct that a public notice under clause (a) of sub-section (5) of Section 15 of the Act be published to invite suggestions or objections to grant of transmission licence aforesaid. The objections or suggestions, if any, be filed by any person before the Commission, by 27.5.2022."
- 4. A public notice under Sub-section (5) of Section 15 of the Act was published on 18.5.2022 in all editions of the Times of India (English) and Dainik Jagran (Hindi). No suggestions/ objections have been received from the members of the public in response to the public notice.
- 5. The Petitioner, vide order dated 13.5.2022, was directed to file an affidavit to the effect that the execution of the transmission project shall not be delayed due to time taken in obtaining statutory clearances required under Request for Proposal (RfP) and the Transmission Service Agreement (TSA) or adjudication of any claim of the Petitioner arising under the TSA.
- 6. In response, the Petitioner vide its affidavit dated 16.5.2022 has submitted that the claims, if any, shall be in accordance with the provisions of the RfP Project documents. The Petitioner has submitted that the bidding process was governed by the Tariff Based Competitive Bidding Guidelines for the Transmission Service and Standard Bidding Documents issued by the Ministry of Power. The tariff quoted interalia takes into consideration the rights and obligations of the developer including the provisions available to claim time and cost variations as allowed in the TSA. The Petitioner has further submitted that the terms of the TSA are binding on the parties (TSP and LTTCs). The Petitioner has submitted that any claim for escalation in transmission charges or for extension of time that may be raised by the Petitioner in

pursuance of such competitive bidding process needs to be dealt with in accordance with terms contained in the TSA. Post selection of the successful bidder and the decision to award the Project, there cannot be a review of the bidding terms including scope of implications of the clauses such as force majeure and change in law etc. specified in the TSA. The Petitioner has submitted that Section 56 of the Indian Contract Act, 1872 provides for frustration of contract and impossibility of performance, etc. and the Commission in number of cases has been giving reliefs as per the provisions of law. The Petitioner has submitted that in terms of Section 28 of the Indian Contract Act, 1872, no restraint in taking legal proceedings in future can be validly placed. The Petitioner has submitted that in terms of the TSA, it would implement the Project as per the provisions of the Article 16.4 of the TSA which is extracted as under:

- "16.4. Parties to Perform Obligation: Notwithstanding the existence of any Dispute and difference referred to the Appropriate Commission or the Arbitration Tribunal as provided in Article 16.3 and save as the Appropriate Commission or the Arbitration Tribunal may otherwise direct by a final or interim order, the Parties hereto shall continue to perform their respective obligations (which are not in dispute) under this Agreement."
- 7. The Petitioner has submitted that claim, if any, made by the Petitioner shall be in accordance with the provisions of the RfP Project documents. We direct that the Petitioner shall remain bound by the commitment given by it under affidavit dated 16.5.2022.
- 8. In the order dated 13.5.2022, the following provisions of the TSA with regard to quality control and workmanship were taken note of:
 - (a) As per Article 5.1.1 of the TSA, the TSP at its own cost and expense, shall be responsible for designing, constructing, erecting, completing and



commissioning each element of the Project by Scheduled COD in accordance with the various regulations of the Central Electricity Authority.

- (b) Article 5.4 of the TSA provides that the TSP shall ensure that the Project is designed, built and completed in a good workmanlike manner using sound engineering and construction practices and using only materials and equipment that are new and of international utility grade quality such that the useful life of the Project will be till the expiry date.
- (c) The design, construction and testing of all equipment, facilities, components and systems of the project shall be in accordance with Indian Standards and Codes issued by Bureau of India Standards.
- 9. Accordingly, the Petitioner was directed to submit information with regard to quality control mechanism available or to be put in place to ensure compliance of the requirements stipulated in Article 5.1.1 and Article 5.4 of the TSA.
- 10. The Petitioner, vide its affidavit dated 16.5.2022, has submitted as under:
 - "14. According to the terms of the TSA, there are two external agencies, viz CEA and Lead LTTC, which monitor the quality of the construction of the Transmission Project being constructed by the Applicant. Further, the Applicant under the TSA is entrusted with the obligation of providing on a monthly basis, a progress report to all the Long term Transmission Customer and Central Electricity Authority (CEA), with regard to the project and its execution, to enable them to monitor and co-ordinate the development of the Project. Further, it is most respectfully submitted that in terms of the TSA, the Lead LTTC is duty bound to designate, at the most 3 employees for the purpose of inspecting the progress of the Project. In addition, the CEA may carry out random inspections during the Project execution, as and when deemed necessary by it....
 - 16. In terms of the above quoted provisions of the TSA, there are sufficient checks and balances and the quality control mechanism is already available whereby both, CEA and the Lead LTTC will monitor the overall quality of construction of the Project by the Applicant to ensure that the Applicant is complying with Article 5.1.1 and 5.4 of the TSA.
- 18. The Applicant being an experienced entity will ensure that the project is constructed by following the required quality standard and prudent utility practices by putting in place the following:

- (i) At the procurement stage, the Qualification Requirement for short listings of a supplier/contractor is done on the basis of the technical specifications as mentioned in the TSA. The purchase order/contract mentions the technical standard and the testing requirements. Material despatch is allowed after the conformance report is validated.
- (ii) For tower material, a Manufacturing Quality Plan (MQP) in line with the applicable technical standards and the one followed by CTU is followed.
- (iii) For ensuring construction quality, a Field Quality Plan (in line with the standards mentioned in TSA and that followed by CTU) is specified to the contractors in advance. The conformance report to the said document is also maintained at site.
- (iv) The construction and material supply quality is also validated with respect to the TSA by the Lenders Independent Engineer during its quarterly construction review."
- 11. We have considered the submissions of the Petitioner. In the TSA, there is provision for inspection, random inspection and monthly progress reporting of the Project. The Petitioner shall provide monthly progress report along with likely completion date of each element of the Project and its likely execution to CEA and CTUIL. The random inspection may be carried out by CEA and CTUIL as and when deemed necessary. We consider it necessary that CEA and CTUIL devises a mechanism for random inspection of the Project every three months to ensure that the Project is not only being executed as per the schedule, but the quality of equipment and workmanship of the Project conform to the Technical Standards and Grid Standards notified by CEA and IS Specifications.
- 12. Case was called out for virtual hearing on 14.6.2022 through video conferencing. It was submitted by the representative of the Petitioner that as per order dated 13.5.2022, the Petitioner has submitted the information called for. He further submitted that in response to public notice published by the Commission, no objection has been received.

Page 8

- 13. As regards grant of transmission licence, Clauses (15) and (16) of Regulation7 of Transmission Licence Regulations provide as under:
 - "(15) The Commission may after consideration of the further suggestions and objections, if any, received in response to the public notice as aforesaid, grant licence as nearly as practicable in Form-III attached to these regulations or for reasons to be recorded in writing, reject the application if such application is not in accordance with the provisions of the Act, the rules or regulations made thereunder or any other law for the time being in force or for any other valid reason.
 - (16) The Commission may, before granting licence or rejecting the application, provide an opportunity of hearing to the applicant, the Central Transmission Utility, the long-term customers, or the person who has filed suggestions and objections, or any other person:

Provided further that the applicant shall always be given a reasonable opportunity of being heard before rejecting the application."

- 14. In our order dated 13.5.2022, we had proposed to grant transmission licence to the Petitioner company and directed for issue of public notice. In response to the public notice, no suggestions/objections have been received. CTU in its letter dated 28.2.2022 has recommended for grant of transmission licence to the Petitioner. We are satisfied that the Petitioner company meets the requirements of the Act and the Transmission Licence Regulations for grant of transmission licence for the subject Transmission System mentioned at paragraph 1 of this order. Accordingly, we direct that transmission licence be granted to the Petitioner, Karur Transmission Limited, to establish "Transmission Scheme for evacuation of power from RE sources in Karur/Tiruppur Wind Energy Zone (Tamil Nadu) (1000 MW) under Phase-I", on Build, Own, Operate and Maintain basis as per the details given in paragraph 1 above.
- 15. It is expected that while carrying out the survey, the Petitioner has complied with the provisions of clause 2.5.7.3, clause 2.5.7.4 and clause 2.5.7.5 of the RfP. The Petitioner will comply with the provisions of bidding documents and TSA for commissioning of the Project within SCOD.

- 16. The grant of transmission licence to the Petitioner (hereinafter referred to as "the licensee") is subject to the fulfilment of the following conditions throughout the period of licence:
 - (a) The transmission licence shall, unless revoked earlier, remain in force for a period of 25 years from the date of issue;
 - (b) The transmission licensee shall comply with the provisions of the Transmission Licence Regulations or any subsequent enactment thereof and the terms and condition of the TSA during the period of subsistence of the licence.
 - (c) Since the expiry date as per the TSA is 35 years from the scheduled COD of the Project, the licensee may make an application, two years before the expiry of initial licence period, for grant of licence for another term in accordance with Regulation 13(2) of the Transmission Licence Regulations which shall be considered by the Commission in accordance with law;
 - (d) The licensee shall not enter into any contract for or otherwise engage in the business of trading in electricity during the period of subsistence of the transmission licence;
 - (e) The licensee shall have the liability to pay the license fee in accordance with the provisions of the Central Electricity Regulatory Commission (Payment of Fees) Regulations, 2012, as amended from time to time or any subsequent enactment thereof. Delay in payment or non-payment of licence fee or a part thereof for a period exceeding sixty days shall be construed as breach of the terms and conditions of the licence;
 - (f) The licensee shall comply with the directions of the National Load Despatch Centre under Section 26 of the Act, or the Regional Load Despatch Centre under sub-section (3) of Section 28 or sub-section (1) of Section 29 of the Act, as may be issued from time to time for maintaining the availability of the transmission system;

- (g) The licensee shall remain bound by the Central Electricity Regulatory Commission (Standard of Performance of inter-State transmission licensees) Regulations, 2012 or subsequent enactment thereof;
- (h) The licensee shall provide non-discriminatory open access to its Transmission System for use by any other licensee, including a distribution licensee or an electricity trader, or generating company or any other person in accordance with the Act; the Central Electricity Regulatory Commission (Open Access in inter-State Transmission) Regulations, 2008; the Central Electricity Regulatory Commission (Grant of Connectivity, Long-term Access and Medium-term Open Access in inter-State Transmission and related matters) Regulations, 2009; the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010, as amended from time to time or any subsequent re-enactments thereof;
- (i) The licensee shall not undertake any other business for optimum utilization of the Transmission System without prior intimation to the Commission and shall comply with the provisions of the Central Electricity Regulatory Commission (Sharing of Revenue Derived from Utilization of Transmission Assets for other business) Regulations, 2020;
- (j) The licensee shall remain bound by provisions of the Central Electricity Regulatory Commission (Sharing of inter-State Transmission Charges and Losses) Regulations, 2020 as amended from time to time;
- (k) The licensee shall remain bound by the provisions of the Act, the rules and regulations framed thereunder, in particular the Transmission Licence Regulations, the Grid Code, the Standards specified by the Central Electricity Authority, orders and directions of the Commission issued from time to time;
- (I) The licensee shall ensure execution of the Project within timeline specified in the Schedule 3 of the TSA and as per the Technical Standards and Grid Standards of CEA prescribed in Article 5.1.1 and Article 5.4 of the TSA;
- (m) The licensee shall as far as practicable coordinate with the licensee (including deemed licensee) executing the upstream or downstream

transmission projects a n d t h e Central Electricity Authority and CTUIL for ensuring execution of the Project in a matching timeline; and

- (n) The licensee shall submit all such report or information as may be required under Transmission Licence Regulations, Standard of Performance Regulations, Transmission Service Agreement or any other regulation of the Commission or as per the directions of the Commission as may be issued from time to time.
- 17. Central Electricity Authority shall monitor the execution of the Project and bring to the notice of the Commission any lapse on the part of the licensee to meet the schedule for further appropriate action in accordance with the provisions of the Act and the Transmission Licence Regulations.
- 18. Let an extract copy of this order be sent to CEA for information and necessary action.
- 19. Petition No. 102/TL/2022 is allowed in terms of the above.

Sd/- sd/- sd/(P. K. Singh) (Arun Goyal) (I.S. Jha)
Member Member Member



CENTRAL ELECTRICITY REGULATORY COMMISSION 3rd & 4th Floor Chanderlok, Building, 36 Janpath, New Delhi 110 001 (Tele No.23353503 FAX No.23753923)

Reference No. 102/TL/2022

01/08/2022

To

The Secretary Ministry of Power Govt. of India Sharam Shakti Bhavan Rafi Marg, New Delhi.

The Secretary Central Electricity Authority Sewa Bhavan, R.K. Puram New Delhi

Subject: Grant of transmission licence to KARUR TRANSMISSION LIMITED.

Sir,

In exercise of powers conferred under Section 14 of the Electricity Act, 2003 (36 of 2003), the Commission has granted the licence to KARUR TRANSMISSION LIMITED.

2. I am directed to send herewith a copy of the above licence No. 72/Transmission/2022/CERC, dated 16th June, 2022 for your information.

Yours faithfully,

(T.D. Pant)
Joint Chief (Legal)

Encl: as stated.

Copy to:

- The Chairman, Power Grid Corporation of India Limited, Plot No.2, Sector-29, Gurgaon-122 001 (Haryana)
- The Authorised Representative, Karur Transmission Limited C – 105, Anand Niketan, New Delhi - 110021

(T.D. Pant) Joint Chief (Legal)





केन्द्रीय विद्युत विनियामक आयोग CENTRAL ELECTRICITY REGULATORY COMMISSION



तीसरा एवं चौथा तल, चंद्रलोक बिल्डिंग, 36 जनपथ, नई दिल्ली—110001 3rd & 4th Floor, Chanderlok Building, 36 Janpath, New Delhi-110001

TRANSMISSION LICENCE

The Central Electricity Regulatory Commission (hereinafter referred to as "Commission"), in exercise of the powers conferred under Section 14 of the Electricity Act, 2003 (36 of 2003) (hereinafter referred to as "Act"), hereby grants the licence to Karur Transmission Limited, having its registered office at C-105, Anand Niketan, New Delhi-110021 (hereinafter referred to as "licensee") to establish "Transmission System for evacuation of power from RE sources in Karur/Tiruppur Wind Energy Zones (Tamil Nadu) (1000 MW) under Phase-I" on Build, Own, Operate and Maintain (BOOM) basis, more specifically described in the schedule attached to this licence, which shall be read as a part and parcel of this licence, subject to the Act, the rules and the terms and conditions specified under the Central Electricity Regulatory Commission (Procedure, Terms and Conditions for grant of Transmission Licence and other related matters) Regulations, 2009 which shall be read as part and parcel of this licence.

- 2. The conditions such as but not limited to, completion schedule, transfer value, liquidated damages, Project Implementation Guarantee Deposit, escalation due to domestic inflation, which are specified in bid documents and provisions in the Agreements, shall be treated as part of this licence, unless these provisions are contrary to the Central Electricity Regulatory Commission (Procedure, Terms and Conditions for grant of Transmission Licence and other related matters) Regulations, 2009.
- 3. This licence is not transferable, except as provided in the Central Electricity Regulatory Commission (Procedure, Terms and Conditions for grant of Transmission Licence and other related matters) Regulations, 2009.
- 4. The grant of licence to the licensee shall not in any way or manner restrict the right of the Commission to grant a licence to any other person within the same area for the transmission system other than the project described in the schedule attached to this licence. The licensee shall not claim any exclusivity.
- 5. The licence shall, unless revoked earlier, continue to be in force for a period of 25 (twenty five) years from the date of issue.

Copy of the licence endorsed to:-

(1) Ministry of Power, Government of India

(2) Central Electricity Authority

(3) Central Transmission Utility of India Limited

Place: New Delhi Date: 16th June, 2022 (Harpreet Singh Pruthi) Secretary

(Harpreet Singh Pruthi) Secretary



SCHEDULE

Project Related Details:

The project comprises of the following elements of the inter-State Transmission System:

S.No.	Name of the Transmission Element	Scheduled COD- from Effective Date
1	Establishment of 2x500 MVA, 400/230 kV Karur Pooling Station (at a location in between Karur Wind zone and Tiruppur wind zone) 4 Nos. of 230 kV line bays for interconnection of wind projects 2x500 MVA, 400/230 kV ICTs 400 kV ICT bay - 2 nos. 230 kV ICT bay - 2 nos. 400 kV line bay - 4 nos. 400 kV reactor bay - 2 nos. 230 kV line bays - 4 nos. 230 kV Bus coupler bay - 1 no.* 230 kV Transfer Bus Coupler (TBC) bay - 1 no.* Space provision for Phase-II: i. 400/230 kV ICTs along with bays: 3 nos. iii. 230 kV Bus Sectionaliser bays: 2 nos. Future provisions (Additional Space for): i. 400/230 kV ICTs along with bays: 3 nos. iii. 230 kV line bays: 6 nos. iii. 230 kV line bays: 6 nos. iii. 230 kV line bays: 7 nos.	Matching with schedule of RE developers or 18 months from the date of transfer of SPV whichever is later
2	LILO of both circuits of Pugalur-Pugalur (HVDC) 400 kV D/c line (with Quad Moose ACSR Conductor) at Karur PS	
3	2x125 MVAr, 400 kV Bus reactors at Karur PS	

Licence No. 72/ Transmission /2022/CERC

Authority: Orders of the Commission dated 13.5.2022 and 16.6.2022 in

Petition No. 102/TL/2022.



(Harpreet Singh Pruthi) Secretary

Note:
*To fulfil the requirement of bus switching scheme.



केन्द्रीय विद्युत विनियामक आयोग CENTRAL ELECTRICITY REGULATORY COMMISSION



तीसरा एवं चौथा तल, चंद्रलोक बिल्डिंग, 36 जनपथ, नई दिल्ली—110001 3rd & 4th Floor, Chanderlok Building, 36 Janpath, New Delhi-110001

पारेषण अनुज्ञप्ति

केन्द्रीय विद्युत विनियामक आयोग (जिसे इसके पश्चात् 'आयोग' कहा गया है), विद्युत अधिनियम, 2003 (2003 का 36) (जिसे इसके पश्चात् 'अधिनियम' कहा गया है) की धारा 14 के अधीन प्रदत्त शिक्तयों का प्रयोग करते हुए, इस अनुज्ञप्ति से संलग्न अनुसूची में विशेष रूप से वर्णित, निर्माण, स्वामित्व, प्रचालन एंव अनुरक्षण (बूम) के आधार पर 'फेज—। के अधीन करूर / तिरूप्पुर पवन उर्जा क्षेत्र (तिमलनाडु) (1000 एमडब्ल्यू) में नीकरणीय उर्जा स्रोतो से विद्युत की निकासी के लिए पारेषण प्रणाली' को स्थापित करने के लिए जो इस अनुज्ञप्ति के माग रूप माने जाएंगे, करूर ट्रांसिमशन लिमिटेड, जिसका रिजस्ट्रीकृत कार्यालय सी—105, आनंद निकेतन, नई दिल्ली—110021 में है (जिसे इसके पश्चात् 'अनुज्ञप्तिधारी' कहा गया है), अधिनियम तथा नियमों तथा केन्द्रीय विद्युत विनियामक आयोग (पारेषण अनुज्ञप्ति प्रदान करने तथा अन्य सहबद्ध विषयों के लिए प्रक्रिया, निबंधन तथा शर्तों) विनियम, 2009 के अधीन विनिदिष्ट निबंधन तथा शर्तों, जो इस अनुज्ञप्ति के भाग रूप माने जाएंगे, के अधीन रहते हुए, पारेषण अनुज्ञप्ति प्रदान करता है।

- 2. ऐसी शर्तें, जो समापन अनुसूची, अंतरण मूल्य, परिनिर्धारित नुकसानी, परियोजना कार्यान्वयन गांरटीकृत निक्षेप, स्वदेशी मुद्रास्फीति के कारण वृद्धि, जो बोली दस्तावेजों में विर्निदिष्ट हैं तथा करार के उपबंध हैं, जो सीमित नहीं हैं, इस अनुज्ञप्ति का भाग रूप तब तक समझे जाएंगे, जब तक कि ये उपबंध केन्द्रीय विद्युत विनियामक आयोग (पारेषण अनुज्ञप्ति प्रदान करने तथा अन्य सहबद्ध विषयों के लिए प्रक्रिया, निबंधन तथा शर्तें) विनियम, 2009 के प्रतिकूल न हों।
- 3. केन्द्रीय विद्युत विनियामक आयोग (पारेषण अनुज्ञप्ति प्रदान करने तथा अन्य सहबद्ध विषयों के लिए प्रक्रिया, निबंधन तथा शर्तें) विनियम, 2009 में अन्यथा उपबंधित के सिवाय, यह अनुज्ञप्ति अंतरणीय नहीं है।
- 4. अनुज्ञप्तिधारी को अनुज्ञप्ति प्रदान किए जाने से किसी अन्य ऐसे व्यक्ति का इस अनुज्ञप्ति से संलग्न अनुसूची में वर्णित परियोजना से भिन्न पारेषण प्रणाली के लिए उसी क्षेत्र में अनुज्ञप्ति प्रदान करने के लिए आयोग का अधिकार किसी रूप या रीति से निर्बंधित नहीं होगा। अनुज्ञप्तिधारी अनन्य रूप से कोई भी दावा नहीं करेगा।
- 5. अनुज्ञप्ति जब तक पहले प्रतिसंहत नहीं कर ली जाए, इसके जारी होने की तारीख से 25 वर्षों की अविध के लिए प्रवृत्त रहेगी।

अनुज्ञप्ति की प्रति निम्नलिखित को :

(1) विद्युत मंत्रालय, भारत सरकार

(2) केन्द्रीय विद्युत प्राधिकरण

(3) सेन्ट्रल ट्रांसमिशन यूटिलिटि ऑफ इंडिया लिमिटेड

स्थान : नई दिल्ली तारीख : 16 जून, 2022 (हरप्रीत सिंह प्रथी)

सचिव

(हरप्रीत सिंह प्रुथी) सचिव



अनुसूची

परियोजना से संबंधित ब्यौरेः परियोजना में अंतर-राज्यिक पारेषण प्रणाली के निम्नलिखित तत्व सम्मिलित हैं:

क्र.सं.	पारेषण घटक का नाम	प्रमावी तारीख से मास में कमीशनिग की अनुसूचित तारीख
1	2x500 एमवीए 400 / 230 केवी करूर पूलिंग स्टेशन की स्थापना (करूर विंड जोन और तिरूपुर विंड जोन के बिच के स्थान पर) विंड परियोजनाओं के इंटरकनेक्शन के लिए 230 केवी लाइन बे की संख्या* 4 • 2x500 एमवीए 400 / 230 केवी आईसीटीएस • 400 केवी आईसीटी बे — 2 संख्या • 230 केवी आईसीटी बे — 2 संख्या • 400 केवी लाईन बे — 4 संख्या • 400 केवी लाईन बे — 4 संख्या • 230 केवी लाईन बे — 4 संख्या • 230 केवी बस कपलर बे — 1 संख्या* • 230 केवी वह के सक्या (टीबीसी) बे — 1 संख्या* 1. बे सहित 400 / 230 केवी आईसीटीएस: 3 संख्या* 11. 230 केवी बस सेक्शनलाइजर बे: 2 संख्या भावी प्रावधान (के लिए अतिरिक्त स्थान): 1. बे सहित 400 / 230 केवी आईसीटी: 3 संख्या 11. 230 केवी लाईन बे: 6 संख्या 11. 230 केवी लाईन बे: 7 संख्या	आरई डेवलेपर की अनुसूची के अनुरूप या एसपीवी के अंतरण की तारीख से 18 माह जो मी बाद में है।
2	करूर पीएस पर पुगालुर— पुगालुर (एचवीडीसी) 400 केवी डी/सी लाईन की दोनों सर्किट का तीलो (क्वेद मूस एसीएसआर कंडक्टर सहित)	
3	करूर पीएस में 2x125 एमदीएआरए 400 केवी बस रिएक्टर्स	

नोट:

अनुज्ञप्ति सं. 72 / पारेषण / 2022 / केविविआ प्राधिकार : आयोग की याचिका सं. 102 / टीएल / 2022 में तारीख 13.5.2022 तथा 16.6.2022 के आदेश।



(हरप्रीत सिंह प्रुथी) सचिव

^{*}बस स्विचिंग स्कीम की अपेक्षा की पूर्ति के लिए।



Government of India

विद्युत मंत्रालय

Ministry of Power केंद्रीय विद्युत प्राधिकरण

Central Electricity Authority विद्युत प्रणाली योजना एवं मूल्यांकन प्रभाग- II

Power System Planning & Appraisal Division-II

सेवा में /To

As per list of Addresses

विषय: ट्रांसिमशन पर राष्ट्रीय समिति (एनसीटी) की अठारहवीं बैठक के कार्यवृत्त - के सम्बन्ध में ।

Subject: Minutes of the 18th Meeting of National Committee on Transmission (NCT) – regarding.

महोदया (Madam) / महोदय (Sir),

The 18th meeting of the "National Committee on Transmission" (NCT) was held on 05th March, 2024 at CEA, New Delhi. Minutes of the meeting are enclosed herewith.

भवदीय/Yours faithfully,

(बी.एस.बैरवा/ B.S.Bairwa)

निदेशक/ Director

प्रतिलिपि / Copy to:

Joint Secretary (Trans), Ministry of Power, New Delhi-110001



List of Addresses:

1.	Chairperson, Central Electricity Authority Sewa Bhawan, R.K. Puram, New Delhi – 110 066.	2.	Member (Power Systems), Central Electricity Authority Sewa Bhawan, R.K. Puram, New Delhi – 110 066.
3.	Member (Economic & Commercial), Central Electricity Authority Sewa Bhawan, R.K. Puram, New Delhi – 110 066.	4.	Director (Trans), Ministry of Power Shram Shakti Bhawan, New Delhi-110001.
5.	Sh. Lalit Bohra, Joint Secretary Room no 602, Atal Akshay Urja Bhawan Opposite CGO Complex gate No. 2, Lodhi Road, New Delhi – 110003	6.	Chief Operating Officer, CTUIL, Saudamini, Plot No. 2, Sector-29, Gurgaon – 122 001.
7.	Sh. Rajnath Ram, Adviser (Energy), NITI Aayog, Parliament Street, New Delhi – 110 001.	8.	CMD, Grid Controller of India, B-9, Qutub, Institutional Area, Katwaria Sarai, New Delhi – 110016
9.	Sh. Ravinder Gupta Ex. Chief Engineer CEA		

Special Invitee

Chief Engineer (PCD), CEA



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Minutes of the 18th meeting of National Committee on Transmission

The 18th meeting of NCT was held on 5th March, 2024 at CEA, New Delhi. List of participants is enclosed at **Annexure**.

- 1 Confirmation of the minutes of the 17th meeting of National Committee on Transmission.
- 1.1 The minutes of the 17th meeting of NCT held on 31.01.2024 were issued vide CEA letter no CEA-PS-12-13/3/2019-PSPA-II dated 16.02.2024. No comments were received on the minutes.
- 1.2 Members confirmed the minutes.
- 2 Status of the transmission schemes noted/approved/recommended to MoP in the 17th meeting of NCT:

2.1 Status of new transmission schemes approved/recommended:

Sl.	Name of the Transmission	Noted/	BPC	Award/
No	Scheme	Recommended/ Approved		Gazette notification
1.	Augmentation of transformation capacity by 2x500 MVA (7th & 8th), 400/220 kV ICTs at Tumkur (Pavagada) 400/220 kV Pooling Station.	Approved (RTM)	POWERGRID	Letter issued by CEA to CTU on 16.02.2024.
2.	Augmentation of transformation capacity at Jam Khambhaliya PS (JKTL)	Approved (RTM)	JKTL Adani Energy Solutions Ltd.	CTU issued letter to
3.	Augmentation of transformation capacity at 765/400 kV Lakadia S/s (WRSS XXI(A) Transco Ltd) in Gujarat-Part A	Approved (RTM)	WRSS XXI(A) Transco Ltd Adani Energy Solutions Ltd.	concerned TSPs on 16.02.2024.
4.	Additional transmission system for evacuation of power from Bhadla-III PS as part of Rajasthan REZ Phase- III scheme (20 GW)	Approved (TBCB)	RECPDCL	Gazette notification by CEA under process

2.2 Status of transmission schemes where modifications was suggested:

S. No.	Scheme where modifications was suggested	Status
1.	Network Expansion Scheme in Navinal (Mundra) area	
	of Gujarat for drawal of power in the area	Informed to
2.	Transmission system for evacuation of power from	BPCs vide letter
	Shongtong Karcham HEP (450 MW) and Tidong HEP	
	(150 MW)	



3.	Timeline for 1500 MVA, 765/400 kV ICT	Informed to				
	Augmentation at Jhatikara S/s	CTU vide letter				
		dated 16.02.2024				
4.	Change in Scope of the transmission scheme					
	"Transmission Scheme for North Eastern Region					
	Expansion Scheme-XVI (NERES-XVI)"					
5.	Change in Scope of transmission scheme "Eastern Informed to					
	Region Expansion Scheme-XXXIV (ERES-XXXIV)" BPCs vide letter					
6.	Change in implementation timeframe for Augmentation dated 16.02.2024					
	of transformation capacity at Bhuj-II PS					
7.	Change in Completion Schedule of transmission scheme					
	North Eastern Region Generation Scheme-I (NERGS-I)					

- 2.3 Members noted the status.
- 3 Modifications in the earlier approved/notified transmission schemes:
- 3.1 Modification in scope of work of Eastern Region Expansion Scheme-XXXIX (ERES-XXXIX)
- 3.1.1 Representative of CTUIL informed that ERES-XXXIX scheme was agreed in 16th meeting of NCT held on 30.11.2023 wherein extension at 765kV level at Angul S/s including bus extension in GIS for 2 Nos. line bays for termination of Angul Gopalpur 765kV D/c line was agreed as GIS/Hybrid line bays. However, after detailed engineering, it was observed that the above two line bays at Angul S/s can be implemented in AIS along with bus extension in GIS. Accordingly, 2 Nos. of 765kV line bays at Angul need to be modified from GIS/Hybrid to AIS with bus extension in GIS. Accordingly, following changes are required in the scope of scheme.

	As agreed in the 1	6th meeting of NCT	Mod	ified scope
Sl. No.	Scope of the Transmission	Capacity (MVA) / Line length (km)/	Scope of the Transmission	Capacity (MVA) / Line length (km)/
110.	Scheme	Nos.	Scheme	Nos.
i.	Establishment of new	765/400kV,	No change.	No change.
	765/400kV,	1500MVA ICTs: 2		
	2x1500MVA GIS	nos. (7x500MVA		
	substation at	single phase units		
	Gopalpur in Odisha	including one spare)		
		765kV ICT bays: 2		
	Additional space for	nos.		
	future expansion:	400kV ICT bays: 2		
	- 765/400kV,	nos.		
	4x1500MVA			
	ICTs	765kV, 330MVAr		
	(12x500MVA	Bus reactor: 2 nos.		
	single phase	`		
	units) along with	phase units including		
	associated ICT	one spare unit for		



	As agreed in the	16th meeting of NCT	Mo	dified scope
Sl.	Scope of the	Capacity (MVA) /	Scope of the	Capacity (MVA) /
No.	Transmission	Line length (km)/	Transmission	
140.	Scheme	Nos.	Scheme	Nos.
	bays at both	both bus and line		11051
	voltage levels	reactors)		
_	400/220kV,	765kV Bus reactor		
	4x500MVA ICTs			
	along with	J		
	associated ICT			
1	bays at both	,		
	voltage levels	400kV Bus reactor		
	765kV,			
	2x330MVAr	bays: 2 nos.	1	
		7(5).37 11 1 2		
	(6x110MVAr	765kV line bays: 2		
	single phase			
	units) bus reactor	1		
	along with			
	associated bays	(POWERGRID) –		
-	420kV,	Gopalpur 765kV D/c		
	2x125MVAr bus	1		
	reactor along with	765kV, 1x330MVAr		
	associated bays	switchable line		
-	8 nos. of 765kV	reactor at Gopalpur		
	line bays (along	end in both circuits]		
	with space for			
	switchable line	400kV line bays: 2		
	reactor) for future	nos.		
	lines	[for termination of		
-	10 nos. of 400kV	Gopalpur –		
	line bays (along	Gopalpur (OPTCL)		
	with space for	400kV D/c (Quad)		
	switchable line	line]		
	reactor) for future	_		
	lines	765kV, 330MVAr		
-	12 nos. of 220kV	(3x110MVAr single		
	line bays for	phase units)		
	future lines	switchable line		
_	765kV bus	reactor along with		
	sectionaliser bay:	associated bay and		
	1 set	500ohm NGR (with		
_	400kV bus	NGR bypass		
	sectionaliser bay:	arrangement) [at		
	1 set	Gopalpur end in		
_	220kV bus	_ ^_ ^		
		both circuits of Angul		
	:1 set	0		
		(POWERGRID) -		
~	· ·	Gopalpur 765kV D/c		
;; A		line]: 2 nos.		
ii. Aı	ngul – Gopalpur	205km	No change.	No change.



	As agreed in the 16th meeting of NCT		Mod	ified scope
SI. No.	Scope of the	Capacity (MVA) / Line length (km)/ Nos.	Scope of the Transmission Scheme	Capacity (MVA) / Line length (km)/ Nos.
	765kV D/c line			
iii.	Extension at 765kV level at Angul (POWERGRID) S/s including bus extension in GIS	765kV GIS/Hybrid line bays (along with space for future switchable line reactor): 2 nos. [for termination of Angul (POWERGRID) — Gopalpur 765kV D/c line] including bus extension in GIS of about 3000m	No change.	765kV AIS line bays (along with space for future switchable line reactor): 2 nos. [for termination of Angul (POWERGRID) – Gopalpur 765kV D/c line] including bus extension in GIS of about 3000m
iv.	Gopalpur – Gopalpur (OPTCL) 400kV D/c (Quad) line [@]	[@] 20km	No change.	No change.
V.	Extension at 400kV level at #Gopalpur (OPTCL) GIS S/s	400kV GIS line bays: 2 nos. [for termination of Gopalpur — Gopalpur (OPTCL) 400kV D/c (Quad) line] + #2 nos. for diameter completion	No change.	No change.
	Note:		No change.	
	input 20km line h between 765/400 400/220kV (Intra-si Gopalpur. (b) **The bus scheme	and is expected to be 24. As per OPTCL's as been considered kV (ISTS) and tate) substations at of 400kV level at GIS S/s shall be one scheme, 2 nos. full of GIS bays needs to m the scheme for nos. GIS bays for palpur (OPTCL) —		



	As agreed in the 16th meeting of NCT		Modified scope	
Sl.	Scope of the	Capacity (MVA) /	Scope of the	Capacity (MVA) /
No.	Transmission	Line length (km)/	Transmission	Line length (km)/
110.	Scheme	Nos.	Scheme	Nos.
	different diameters.	Utilisation of other		
	2 nos. GIS bays of t	hese diameters shall		
	be identified in futur	e.		
	(c) OPTCL shall prov	ide space at under		
	implementation G	Gopalpur (OPTCL)		
	400/220kV GIS S/s	for implementation		
	of 2 nos. of 400kV	GIS line bays for		
	termination of G			
		400kV D/c (Quad)		
		neter i.e. 4 nos. GIS		
	bays shall be established.			
	(d) POWERGRID shall	* *		
	0 1	ID) 765/400kV S/s		
		of 2 nos. of 765kV		
		ith space for future		
		ctor) along with bus		
i		r termination Angul		
	· ·	Gopalpur 765kV D/c		
	line.			
	(e) The line lengths m	ı		
	* -	e exact length shall		
	be obtained after de	tailed survey.		

3.1.2 After deliberations, NCT approved the above modifications.

4 New Transmission Schemes:

- 4.1 Transmission system for evacuation of power from Rajasthan REZ Ph-IV (Part-3:6 GW) [Bikaner complex]
- 4.1.1 Representative of CTUIL stated that considering grant of connectivity to RE generators in Bikaner complex as well as for evacuation of power beyond this complex, transmission scheme from Bikaner Complex as part of Rajasthan REZ Ph-IV (Part-3: 6 GW) is required.
- 4.1.2 He further stated that, the transmission scheme was discussed and agreed in the 71st NRPC meeting held on 29.01.24. Total cost of the scheme is approx. Rs 11325.86 Crs
- 4.1.3 NCT recommended the Transmission system for evacuation of power from Rajasthan REZ Ph-IV (Part-3:6GW) [Bikaner complex] to be implemented in two packages through TBCB mode.
- 4.1.4 Summary of the scheme is given below:

SI	Name of the scheme and	Estimated	Remarks
	tentative implementation	Cost	



No.	timeframe	(₹	
		Crores)	
1.	REZ Ph-IV (Part 3: 6GW) (Bikaner Complex) :Part A	5968.5	Recommended under TBCB route with
	Tentative Implementation timeframe: 24 months		RECPDCL as the BPC.
2.	REZ Ph-IV (Part 3: 6GW) (Bikaner Complex) :Part B	5357.36	Recommended under TBCB route with
	Tentative Implementation timeframe: 24 months		RECPDCL as the BPC.

4.1.5 Detailed scope of the scheme is given below:

A. REZ Ph-IV (Part 3: 6GW) (Bikaner Complex) :Part A (Estimated Cost: Rs 5968.5 Cr)

Sl. No.	Description of Transmission Element	Scope of work (Type of Substation/Conductor
		capacity/km/No. of bays etc.)
1	 ▶ Establishment of 6x1500 MVA, 765/400 kV & 6x500 MVA, 400/220 kV Bikaner-IV Pooling Station along with 2x240 MVAr (765kV) & 2x125 MVAr (420kV) Bus Reactors at a suitable location near Bikaner Future provisions at Bikaner-IV PS: Space for 765 kV line bays along with switchable line reactors − 8 nos. 765kV Bus Reactor along with bay: 1 no. 400 kV line bays along with switchable line reactor −4 nos. 400 kV line bays−2 nos. 400/220kV ICT along with bays −4 nos. 400 kV Bus Reactor along with bay: 1 no. 400 kV Bus Reactor along with bay: 1 no. 400kV Sectionalizer bay: 1 set 220 kV line bays for connectivity of RE Applications -5 nos. 220kV Sectionalizer bay: 2 sets 220 kV BC (2 nos.) bays and 220 kV TBC (2 nos.) bays 	Bikaner-IV PS -AIS 765/400 kV 1500 MVA ICTs- 6 Nos. (19x500 MVA including one spare unit) 400/220 kV 500 MVA ICTs -6 Nos. 765 kV line bays – 2 nos. (for 765 kV interconnection with Siwani S/s) 400 kV line bays - 4 Nos.(For LILO of both ckts of Bikaner II PS- Bikaner III PS) 765 kV ICT bays-6 Nos. 400 kV ICT bays- 6 Nos. 220 kV ICT bays- 6 Nos. 240 MVAr Bus Reactor-2 Nos. (7x80 MVAr, including one spare unit) 765 kV Bus reactor bays-2 Nos. 125 MVAr Bus Reactor-2 Nos. 400 kV Bus reactor bays- 2 Nos. 220 kV line bays: 6 nos. (for RE connectivity) 400kV line bays (for RE connectivity) 3 nos. 400kV Sectionalizer bay: 1 set 220 kV BC (2 nos.) bays and 220 kV TBC (2 nos.) bays 400 kV bays: 2 Nos. (for STATCOM)



2	STATCOM (2x±300MVAr) along with MSC (4x125 MVAr) & MSR (2x125 MVAr) at Bikaner-IV PS	STATCOM (2x±300MVAr) along with MSC (4x125 MVAr) & MSR (2x125 MVAr)
3	LILO of both ckts of Bikaner II PS-Bikaner III PS (Quad) direct line at Bikaner-IV PS	Length -20 km (Quad) (LILO length)
4	Bikaner-IV PS – Siwani 765 kV D/c line along with 240 MVAr switchable line reactor for each circuit at each end	 Line Length -260 km 765 kV, 240 MVAr switchable line reactors at Bikaner-IV PS end-2 Nos. 765 kV, 240 MVAr switchable line reactors at Siwani S/s end-2 Nos. Switching equipment for 765kV, 240 MVAr switchable line reactors at Bikaner-IV PS end -2 Nos. Switching equipment for 765kV, 240 MVAr switchable line reactors at Siwani S/s end -2 Nos.
5	Siwani– Fatehabad (PG) 400 kV D/c line (Quad)	Line Length ~80 km (Quad)
6	Siwani – Patran (Indi Grid) 400 kV D/c line (Quad) along with 80 MVAr switchable line reactor for each circuit at Siwani S/s end	 Line Length -160 km (Quad) 420 kV, 80 MVAr switchable line reactors at Siwani S/s end-2 Nos. Switching equipment for 420kV, 80 MVAr switchable line reactors at Siwani S/s end-2 Nos. 400 kV GIS duct :700 m at Patran S/s
7	2nos. 400 kV line bays each at Fatehabad (PG) & Patran (Indi Grid) S/s	 400 kV line bays at Fatehabad (PG) S/s 2 Nos. 400 kV line bays at Patran (Indi Grid) S/s - 2 nos.
8	2nos. 765 kV line bays at Siwani S/s	• 765 kV line bays at Siwani S/s – 2 Nos.
9	4 nos. 400 kV line bays at Siwani S/s	• 400 kV line bays at Siwani S/s – 4 Nos. (for 400kV interconnections)

B. REZ Ph-IV (Part 3: 6GW) (Bikaner Complex) :Part B (Estimated Cost: Rs 5357.36 Cr)

Sl. No.	Description of Transmission Element	Scope of work (Type of Substation/Conductor capacity/km/no. of bays etc.)	
1	Establishment of 765/400kV, 6x1500 MVA S/s at suitable location near Siwani (Distt. Bhiwani) along with 2x240 MVAr (765kV) Bus Reactor & 2x125 MVAr (420kV) Bus Reactor Future provisions at Siwani S/s: Space for	 Siwani S/s- AIS 765/400 kV 1500 MVA ICTs- 6 nos. (19x500 MVA including one spare unit) 765 kV ICT bays-6 no. 400 kV ICT bays- 6 no. 765 kV line bays - 2 nos. (for 765kV interconnection with 	



	 765 kV line bays along with switchable line reactors – 8 765kV Bus Reactor along with bay: 1 nos. 400 kV line bays along with switchable line reactor –8 nos. 400 kV Bus Reactor along with bays: 1 no. 400kV Sectionalizer bay: 1 set 	Bikaner-IV PS) • 400 kV line bays – 4 nos. (for 400kV interconnections) • 240 MVAr Bus Reactor-2 no. (7x80 MVAr, including one spare unit) • 765 kV Bus reactor bays-2 no. • 125 MVAr Bus Reactor-2 nos. • 400 kV Bus reactor bays- 2 nos. • 400kV Sectionalizer bay: 1 set • 400kV bays : 2 nos. (for STATCOM)
2	Bikaner-IV PS – Siwani 765 kV D/c (2 nd) line along with 240 MVAr switchable line reactor for each circuit at each end	Line Length -260 km 765 kV, 240 MVAr switchable line reactors at Bikaner-IV PS end-2 nos. 765 kV, 240 MVAr switchable line reactors at Siwani S/s end-2 nos. Switching equipment for 765kV, 240 MVAr switchable line reactors at Bikaner-IV PS end-2 nos. Switching equipment for 765kV, 240 MVAr switchable line reactors at Bikaner-IV PS end-2 nos.
3	STATCOM (2x±300MVAr) along with MSC (4x125 MVAr) & MSR (2x125 MVAr) at Siwani S/s	• STATCOM (2x±300MVAr) along with MSC (4x125 MVAr) & MSR (2x125 MVAr)
4	Siwani – Sonipat (PG) 400 kV D/c line (Quad) along with 63 MVAr switchable line reactor for each circuit at Siwani S/s end	 Line Length -150 km (Quad) 420 kV, 63 MVAr switchable line reactors at Siwani S/s end- 2 nos. Switching equipment for 420kV, 63 MVAr switchable line reactors at Siwani S/s end - 2 nos.
5	Siwani – Jind (PG) 400 kV D/c line (Quad)	Line Length -110 km (Quad)
6	2 nos. 400 kV line bays each at Jind(PG) & Sonipat (PG) S/s	 400 kV line bays at Jind (PG) S/s 2 nos. 400 kV line bays at Sonipat (PG) S/s – 2 nos.
7	2 nos. 765 kV line bays at Bikaner-IV PS	• 765 kV line bays at Bikaner-IV PS – 2 nos.

4.1.6 GRID-INDIA requested to assign unique name for envisaged RE pooling stations. As a number of pooling substations with identical names but different numerical suffixes



have been planned in the same district along with multiple interconnections, there is a chance of miscommunication during real-time operation among multiple constituents. For clarity of operation and ensuring that names of different substations are easily distinguished from each other, it was suggested that after finalization of the exact location, the ISTS substations are uniquely named as per the geographical name of the nearest location like village or taluk. Chairperson NCT advised the concerned to bring this as an agenda item in the next NCT meeting.

4.2 Transmission Scheme for integration of Davanagere / Chitradurga REZ and Bellary REZ in Karnataka

- 4.2.1 Representative of CTUIL stated that Davanagere / Chitradurga PS, Bellary PS and Bijapur PS were initially proposed to be integrated with Koppal-II PS for onward evacuation of power from these REZs. However, large number of applications have been received from various RE developers seeking connectivity at Koppal-II PS / Gadag-II PS beyond the planned evacuation capacity and without BESS. Accordingly, the transmission system beyond Koppal-II PS may not be able to cater to the requirement of Davanagere / Chitradurga REZ, Bellary REZ and Bijapur REZ. Accordingly, the interconnection of Davanagere/Chitradurga, Bijapur and Bellary REZs was reviewed and separate transmission system for evacuation of power is identified.
- 4.2.2 Chairperson, NCT directed that in future, battery storage should also be considered as candidate while planning transmission system in renewable energy zones.
- 4.2.3 CTUIL mentioned that the transmission scheme was discussed in the 49th SRPC meeting held on 08.12.2023 and SRPC vide letter dated 12.01.2024 has forwarded the views on the scheme. However, APTRANSCO have made certain observations on the reactive compensation at Davanagere/Chitradurga, Bijapur and Bellary REZs schemes and have also suggested that the HTLS conductor may be used in place of Quad conductor. APTRANSCO opined that
 - 240 MVAr SLR at both ends on 765 kV Narendra New Davanagere section (~280 km) may be dropped.
 - 765kV Madhugiri Bus Reactor 1x330 MVar may be considered instead of 2x330MVar Bus Reactors.
- 4.2.4 765 kV Narendra New-Madhugiri operated at 400 kV having 420 kV rated 2x80 Line Reactors at Narendra end and 2x80 Line Reactors at Madugiri end. With the charging of the above line at 765 kV Potential, the 80 The 2x80 MVAr Line reactors at Narendra end may be utilised at 400 kV Bellary PS as Bus Reactor in place of the proposed 125 MVAr Bus Reactors. GRID-INDIA opined that 2x80 MVAr line reactors at Narendra New and Madhugiri end may be utilized as bus reactors at respective 400 kV substations based on availability of bays for controlling the voltage of the buses.



- 4.2.5 Regarding 765 kV SLR & Bus reactors, it was deliberated that adequate reactive compensation may be provided to ensure reliable operation of grid. Therefore, it was decided that reactive compensation proposed by CTU to be retained.
- 4.2.6 The Bellary REZ is being integrated with Davanagere PS through Bellary PS Davanagere PS 400 kV (Quad Moose) D/c line and Bellary REZ evacuation is dependent on Davanagare PS. Accordingly, it was opined that the schemes "Transmission Scheme for integration of Davanagere / Chitradurga REZ" and "Transmission Scheme for integration of Bellary REZ" may be clubbed together for implementation as a single transmission scheme.
- 4.2.7 It was also deliberated that margins for grant of connectivity to RE generators at Koppal-II PS & Gadag-II PS has already been exhausted and both Koppal-II PS & Gadag-II PS have been closed for further grant of connectivity. Presently, connectivity of about 450 MW have been granted / agreed for grant at Davanagere. Further, after closure of Koppal-II PS & Gadag-II PS for grant of connectivity, RE developers are seeking connectivity at Davanagere PS and Bijapur PS. Further, more applications for connectivity at Davanagere, Bellary and Bijapur are expected. In view of above, it was decided that Phase-A and Phase-B transmission scheme of Davanagere PS may be taken up for implementation in same time frame of 24 months. Similarly, Phase-A and Phase-B transmission scheme of Bellary PS may be taken up for implementation in same time frame of 30 months.
- 4.2.8 After detailed deliberations, NCT recommended implementation of Transmission Scheme for integration of Davanagere / Chitradurga REZ and Bellary REZ in Karnataka through TBCB mode.
- 4.2.9 Summary of the scheme is given below:

Sl No.	Name of the scheme and tentative implementation	Estimated Cost	Remarks
	timeframe	(₹ Crores)	
1.	Transmission Scheme for integration of	3453	Recommended
	Davanagere / Chitradurga and Bellary REZ in		under TBCB
	Karnataka		route with
			PFCCL as the
	A. Transmission system for integration of		BPC.
	Davanagere / Chitradurga REZ - Tentative		
	Implementation timeframe: 24 months		-
	B. Transmission system for integration of		
	Bellary REZ - Tentative Implementation		
	timeframe: 30 months		

4.2.10 Detailed scope of the scheme is given below:

A. Transmission system for integration of Davanagere / Chitradurga REZ



Sl. No.	Scope of the Transmission Scheme	Capacity /km
No. 1.	Establishment of 765/400kV 4x1500 MVA, 400/220kV 4x500 MVA Pooling Station near Davanagere / Chitradurga, Karnataka with provision of two (2) sections of 4500 MVA each at 400kV level and provision of four (4) sections of 2500 MVA each at 220kV level Future Space Provisions: 765/400kV, 1500 MVA, ICTs – 2 nos. 765kV ICT bays – 2 nos. 400kV ICT bays – 2 nos. 400kV ICT bays – 6 nos. 220kV ICT bays – 6 nos. 765kV line bays – 8 nos. (with provision for SLR) 400kV line bays – 10 nos. (with provision for SLR) 220kV line bays – 12 nos. 220kV Bus Sectionalizer: 2 sets 220 kV Bus Coupler (BC) Bay – 3 nos. 220 kV Transfer Bus Coupler (TBC)	 765/400kV, 1500 MVA, ICTs – 4 Nos. (13x500 MVA incl. 1 spare unit) 765 kV ICT bays – 4 Nos. 400 kV ICT bays – 4 Nos. 400/220 kV, 500 MVA, ICTs – 4 Nos.
2.	{with 240 MVAr SLR at both ends on Narendra New - Davanagere section (~280 km) and 330 MVAr SLR at Davanagere end on Davanagere - Madhugiri section (~200 km)}	 765 kV, 240 MVAr SLR at Davanagere / Chitradurga PS – 2 Nos. (7x80 MVAr
3.	Davanagere/ Chitradurga PS	 765 kV, 330 MVAr Bus Reactor – 2 Nos. (7x110 MVAr inc. 1 switchable spare unit for both bus reactor and line reactor) 765 kV Bus Reactor bays – 2 nos.
4.	Upgradation of Narendra New -	• 765 kV line bays – 2 Nos. (at Narendra New)
3.	{Tumkur(Vasantnarsapura)} to its rated voltage of 765kV level alongwith 3x1500 MVA, 765/400kV ICTs and 2x330	765kV ICT bays – 3 nos.



Sl. No.	Scope of the Transmission Scheme	Capacity /km
	MVAr, 765kV bus reactors (Upgradation of Madhugiri {Tumkur(Vasantnarsapura)} to its rated 765kv level was earlier allocated to POWERGRID for implementation through RTM route vide MOP OM No.15/3/2018-Trans-Pt(1) dated 23.01.2020)	{7x110 MVAr including 1 spare unit} • 765 kV Bus Reactor bays – 2 nos.

B. Transmission system for integration of Bellary REZ

Sl. No.	Scope of the Transmission Scheme	Capacity /km	
1.	Establishment of 4x500 MVA, 400/220kV Pooling Station near Bellary	 400/220 kV, 500 MVA, ICTs – 4 nos. 400 kV ICT bays – 4 nos. 	
	area (Bellary PS), Karnataka	• 220 kV ICT bays – 4 nos.	
	Future Space Provisions: • 400/220kV, 500 MVA, ICTs – 6 nos. • 400kV ICT bays – 6 nos. • 220kV ICT bays – 6 nos. • 400kV line bays – 6 nos. (with provision for SLR) • 220kV line bays – 12 nos. • 220kV Sectionalizer: 3 sets	 400 kV line bays – 2 nos. (at Bellary PS for termination of Bellary PS – Davanagere / Chitradurga line)) 220 kV line bays – 6 nos. 220 kV Bus Coupler (BC) Bay – 1 no. 220 kV Transfer Bus Coupler (TBC) Bay – 1 no. 	
1	 220 kV Bus Coupler (BC) Bay – 3 nos. 220 kV Transfer Bus Coupler (TBC) Bay – 3 nos. 		
2.	Bellary PS – Davanagere / Chitradurga 400kV (Quad ACSR moose) D/c line	~100 km • 400 kV line bays – 2 nos. (at Davanagere / Chitradurga)	
3.	2x125MVAr 420kV bus reactors at Bellary PS	 420 kV, 125 MVAr bus reactors – 2 nos. 420 kV, 125 MVAr bus reactor bays – 2 nos. 	

4.3 Transmission Scheme for integration of Bijapur REZ in Karnataka

- 4.3.1 Representative of CTUIL stated that about 1450 MW capacity applications from various RE developers have been received for connectivity near Bijapur REZ. He added that Bijapur pooling station 400/220 kV, 2x500 MVA ICTs has been planned.
- 4.3.2 The transmission scheme was discussed in the 49th SRPC meeting held on 08.12.2023 and SRPC vide letter dated 12.01.2024 has forwarded the views on the scheme.
- 4.3.3 CTUIL requested that the pooling station may be implemented with more number of ICTs as the applications have already crossed the planned limit.

- 4.3.4 After detailed deliberations, NCT recommended the Transmission Scheme for integration of Bijapur REZ in Karnataka through TBCB mode.
- 4.3.5 Summary of the scheme is given below:

Sl No.	Name of the scheme and tentative implementation timeframe	Estimated Cost (₹ Crores)	Remarks
1.	Transmission Scheme for integration of Bijapur REZ in Karnataka Tentative Implementation timeframe: 24	1113	Recommended under TBCB route with PFCCL as the
	months		BPC.

4.3.6 Detailed scope of the scheme is given below:

Sl.	Scope of the Transmission Scheme	Capacity /km
No.		
	• 400kV line bays – 6 nos.	 400/220 kV, 500 MVA, ICTs - 5 nos. 400 kV ICT bays - 5 nos. 220 kV ICT bays - 5 nos. 400 kV line bays - 2 nos. (at Bijapur PS for termination of Bijapur PS - Raichur New line)) 220 kV line bays - 10 nos. 220 kV Sectionalizer : 1 sets 220 kV Bus Coupler (BC) Bay - 2 nos. 220 kV Transfer Bus Coupler (TBC) Bay - 2 nos.
2.	Bijapur PS – Raichur New 400kV (Quad ACSR moose) D/c line	~150 km • 400 kV line bays – 2 nos. (at Raichur New)
3.	2x125MVAr 420kV bus reactors at Bijapur PS	

Note:

POWERGRID shall provide space for 2 nos. of 400 kV line bays at Raichur New for termination of Bijapur PS – Raichur New 400 kV (Quad ACSR moose) D/c line

4.4 Transmission System under ISTS for evacuation of power from Kudankulam Unit - 3 & 4 (2x1000 MW)



- 4.4.1 Representative of CTUIL stated that transmission system for KNPP Unit 3&4 has been identified under the scope of ISTS and TANTRANSCO. The transmission system under the scope of TANTRANSCO shall facilitate in drawl of its share of allocation from Kudankulam Unit-3&4. The transmission system under the scope of ISTS shall facilitate in evacuation and transfer of power to other beneficiaries in Southern Region from Kudankulam Unit-3&4 generation project. The identified transmission system under ISTS shall be implemented with the time frame of Kudankulam Unit-3 as sought under the GNA.
- 4.4.2 The transmission scheme was discussed and agreed in the 49th SRPC meeting held on 08.12.2023 and SRPC vide letter dated 12.01.2024 has forwarded the views on the scheme.
- 4.4.3 After detailed deliberations, NCT recommended the Transmission System under ISTS for evacuation of power from Kudankulam Unit 3 & 4 (2x1000 MW) through TBCB mode.
- 4.4.4 Summary of the scheme is given below:

SI No.	Name of the scheme and tentative implementation timeframe	Estimated Cost (₹ Crores)	Remarks
1.	Transmission System under ISTS for evacuation of power from Kudankulam Unit - 3 & 4 (2x1000 MW)	548	Recommended under TBCB route with PFCCL as the
	Tentative Implementation timeframe: 30 months (December 2026)		BPC.

4.4.5 Detailed scope of the scheme is given below:

Sl. No.	Scope of the Transmission Scheme	Capacity /km
1.	KNPP 3&4 - Tuticorin-II GIS PS 400 kV (quad) D/c line (~120 km)	~120 km
	{Line & bays at Tuticorin-II GIS under ISTS scope and bays at KNPP under NPCIL scope}	• 400 kV GIS line bays at Tuticorin-II GIS – 2 nos.

- 4.5 Augmentation of 2x500 MVA, 400/230 kV transformation capacity (3rd & 4th ICTs) at Karur PS
- 4.5.1 Representative of CTUIL stated Karur PS was established with 2x500 MVA, 400/230 kV ICTs. Due to new applications for connectivity, total connectivity required for 1100 MW, therefore, 3rd ICT is required. Further, to cater N-1 contingency criteria, 4th ICT is also required. The estimated cost of the scheme is about INR 115 Cr. Accordingly, concurrence of SRPC is not required.

- 4.5.2 After detailed deliberations, NCT approved the augmentation of transformation capacity by 2x500 MVA (3rd & 4th), 400/230 kV ICTs at Karur PS through RTM mode with tentative implementation timeframe of 18 months.
- 4.5.3 Summary of the scheme is given below:

SI No.	Name of the scheme and tentative implementation timeframe	Estimated Cost (₹ Crores)	Remarks
1.	Augmentation of 2x500 MVA, 400/230 kV transformation capacity (3 rd & 4 th ICTs) at Karur PS Tentative implementation timeframe: 18 months	115	Approved under RTM by owner of existing substation

4.5.4 Detailed scope of the scheme is given below:

SI. No.	Scope of the Transmission Scheme	Capacity /km	
	Augmentation of 2x500 MVA, 400/230 kV transformation capacity (3 rd & 4 th ICTs) at Karur PS	1	

- 4.6 Augmentation of transformation capacity at Jam Khambhaliya PS (JKTL) Part
- 4.6.1 Chief Engineer (PSPA-II), CEA stated that in the 17th meeting of NCT Augmentation of transformation capacity at Jam Khambhaliya PS (JKTL) with following scope was agreed to be implemented under RTM.

SI No.	Scope of the Transmission Scheme	Capacity /km
1.	Creation of New 220 kV Bus	220 kV Bus sectionaliser bay - 1
	Section-II at Jam Khambhaliya PS	Set (to be kept normally
		CLOSED and may be opened
	Space to be kept for 1 no. 220 kV	based on system requirement)
	line bay and 1 no. 220kV ICT bay	220 kV BC – 1 No.
	in the same GIS Hall for RE	
	Interconnection being implemented	
	by the RE developer & 7 th ICT (i.e	
	3 rd ICT on Sec-II) (in addition to 2	
	nos. bays at S1. 3)	
2.	Augmentation of transformation	500 MVA, 400/220 kV
	capacity at Jam Khambhaliya PS	ICTs: 2 Nos.
	(GIS) by 2x500MVA, 400/220 kV	400 kV ICT bays: NIL*
	ICT (5th & 6th) terminated on New	220 kV ICT bays: 2 Nos.



	220 kV bus section-II	
3.	Implementation of 220kV GIS line	220 kV line bay – 2 No.
	bays at Jam Khambhaliya PS for RE	(GIS)
	Projects on New 220kV bus	(1 for ACME Sun Power Pvt Ltd
	section-II	and 1 for Juniper Green Energy
		Pvt Ltd.)

*Note: Termination of the 2x500 MVA ICTs under present scope shall be in the '2' separate dia's which are being developed by POWERGRID for RIL for termination of 400 kV Jam Khambaliya - Jamnagar D/c line. TSP shall implement 400 kV side GIS Duct required for interconnection of ICT-5 & 6 at 400 kV Jam Khambaliya PS [length is approx. 350 m. (Actual length shall be finalized based upon final layout)] along with associated equipment as required.

Tentative Implementation timeframe: For scope at Sl. No.1 & 2 above: 21 months. For 2 Nos 220 kV bays at Sl. No. 3 above: 30.03.2026 and 30.06.3027 respectively (subject to minimum schedule of 21 months from date of award of balance works).

- 4.6.2 He added that CTU has further proposed additional new 220 kV bus section, 3x500 MVA ICTs and 2 Nos. of 220 kV bays.
- 4.6.3 Representative of CTUIL stated that 7th 400/220kV, 1x500 MVA ICT shall enable evacuation of RE power from various generation projects in Jam Khambhaliya area who have applied for connectivity under GNA at Jam Khambhaliya PS at 220 kV level. Further, the 8th & 9th 400/220 kV, 2x500 MVA ICTs shall enable drawal of power by GETCO from Jam Khambhaliya PS. He added that the estimated cost of the scheme is less than INR 500 Cr and accordingly, same was not sent to WRPC for deliberations.
- 4.6.4 It was opined that considering both the parts of the scheme are required in the similar time frame, the same may be clubbed. Further, creation of new 220 kV Bus Section-II at Jam Khambhaliya PS may be expedited with a time schedule of 18 months so as to facilitate interconnection of RE Project of M/s Mounting Renewable (250 MW), which is implementing the 220 kV bay by themselves at an early date and which requires the bus extension on urgent basis.
- 4.6.5 After detailed deliberations, NCT decided to withdraw the augmentation of transformation capacity at Jam Khambhaliya PS (JKTL) agreed in the 17th meeting of NCT and revoke the allocation letter to JKTL in this regard. Further, NCT decided to implement the entire augmentation work at Jam Khambhaliya PS (JKTL) under TBCB.
- 4.6.6 Summary of the scheme is given below:

SI	Name of the scheme and	Estimated	Remarks
No	tentative implementation	Cost	
	timeframe	(₹ Crores)	



1.	Augmentation of transformation capacity at Jam Khambhaliya PS (GIS)	310	Recommended under TBCB route with
	Tentative implementation timeframe:		RECPDCL as
	For scope at Sl. No. 1: 18 months		the BPC.
	• For scope at Sl. No. 4: 30.03.2026 and 30.06.2027 respectively (subject to minimum schedule of 21 months from date of award of balance works).		
	For balance scope: 21 months		

4.6.7 Detailed scope of the scheme is given below:

Sl. No.	Scope of the Transmission Scheme	Capacity /km
1.	Creation of New 220 kV Bus Section-II at Jam Khambhaliya PS Space to be kept for 1 No. 220 kV line bay in the same GIS Hall for RE Interconnection being implemented by the RE developer (in addition to 2 nos.	Set (to be kept normally CLOSED and may be opened based on system requirement) 220 kV BC – 1 No.
2.	bays at Sl. 4) Augmentation of transformation capacity at Jam Khambhaliya PS (GIS) by 2x500MVA, 400/220 kV ICT (5th & 6th) (terminated on New 220 kV bus section-II)	400 kV ICT bays: NIL*
3.	Augmentation of transformation capacity at Jam Khambhaliya PS (GIS) by 1x500MVA, 400/220kV ICT (7th) (terminated on New 220kV bus section-II)	
4.	Implementation of 220 kV GIS line bays at Jam Khambhaliya PS for RE Projects on New 220kV bus section-II	220 kV line bay - 2 No.
5.	Creation of New 220 kV Bus Section at Jam Khambhaliya PS (Section III) (with space for 4 nos. 220 kV line bays:	



Sl. No.	Scope of the Transmission Scheme	Capacity /km
	in same GIS hall. Implementation of 2 Nos. GIS bays to be taken up as per Sl.No.9 and space to be kept for future 2 Nos.)	220 kV BC 1 No
6.	capacity at Jam Khambhaliya PS (GIS) by 1x500MVA, 400/220kV ICT (8th) (terminated on New 220kV bus section-III)	400 kV ICT bay: NIL (bay being implemented under Jamnagar scheme, which is currently under tendering, with schedule of Apr/May-26). Bus duct outside GIS hall along with termination equipment shall be provided. 220 kV ICT bay: 1 No.
7.	Augmentation of transformation capacity at Jam Khambhaliya PS (GIS) by 1x500MVA, 400/220kV (9 th) ICT terminated on New 220kV bus section-III	400 kV ICT bays: 1 No (TSP to
8.	Implementation of 220kV GIS line bays at Jam Khambhaliya PS for Kuvadia 220kV D/c line	
Note:	L to provide space for above scope of wor	k.

 GETCO shall implement Jam Khambhaliya PS - Kuvadia 220 kV D/c line in matching time-frame

4.7 Transmission Scheme for integration of Tumkur-II REZ in Karnataka

4.7.1 In the 15th meeting of NCT, the transmission scheme "Transmission Scheme for integration of Tumkur-II REZ in Karnataka" was recommended for implementation



^{*}Note: Termination of the 2x500MVA ICTs under present scope shall be in the '2' separate dia's which are being developed by POWERGRID for RIL for termination of 400 kV Jam Khambaliya - Jamnagar D/c line. TSP shall implement 400 kV side GIS Duct required for interconnection of ICT-5 & 6 at 400 kV Jam Khambaliya PS [length is approx. 350m. (Actual length shall be finalized based upon final layout)] along with associated equipment as required.

- through TBCB mode at an estimated cost of Rs. 792.77 Cr. with the approximate line length from Tumkur-II Tumkur (Pavagada) 400 kV (Quad ACSR moose) D/c line as 100 km. The line length had been arrived at considering the location of potential zone as per SECI.
- 4.7.2 RECPDCL had been appointed as the survey agency to carry out the survey works for "Transmission Scheme for integration of Tumkur-II REZ in Karnataka". Ministry of Power had directed RECPDCL to carry out survey before notification of the Transmission scheme
- 4.7.3 Subsequently, connectivity applications had been received by CTUIL from RE Generation Developers close to the existing Tumkur (Pavagada) sub-station. KREDL/KSPDCL has also informed that they are setting up solar park close to the existing Tumkur (Pavagada) sub-station.
- 4.7.4 The transmission scheme was again deliberated in the 17th NCT meeting, wherein it was opined that as the location of RE Generators from whom connectivity application has been received, is close to the existing Tumkur (Pavagada) sub-station, the location of sub-station and associated transmission line may be further optimised. As suggested by NCT, BPC has re-worked the route of transmission line. The revised cost of the transmission scheme as furnished by CTUIL is Rs. 465 Crs.
- 4.7.5 After detailed deliberations, NCT decided that implementation of the Transmission Scheme for integration of Tumkur-II REZ in Karnataka be undertaken under TBCB.
- 4.7.6 Summary of the scheme is given below:

SI	Name of the scheme and tentative implementation	Estimated Cost	Remarks
No.	timeframe	(₹ Crores)	
1.	Transmission Scheme for integration of Tumkur-II REZ in Karnataka	465	Recommended under TBCB route with
	Tentative implementation timeframe: 24 months		PFCCL as the BPC.

4.7.7 Detailed scope of the scheme is given below:

Sl. No.	Scope of the Transmission Scheme	Capacity /km
1.	Establishment of 400/220 kV 4x500	 400/220 kV, 500 MVA, ICTs
	MVA Pooling Station near Tumkur,	– 4 Nos.
	Karnataka	 400 kV ICT bays – 4 Nos.
	Future provisions: Space for	 220 kV ICT bays – 4 Nos.
	• 400/220 kV, 500 MVA, ICTs –	• 400 kV line bays – 2 Nos. (at
	7 Nos.	Tumkur-II PS for termination
	 400 kV ICT bays – 7 Nos. 	of Tumkur-II – Tumkur
	 220 kV ICT bays – 7 Nos. 	(Pavagada) line))



	 400 kV line bays – 6 Nos. (with provision for SLR) 220 kV line bays – 14 Nos. 220 kV Sectionalizer: 3 sets 220 kV Bus Coupler (BC) Bay – 3 Nos. 220 kV Transfer Bus Coupler (TBC) Bay – 3 Nos. 	 220 kV line bays – 4 Nos. 220 kV Bus Coupler (BC) Bay – 1 No. 220 kV Transfer Bus Coupler (TBC) Bay – 1 No.
2.		Route length ~27 km • 400 kV line bays – 2 Nos. (at Tumkur (Pavagada))
3.	2x125 MVAr, 420 kV bus reactors at Tumkur-II PS	 420 kV, 125 MVAr bus reactors – 2 Nos. 420 kV, 125 MVAr bus reactor bays – 2 Nos.

4.8 Requirement of Additional FOTE for redundancy at AGC locations in ER

- 4.8.1 Additional FOTE at all AGC operated generating stations in Eastern region are required in view of resource disjoint and criticality of AGC operation for grid operation purpose as failure of single equipment may lead to disruption in AGC operation. Further, at many locations redundant ethernet port are not available as per NLDC requirement. This scheme was reviewed in 51st ERPC meeting, wherein ERPC approved the scheme.
- 4.8.2 After deliberations, scheme for additional FOTE for redundancy at AGC locations in ER was approved.
- 4.8.3 Summary of the scheme is given below:

SI	Name of the scheme and	Estimated	Remarks
No.	tentative implementation	Cost	
	timeframe	(₹ Crores)	
1.	Additional FOTE for redundancy at AGC locations in ER Tentative implementation timeframe: 6	2.4	Approved under RTM route to be implemented
	months		by POWERGRID

4.8.4 Detailed scope of the scheme is given below:

Sl. No.	Scope of the Transmission Scheme	Locations	
1.	Eight numbers of FOTE STM-16 at AGC locations of Eastern Region	Talcher STPS Stage I Talcher STPS Stage II	1
	for redundancy.	Barh STPS Stage I Barh STPS Stage II	1



	KBUNL Stage II	1
	Nabinagar STPP Stage I	1
	Darlipali STPP	1
]	Northkaranpura STPP	1
	Teesta V	1 .
	Rangit	1

4.9 OPGW laying work on 400 kV Bokaro(A)-Kodarma line

- 4.9.1 Bokaro(A)-Koderma link (105 km) is an ISTS link owned by POWERGRID and it does not have OPGW. In the 51st meeting of ERPC held on 12.01.2024, scheme for OPGW laying work on 400 kV Bokaro(A)-Kodarma line was approved.
- 4.9.2 NCT approved OPGW laying work on 400 kV Bokaro(A)-Kodarma line under RTM.
- 4.9.3 Summary of the scheme is given below:

SI	Name of the scheme and	Estimated	Remarks
No.	tentative implementation	Cost	
	timeframe	(₹ Crores)	
1.	OPGW laying work on 400kV BokaroA- Kodarma line Tentative implementation timeframe: 18 months	6.83	Approved under RTM route to be implemented by POWERGRID

4.9.4 Detailed scope of the scheme is given below:

Sl. No.	Scope of the Transmission Scheme
	OPGW laying work on 400 kV Bokaro A-Kodarma line (105 km) with required terminal equipment.

5 Modification in SCOD of under construction schemes

- 5.1 Transmission System for Evacuation of Power from REZ in Rajasthan (20 GW) under Phase-III Part-G
- 5.1.1 Representative of CTUIL stated that CERC vide Order dated 01.02.2024 in Petition 253/TL/2023 (Fatehgarh-III Beawar Transmission Limited) has directed CTUIL to align the SCODs of Transmission System for Evacuation of Power from REZ in Rajasthan (20 GW) under Phase-III Part-G [Fatehgarh-III-Beawar 765 kV (2nd D/c) line] and Phase-III Part-F [Fatehgarh-III-Beawar 765 kV (1st D/c) line, Beawar S/s & its interconnections along with STATCOM] schemes, as per para 7 mentioned below:

"Keeping in view of the above submissions, we proceed to consider the grant of the transmission licence to the Petitioner Company. With regard to the revision of the TSA with



modified/aligned schedules, CTUIL, Nodal Agency is directed to resolve the issue on or before 15.2.2024 and to file an affidavit in this regard before the next date of the hearing. PFCCL is also directed to file its response on an affidavit regarding mismatches in the transfer of the SPV for both schemes in the instant case within ten days."

- 5.1.2 Both schemes under Part-F and Part-G were recommended in the 5th meeting of National Committee on Transmission (NCT) held on 25.08.2021 & 02.09.2021 with matching timeframe and Gazette was notified on 06.12.2021.
- 5.1.3 Further, prior to SPV transfer for both the schemes, a meeting was held on 11.07.2023 amongst CEA, CTUIL, PFCCL and RECPDCL for discussion on the issue of SPV transfer of Phase-III transmission schemes in Rajasthan wherein, it was deliberated that Rajasthan REZ Ph-III Part G (Fatehgarh-III-Beawar 765 kV D/c line) is interlinked with Phase-III Part F (Beawar S/s and its interconnections). However, both SPVs were on transferred different dates (Part-G on 01.08.2023) and (Part-F on 20.09.2023) resulting into mismatch in commissioning schedules of both the schemes as follows:

Sl. No.	Project/Scheme Name	ВРС	Date of SPV transfer/ TSA signing	Name of TSP	SCOD
1	Transmission System for Evacuation of Power from REZ In Rajasthan (20 GW) Under Phase-III Part G	PFCCL	01.08.2023	Fatehgarh III Beawar Transmission Limited (Subsidiary of M/s Sterlite Grid 19 Ltd.)	(18 months
2	Transmission System for Evacuation of Power from REZ In Rajasthan (20GW) Under Phase-III Part F	RECPDC L	20.09.2023	Beawar Transmission Limited (Subsidiary of M/s Sterlite Grid 27 Ltd.)	19.03.2025
					effective date)



From the above, it was observed that there is a mismatch of 47 days in schedule commissioning dates of both schemes due to different signing date of TSA/date of transfer of SPV.

- 5.1.4 In compliance to CERC directions, a meeting was convened by CTUIL on 16.02.2024 amongst CEA, CTUIL, PFCCL, RECPDCL, Sterlite Grid 19 Limited and Sterlite Grid 27 Limited to resolve the issue of mismatch in aforesaid projects, wherein M/s Sterlite Grid 19 Ltd. (implementing Rajasthan Phase-III Part-G) has agreed to align its SCOD with Rajasthan Phase-III Part-F scheme. i.e. 19.03.2025.
- 5.1.5 NCT approved modification in SCOD of the scheme (Sl. No. 1) as under and recommended CTUIL to suitably amend the TSA:

Sl. No.	Project/Scheme Name	Name of TSP	Original SCOD	Revised SCOD
1	Transmission System for Evacuation of Power from REZ In Rajasthan (20 GW) Under Phase-III Part G	Transmission Limited (Subsidiary of M/s	31.01.2025	19.03.2025
2	Transmission System for Evacuation of Power from REZ In Rajasthan (20GW) Under Phase-III Part F	Limited (Subsidiary of M/s Sterlite Grid 27	Line & S/s: 19.03.2025 STATCOM: 19.09.2025	No change

5.2 Transmission scheme for evacuation of 4.5 GW RE injection at Khavda PS under Phase II Part A

5.2.1 Representative of CTUIL stated that CERC vide order dated 31.07.2023 in petition no. 128/TL/2023 (Khavda II C Transmission Limited) has directed CTUIL to amend the TSAs for Part A to part D to align the SCOD of all interlinked packages as per para 7 mentioned below:

"7. As per the Transmission Service Agreement, all four parts are interlinked and are to be taken up in a similar time frame. However, from the above information submitted by CTUIL, there is a mismatch in the SCOD of Part A which is 28.3.2025, and the SCOD of Part-B, Part- C & Part-D is 21.3.2025, with each part being implemented by a different



entity. In case Part B, Part-C & Part-D are declared COD on the SCOD date, there shall be commercial liabilities in the absence of Part-A, whose SCOD is on 21.3.2023. Accordingly, CTUIL is directed to amend the TSAs for Parts-A to D to align the SCOD of all the interlinked packages. CTUIL is also directed to finalize the SCOD dates without creating mismatches in the interlinked schemes."

5.2.2 Another transmission scheme namely "Transmission Network Expansion in Gujarat Associated with Integration of RE Projects from Khavda Potential RE Zone" is also required to be implemented in matching timeframe of Khavda Phase-II (Part A to Part D) schemes. These schemes were progressively approved in 3rd National Committee on Transmission (NCT) meeting held on 26.05.2020 & 28.05.2020 and 5th meeting of NCT held on 25.08.2021 & 02.09.2021 with implementation in matching timeframe. Transmission system under Part-A, Part-B, Part-C and Khavda RE zone were approved to be implemented under TBCB mode whereas, transmission system under Part-D was approved in 11th NCT meeting dated 28.12.2022 & 17.01.2023 under RTM mode. The details are as follows:

Sl. No	Project Name	Broad Scope of works	ВРС	Date of SPV transfer (TSA signing) award under RTM	Name of TSP	SCOD
1	Transmission scheme for evacuation of 4.5GW RE injection at Khavda PS under Phase II Part B	• Lakadia PS- Ahmedabad 765k V D/c line	RECPDC L	21.03.2023	POWERG RID	21.03.20 25 (24 months from effective date)
2	scheme for evacuation of 4.5GW RE injection at Khavda PS under Phase II Part C	 Establishment of 3x1500 MVA, 765/400 kV Ahmedabad S/s Ahmedabad-South Gujarat/ Navsari (new) 765 kV D/c line with 240 MVAr switchable line reactor at both ends. 400 kV line bays – 04 (LILO of Pirana (PG) - Pirana (T) 		21.03.2023	POWERG RID	21.03.20 25 (24 months from effective date)



Sl. No	Project Name	Broad Scope of works	BPC	Date of SPV transfer (TSA signing) award under RTM	Name of TSP	SCOD
		400kV D/c line at Ahmedabad S/s				
3	Transmission scheme for evacuation of 4.5GW RE injection at Khavda PS under Phase II Part A	• KPS2 (GIS)- Lakadia 765 kV D/C line		28.03.2023	Adani	28.03.20 25 (24 months from effective date)
4	Transmission Network Expansion in Gujarat Associated with Integration of RE Projects from Khavda Potential RE Zone	Banaskantha Ahmedabad 765kV D/c line		21.03.2023	POWERG RID	21.03.20 25 (24 months from effective date)
5	Transmission scheme for evacuation of 4.5GW RE injection at Khavda PS under Phase II Part D	• LILO of Pirana (PG)- Pirana (T) 400 kV D/c line at Ahmedabad S/s	RTM	RTM (16.02.2023)	Torrent Power	21.03.20 25 (matchin g with aforesaid schemes)

- 5.2.3 It was observed that there is a mismatch of 07 days in SCODs of above schemes due to different date of SPV transfer (TSA signing date) of Part A scheme. The utilization of transmission system under Khavda Phase-II Part B, Part C, Part D and Khavda RE Zone may not be possible till the commissioning of Khavda Phase II Part A scheme.
- 5.2.4 In compliance to CERC directions, a meeting was convened by CTUIL on 23.02.2024 amongst CEA, CTUIL, RECPDCL, Khavda II A Transmission Limited, Khavda II B Transmission Limited, Khavda II C Transmission Limited, Khavda RE Transmission Limited and Torrent Power Grid Limited to align the SCOD of aforesaid projects



wherein it was agreed to revise the SCOD of Khavda Part A from 28.03.2025 to 21.03.2025 matching with other interlinked schemes.

5.2.5 NCT approved modification in SCOD of the scheme (Sl. No. 3) as under and recommended CTUIL to suitably amend the TSA:

Sl. No.	Project Name	Date of SPV transfer (TSA signing) award under RTM	Name of TSP	Original SCOD	Revised SCOD
1	Transmission scheme for evacuation of 4.5GW RE injection at Khavda PS under Phase II Part B	21.03.2023	POWERGR ID	21.03.2025	No Change
2	Transmission scheme for evacuation of 4.5GW RE injection at Khavda PS under Phase II Part C	21.03.2023	POWERGR ID	21.03.2025	No Change
3	Transmission scheme for evacuation of 4.5GW RE injection at Khavda PS under Phase II Part A	28.03.2023	Adani	28.03.2025	21.03.2025
4	Transmission Network Expansion in Gujarat Associated with Integration of RE Projects from Khavda Potential RE Zone	21.03.2023	POWERGR ID	21.03.2025	No Change
5	Transmission scheme for evacuation of 4.5GW RE injection at Khavda PS under Phase II Part D	RTM (16.02.2023)	Torrent Power	21.03.2025 (matching with aforesaid schemes)	No Change

In future, to address the issue of mismatch amongst SCODs of the interlinked schemes, both BPCs (RECPDCL & PFCCL) were advised to coordinate with respect to transfer of SPVs on the same date. It was also decided that a letter would also be sent in this regard to the BPCs.

6 Evaluation of functioning of National Grid.

- 6.1 Grid-India made a presentation on performance of national grid during past six months (Copy of presentation enclosed at Annexure-II).
- 6.2 Salient points of the presentation were as under:
 - a. High Import by Southern Region: Continuous high import by the Southern Region and actual import breaching ATC limits in year 2023-24 due to high demand coupled with low hydro generation in the region. Limiting constraints are 765/400 kV Maheshwaram ICT. 765 kV Angul-Srikakulum is also critically loaded in some scenarios.

GRID-INDIA and CTUIL to make a presentation on the matter in the next SRPC/TCC meeting highlighting the requirement of further transmission



strengthening via inter-regional links involving Southern Region to cater to the rising import of power by the Southern Region.

b. Recent Disturbances in NR RE Complex: Occurrence of oscillations and Fault Ride Through (FRT) non-compliance were flagged. Need for controller setting coordination by RE developers was emphasized. Corrective measures being taken by GRID-INDIA were shared.

Chairman, NCT advised Grid India to convene monthly meetings with RE developers for tuning of controllers and O&M.

c. Reliability Issues (Low voltage, ICT overloading and repeated tripping of intrastate lines) in Rajasthan Intra-state Network:

Transmission inadequacy and O&M issues were explained. Chairman, NCT suggested to issue communication from his end to Rajasthan, Maharashtra, Karnataka and Tamil Nadu to strengthen the intra-state network. He advised CTUIL to study the ICT augmentation required at ISTS in Rajasthan and expedite further.

d. High Impact Low Frequency Events (Water logging and floods):

Member were apprised of events of substations/generating station flooding and transmission tower collapse during cloud burst, cyclone, rains. NCT opined that construction standards are strictly to be adhered to during implementation of transmission system.

- e. Constraint in SR Export Corridor: The intra-state constraints in the Maharashtra network around Mumbai and Pune area were explained. It would limit the export capability from the Southern Region until the approved schemes in Western Maharashtra are commissioned.
- f. HVDC Vindhyachal inflexibility during high NR import due to high loading of 400 kV Anpara-Obra-S/C:

Constraints in operation of HVDC BtB towards NR and critical loading of 765 kV Vindhyachal-Varanasi were presented. Chairman, NCT advised CTUIL that the constraints likely to arise in the inter-regional transmission corridors in the next three-four years must be studied regularly and remedial measures like strengthening of the transmission links must be taken up in a timely manner to ensure seamless flow of power.



Summary of the deliberations of the 18th meeting of NCT held on 05th March, 2024

I. Modification in the earlier approved/notified transmission schemes:

1. Modification in scope of work of Eastern Region Expansion Scheme-XXXIX (ERES-XXXIX)

Change in original scope from 765 kV GIS/Hybrid line bays to AIS line bays was agreed to be implemented

II. Modification in SCOD of under construction schemes

1. Transmission System for Evacuation of Power from REZ in Rajasthan (20 GW) under Phase-III Part-G

NCT approved modification in SCOD of the scheme 'Transmission System for Evacuation of Power from REZ in Rajasthan (20 GW) Under Phase-III Part G' from 31.01.2025 to 19.03.2025.

2. Transmission scheme for evacuation of 4.5GW RE injection at Khavda PS under Phase II Part A

NCT approved modification in SCOD of the scheme 'Transmission scheme for evacuation of 4.5GW RE injection at Khavda PS under Phase II Part A' from 28.03.2025 to 21.03.2025

III. ISTS Transmission schemes, costing between Rs 100 Crore to Rs 500 Crore, approved by NCT:

a) The transmission schemes approved by NCT under RTM route is given below:

Sl.	Name of Transmission	Implement	Tentative	Allocated to	Estimated
No.	Scheme	ation	Implemen		Cost
		Mode	tation		(Rs. Crs)
			timeframe		
1.	Augmentation of 2x500	RTM	18 months	POWERGRID	115
	MVA, 400/230 kV				
	transformation capacity				
	(3rd & 4th ICTs) at				
	Karur PS				

b) The transmission schemes approved by NCT under TBCB route is given below:

Sl.	Name of Transmission	Implem	Implementation	BPC	Estimate
No.	Scheme	entatio	timeframe		d Cost
		n Mode			(Rs. Crs)
1.	Augmentation of	TBCB	Tentative	RECPDCL	310
	transformation capacity		implementation		
	at Jam Khambhaliya PS		timeframe:		



	(GIS)		For scope at Sl. No. 1: 18 months For scope at Sl. No. 4: 30.03.2026 and 30.06.2027 respectively (subject to minimum schedule of 21 months from date of award of halones worder)		
2.	Transmission scheme for integration of Tumkur-II REZ in Karnataka	TBCB	balance works). • For balance scope: 21 months	PFCCL	465

The broad scope of above ISTS scheme, approved by NCT for implementation through TBCB route to be notified in Gazette of India is as given below:



Sl.	Name of Scheme &	Broad Scope	Bid Process
No.	implementation timeframe		Coordinator
1.	Augmentation of transformation capacity at Jam Khambhaliya PS (GIS)	i. Creation of New 220 kV Bus Section-II at Jam Khambhaliya PS	RECPDCL
		Space to be kept for 1 no. 220 kV line bay in the same GIS Hall for RE Interconnection being implemented by the RE developer (in addition to 2 nos. bays at Sl. 4) ii. Augmentation of transformation capacity at Jam Khambhaliya PS (GIS) by 2x500MVA, 400/220 kV ICT (5th & 6th) (terminated on New 220 kV bus section-II)	
		iii. Augmentation of transformation capacity at Jam Khambhaliya PS (GIS) by 1x500MVA, 400/220kV ICT (7th) (terminated on New 220kV bus section-II) iv. Implementation of 220kV GIS line bays at Jam Khambhaliya PS for RE Projects on New 220kV bus section-II v. Creation of New 220kV Bus Section at Jam Khambhaliya PS (Section III)	
		(with space for 4 nos. 220kV line bays: in same GIS hall. Implementation of 2 Nos. GIS bays to be taken up as per Sl.No.9 and space	



		to be kept for future 2 Nos.)	
		vi. Augmentation of	
		transformation capacity	
		at Jam Khambhaliya PS	
		(GIS) by 1x500MVA,	
		400/220kV ICT (8th)	
		(terminated on New	
		220kV bus section-III)	
		vii. Augmentation of	
		transformation capacity	
		at Jam Khambhaliya PS	
		(GIS) by 1x500MVA,	
		400/220kV (9 th) ICT	
		terminated on New	
		220kV bus section-III	
		viii. Implementation of	
		220kV GIS line bays at	
	·	Jam Khambhaliya PS for	
		Kuvadia 220kV D/c line	
		(Detailed scope as	
		approved by 18th NCT	
		and subsequent	
 	Transmission scheme for	amendments thereof)	
2.	101		FCCL
	integration of Tumkur-II REZ in Karnataka	400/220 kV 4x500 MVA Pooling Station near	
	III Kaillataka	Tumkur, Karnataka	
		ii. Tumkur-II —	
		Tumkur(Pavagada) 400	
		kV (Quad ACSR moose) D/c line	
		D/C IIIIC	
	i	ii. 2x125 MVAr, 420 kV	
		bus reactors at Tumkur-	
		II PS	
		(Detailed scope as	
		approved by 18th NCT	1
	1	and subsequent	į.
		and subsequent amendments thereof)	
		and subsequent amendments thereof)	

IV. ISTS Transmission schemes, costing greater than Rs 500 Crore, recommended by NCT to MoP:

The ISTS transmission schemes recommended by NCT to MoP are given below:



Sl.	Name of Transmission	Implement	Tentative	BPC	Estimated
No.	Scheme	ation Mode	Implementation timeframe		Cost (Rs. Crs)
1.	Transmission system for evacuation of power from Rajasthan REZ Ph- IV (Part 3: 6GW) (Bikaner Complex): Part A	ТВСВ	24 months	RECPDCL	5968.5
2.	Transmission system for evacuation of power from Rajasthan REZ Ph- IV (Part 3: 6GW) (Bikaner Complex): Part B	ТВСВ	24 months	RECPDCL	5357.36
3.	Transmission Scheme for integration of Davanagere / Chitradurga and Bellary REZ in Karnataka	ТВСВ	A. Transmission system for integration of Davanagere / Chitradurga REZ -Tentative Implementation timeframe: 24 months B. Transmission system for integration of Bellary REZ - Tentative Implementation timeframe: 30 months	PFCCL	3453
4.	Transmission Scheme for integration of Bijapur REZ in Karnataka	ТВСВ	24 months	PFCCL	1113
5.	Transmission System under ISTS for evacuation of power from Kudankulam Unit - 3 & 4 (2x1000 MW)	ТВСВ	30 months (December 2026)	PFCCL	548



The broad scope of the above ISTS schemes to be notified in Gazette of India is as given below:

Sl. No.	Name of Scheme & Tentative implementation timeframe	Broad Scope	Bid Process Coordinator
1.	Transmission system for evacuation of power from Rajasthan REZ Ph-IV (Part 3: 6GW) (Bikaner Complex):Part A	i. Establishment of 6x1500 MVA, 765/400 kV & 6x500 MVA, 400/220 kV Bikaner-IV Pooling Station along with 2x240 MVAr (765kV) & 2x125 MVAr (420kV) Bus Reactors at a suitable location near Bikaner	RECPDCL
		ii. STATCOM (2x+300MVAr) along with MSC (4x125 MVAr) & MSR (2x125 MVAr) at Bikaner-IV PS	
		iii. LILO of both ckts of Bikaner II PS- Bikaner III PS (Quad) direct line at Bikaner-IV PS	
	Implementation Timeframe: 24 months	iv. Bikaner-IV PS – Siwani 765 kV D/c line along with 240 MVAr switchable line reactor for each circuit at each end	
	27	v. Siwani– Fatehabad (PG) 400 kV D/c line (Quad)	
		vi. Siwani – Patran (Indi Grid) 400 kV D/c line (Quad) along with 80 MVAr switchable line reactor for each circuit at Siwani S/s end	
		vii. 2nos. 400 kV line bays each at Fatehabad (PG) & Patran (Indi Grid) S/s	
		viii. 2nos. 765 kV line bays at Siwani S/s	
		ix. 4 nos. 400 kV line bays at Siwani S/s	
		(Detailed scope as approved by 18 th NCT and subsequent amendments	



		thereof)	
2.	Transmission system for evacuation of power from Rajasthan REZ Ph-IV (Part 3: 6GW) (Bikaner Complex):Part B	i. Establishment of 765/400kV, 6x1500 MVA S/s at suitable location near Siwani (Distt. Bhiwani) along with 2x240 MVAr (765kV) Bus Reactor & 2x125 MVAr (420kV) Bus Reactor	RECPDCL
		ii. Bikaner-IV PS — Siwani 765 kV D/c (2 nd) line along with 240 MVAr switchable line reactor for each circuit at each end	
	Implementation	iii. STATCOM (2x+300MVAr) along with MSC (4x125 MVAr) & MSR (2x125 MVAr) at Siwani S/s	
	Timeframe: 24 months	iv. Siwani – Sonipat (PG) 400 kV D/c line (Quad) along with 63 MVAr switchable line reactor for each circuit at Siwani S/s end	
		v. Siwani – Jind (PG) 400 kV D/c line (Quad)	
		vi. 2 nos. 400 kV line bays each at Jind(PG) & Sonipat (PG) S/s	
		vii. 2 nos. 765 kV line bays at Bikaner-IV PS	
		(Detailed scope as approved by 18 th NCT and subsequent amendments thereof)	



3.	Transmission Scheme	A	. Transmission system for	PFCCL
	for integration of		integration of Davanagere /	TreeL
	Davanagere /		Chitradurga REZ	
	Chitradurga and	i.	<u> </u>	
	Bellary REZ in	1.		
	Karnataka		4x1500 MVA, 400/220kV	
,			4x500 MVA Pooling Station near Davanagere /	
			Chitradurga, Karnataka with	
	Implementation		provision of two (2) sections	
	Timeframe:		of 4500 MVA each at 400kV	
	i illicii allic.		level and provision of four (4)	
	A. Transmission		sections of 2500 MVA each	
	system for		at 220kV level	
	integration of			
	Davanagere /			
	Chitradurga REZ -	ii.	LILO of Narendra New -	
			Madhugiri 765kV D/c line at	
	Tentative		Davanagere / Chitradurga	
	Implementation		765/400kV PS (~40 km)	
	timeframe: 24 months		{with 240 MVAr SLR at both ends on Narendra New –	
			Davanagere section (~280	
			km) and 330 MVAr SLR at	
	B. Transmission		Davanagere end on	
	system for		Davanagere – Madhugiri	
	integration of		section (~200 km)}	
	Bellary REZ –			
	Tentative			
		iii.	2x330 MVAr (765kV) bus	
	Implementation imeframe: 30 months		reactors at Davanagere/	
'	imerrame: 30 months		Chitradurga PS	
		iv.	Upgradation of Narendra New	
			- Madhugiri 765kV D/c line	
			(presently charged at 400kV	
			level) at its rated 765kV	
1			voltage level	
		V.	Upgradation of Madhugiri	
			{Tumkur(Vasantnarsapura)}	
			to its rated voltage of 765kV	
			level alongwith 3x1500 MVA,	
			765/400kV ICTs and 2x330 MVAr, 765kV bus reactors	
			111 VIII, /OJK V DUS TEACIOIS	



	(Upgradation of Madhugiri {Tumkur(Vasantnarsapura)} to its rated 765kv level was earlier allocated to POWERGRID for implementation through RTM route vide MOP OM No.15/3/2018-Trans-Pt(1) dated 23.01.2020)	
	B. Transmission system for integration of Bellary REZ	
	 i. Establishment of 4x500 MVA, 400/220kV Pooling Station near Bellary area (Bellary PS), Karnataka 	
	ii. Bellary PS – Davanagere / Chitradurga 400kV (Quad ACSR moose) D/c line	
	iii. 2x125MVAr 420kV bus reactors at Bellary PS	
	(Detailed scope as approved by 18 th NCT and subsequent amendments thereof)	
,	i. Establishment of 400/220kV of 5x500 MVA Pooling Station near Bijapur (Vijayapura), Karnataka	PFCCL
	ii. Bijapur PS – Raichur New 400kV (Quad ACSR moose) D/c line	
-	iii. 2x125MVAr 420kV bus reactors at Bijapur PS	
Implementation Timeframe: 2 months	(Detailed scope as approved by 18th NCT and subsequent amendments thereof)	



5.	Transmission System under ISTS for evacuation of power	i. KNPP 3&4 - Tuticorin-II GIS PS 400kV (quad) D/c line (~120 km)	PFCCL
	from Kudankulam Unit - 3 & 4 (2x1000 MW)	{Line & bays at Tuticorin-II GIS under ISTS scope and bays at KNPP under NPCIL scope}	
	Implementation Timeframe: 30 months (December 2026)	(Detailed scope as approved by 18 th NCT and subsequent amendments thereof)	

V. ISTS communication schemes approved by NCT:

Sl.	Name of Transmission	Implement	Tentative	Implementing	Estimated
No.	Scheme	ation	Implementati	Agency	Cost
		Mode	on timeframe		(Rs. Crs)
1.	Additional FOTE for redundancy at AGC locations in ER		06 months	POWERGRID	2.4
2.	OPGW laying work on 400kV BokaroA- Kodarma line	RTM	18 months	POWERGRID	6.83



Annexure

List of participants of the 18th meeting of NCT

CEA:

- 1. Sh. Ghanshyam Prasad, Chairperson, CEA & Chairman, NCT
- 2. Sh. Ajay Talegaonkar, Member (E&C)
- 3. Sh. A.K. Rajput, Member (P.S.)
- 4. Sh. Rakesh Goyal, Chief Engineer (PSPA-II)
- 5. Sh. Ishan Sharan, Chief Engineer (PSPA-I)
- 6. Sh. B.S. Bairwa, Director (PSPA-II)
- 7. Ms. Priyam Shrivastav, Deputy Director (PCD)
- 8. Sh. Pranay Garg, Deputy Director (PSPA-II)
- 9. Sh. Prateek Jadaun, Assistant Director (PSPA-II)

MoP:

1. Om Kant Shukla, Director (Trans.)

MNRE:

1. Sh. Rohit Kumar, Scientist

SECI:

- 1. Sh. Prashant K. Upadhyay, Sr Manager
- 2. Sh. R.K. Agarwal, Consultant

NITI Aayog:

1. Sh. Manoj Kr. Upadhyay, Deputy Adviser

CTUIL:

- 1. Sh. P C Garg, COO
- 2. Sh. Ashok Pal, Deputy COO
- 3. Sh. PS Das, Sr GM
- 4. Sh. K K Sarkar, Sr GM
- 5. Sh. Anil Kr. Meena, GM
- 6. Sh. Kashish Bhambhani, GM
- 7. Sh. Rajesh Verma, GM
- 8. Sh. Pratyush Singh, Chief Manager
- 9. Sh. Abhijit Jha, Chief manager
- 10. Sh. Bhaskar Wagh, Chief Manager
- 11. Sh. Venkatesh Gorli, Engineer

GRID India:

- 1. Sh. S.R. Narasimhan, CMD
- 2. Sh. Rajiv Porwal, Director
- 3. Sh. Surajit Banarjee, CGM
- 4. Sh. Vivek Pandey, GM
- 5. Sh. Rahul Shukla, CM



- 6. Sh. Gaurab Dash, AM
- 7. Sh. Raj Kishan, AM

RECPDCL

- 1. Sh. Sayaban Sahu, GM (Tech)
- 2. Sh. Amit Chatterjee, Executive (Tech)





18th Meeting of National Committee on Transmission

Grid Performance - 2nd and 3rd Quarter (2023-24)





Grid Controller of India Limited

formerly Power System Operation Corporation Ltd. (POSOCO)

National Load Despatch Center

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- All India Demand Diversity Factor
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- GD-GI Summary

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- Intra-state Constraints in Rajasthan Network
- Oscillations observed in NR RE Complexes
- ■First Time Charging & Operation of STATCOMs
- Major Grid Disturbances leading to transmission constraints
- Major Constraints in Inter-regional Network
 - Constraints in Inter-regional Corridors
 - Commissioning of Elements Eagerly Awaited
 - Constraint in HVDC flexible operation
 - Augmentation in Maharashtra System to Mitigate Operational Constraints
- Major Constraints in Intra-regional Network





Overview of Grid Operation – Q2 & Q3 - FY 2023-24



All India Demand met			
All maia Demana met	Q2 (July-Sep)	Q3 (Oct-Dec)	Q4 (Jan-Mar)*
Maximum (MW)	239978	221627	222327
	(01-Sep-2023)	(10-Oct-2023)	(25-Jan-2024)
Minimum	158080	119321	134394
	(07-Jul-2023)	(13-Nov-2023)	(08-Jan-2024)

*Upto 29th February 2024

Projections as per 20th EPS for 2023-24

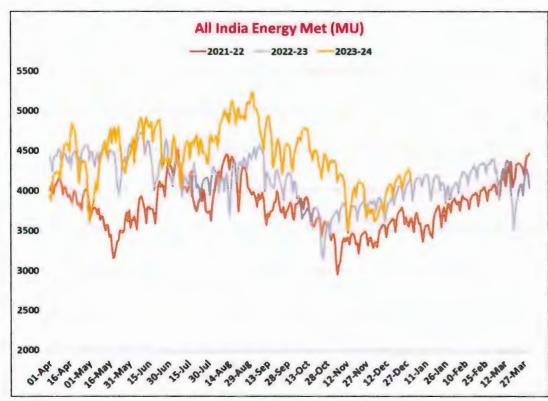
All India Peak Demand 230144 MW

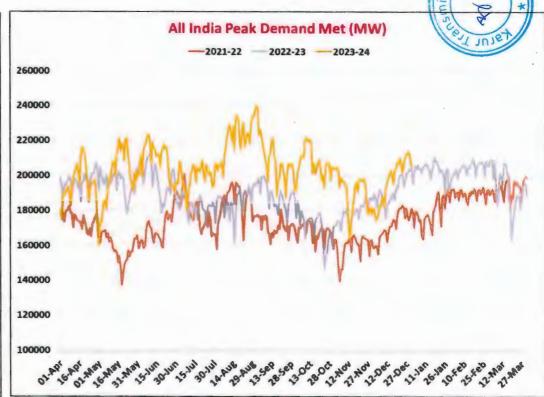


80



All India Daily Energy Met and Peak Demand of FY 2023-24, 2022-23 & 2021-22





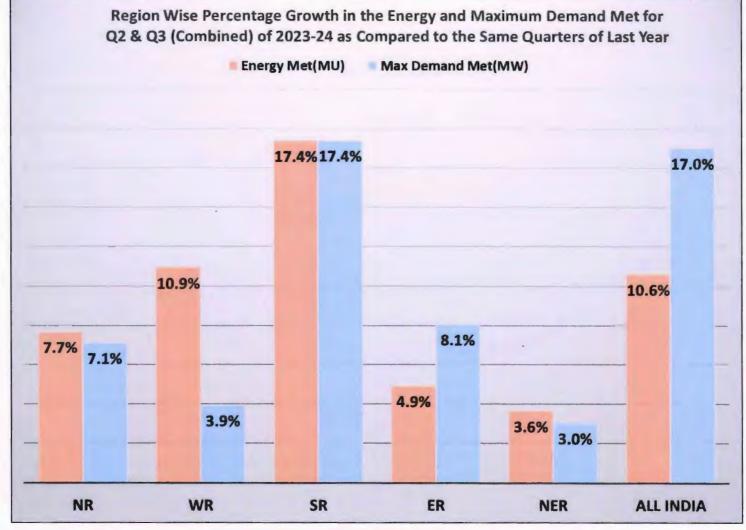
Significant increase in both Maximum Demand and Energy Met in FY 2023-24

All India Percentage Growth in the Energy Consumption and Maximum Demand Met



81



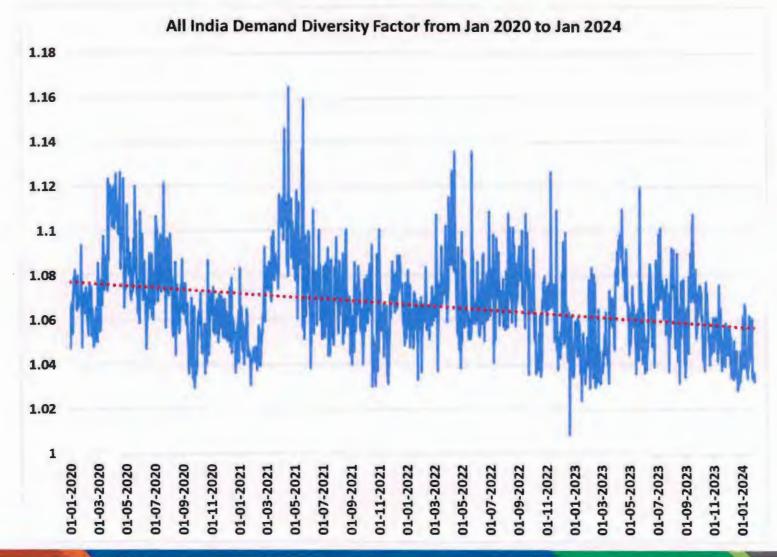


All India Maximum Demand Diversity Factor From Jan'20 to Jan'24



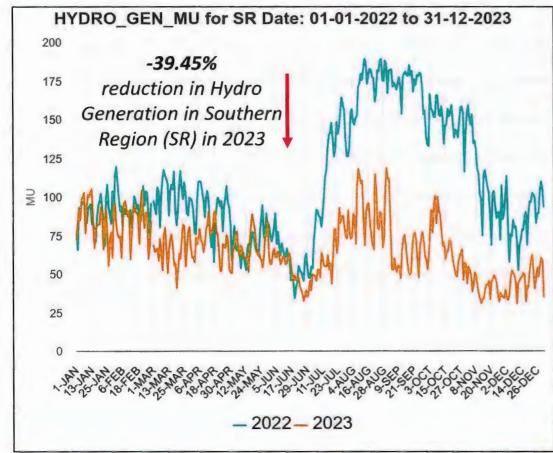






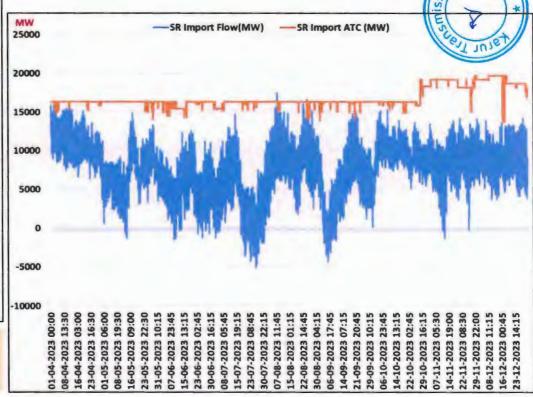
ग्रिड-इंडिया GRID-INDIA

High Import of Southern Region



Southern Region exported for very limited period during this time

 High demand and low hydro generation in Southern Region resulted in continuous import by SR from NEW grid in 2023-24



All Time Highest Figures (In – 2023-24)



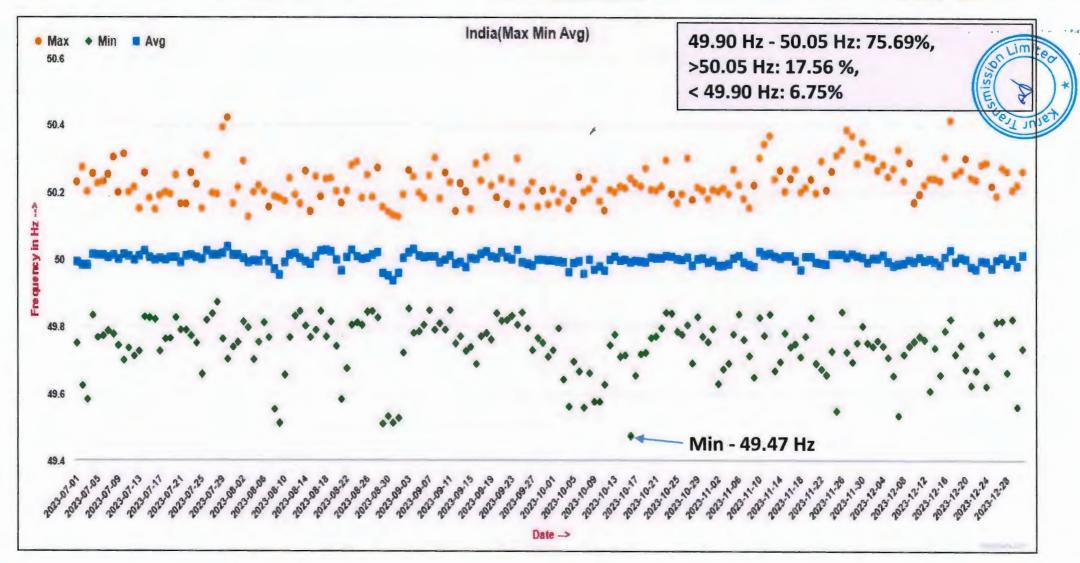
81220 04-09-2023 74356 17-01-2024 64314 15-03-2023	Demand Met During Evening Peak hrs(MW) 76274 04-09-2023 65518 13-10-2023	Energy Met(MU) 1796 04-09-2023 1617.6 02-09-2023	Hydro Gen(MU) 442.6 01-08-2023 167 18-12-2014	Wind Gen(MU) 85.7 07-08-2023 272.6 07-08-2023	Solar Gen(MU) 147.3 10-05-2023 70.7 12-05-2023
74356 17-01-2024 64314	04-09-2023 65518 13-10-2023	04-09-2023 1617.6 02-09-2023	01-08-2023 167 18-12-2014	07-08-2023 272.6 07-08-2023	70.7
64314	13-10-2023	02-09-2023	18-12-2014	07-08-2023	
	52366	1328.9	200	-	
	18-04-2023	19-04-2023	208 31-08-2018	298.4 21-07-2023	142.7 21-03-2023
29641 28-07-2023	28579 18-04-2023	639.4 08-06-2023	157.4 14-09-2022	1.5	7 23-03-2023
3712 04-09-2023	3510 12-08-2022	71.9	40.7 29-08-2023	-	2.4 22-06-2022
239978 01-09-2023	215592 28-08-2023	5223.9 02-09-2023	877.5 30-08-2022	610.5 02-08-2023	351.1 10-05-2023
	3712 04-09-2023 239978	3712 04-09-2023 12-08-2022 239978 215592	3712 04-09-2023 12-08-2022 71.9 15-09-2023 239978 215592 5223.9	3712 04-09-2023 12-08-2022 15-09-2023 239978 215592 5223.9 877.5	3712 04-09-2023 12-08-2022 15-09-2023 239978 215592 5223.9 877.5 610.5

Maximum Figures in Q1	, Q2 & Q3 of	2022-23
All India Peak Demand	211856	10-06-2022
All India Energy Met	4722	10-06-2022

Previous All-Time Highest Figures		
All India Peak Demand	236598	31-08-2023
All India Energy Met	5125	31-08-2023

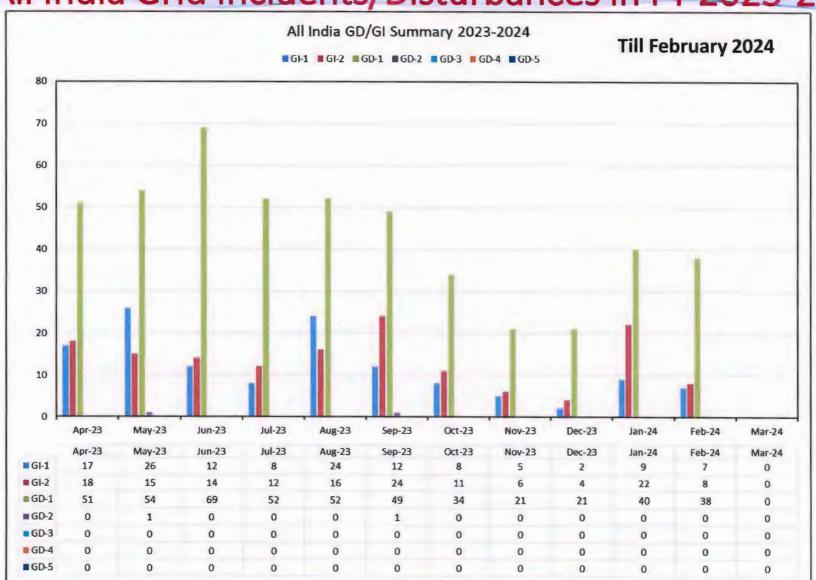
Frequency Profile for Q2 & Q3 of FY – 2023-24 85





All India Grid Incidents/Disturbances in FY 2023-24 शिड-इंडिया





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Reliability Issues Experienced in NR RE Complexes



श्रिड-इंडिया GRID-INDIA

Reliability issues experienced in NR RE Complexes

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- 1. Grid Events leading to loss of Gen in NR RE Complex
- 2. Low-Frequency Oscillations in NR RE Complex (Range of 3 to 5 Hz)
- 3. Over voltage during switching operations
- 4. Fault in the vicinity of RE complex



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RE Contingencies in 2023-24

S. No	Date	Time	Event
1	01-May-23	13:23 hrs	765 KV AJMER(PG)-PHAGI(RS) CKT-1, 765 KV FATEHGARH_II(PG)-BHADLA(PG) CKT-1 & 765 KV AJMER-BHADLA_2 (PG) CKT-1 tripped on overvoltage at 13:23 Hrs resulting in a momentary dip of 1100 MW in NR Solar generation.
2	09-May-23	12:57 hrs	220KV ACME-Bhadla-1 tripped at 12.57 hrs due to R-N fault. As per PMU graph of Bhadla-1 & 2 the sudden rise in bus voltage from 773 KV to 855 KV observed at 12:57hrs. 3 nos. of 765 kV lines from Bhadla – I & Bhadla – II tripped on over-voltage. A momentary dip of 1678 MW observed in Solar Generation
3	15-May-23	11:51 hrs	At 11:51 hrs, 765kV Bhadla-Bikaner ckt-1 tripped on Y-B phase to phase fault during inclement weather condition. With sudden RE generation dip, multiple (16 nos) 400 kV & 765 kV lines tripped on over voltage. Total RE generation loss was around 7120 MW.
4	31-Jul-23	10:36 hrs	At 10:36 hrs, B-ph jumper at RSUPL end of 220kV Fatehgarh2-RSUPL ckt snapped. 220kV Bhadla2(PG)-Nokhra ckt also tripped on SOTF over current protection. Total loss in RE generation was approx. 1620MW.
5	28-Aug-23	11:52 hrs	At 11:52hrs 400kV Bhadla(RS)-Bikaner(RS) Ckt-1 tripped on R-Y fault & at at 12:05hrs, 400kV Bhadla(RS)-Bikaner(RS) Ckt-2 tripped on Y-B fault. 400kV Bhadla(RS)-Ramgarh(RS) ckt-1 also tripped during the same time. 1880MW solar generation loss observed.
6	17-Dec-23	13:01 hrs	At 13:01 Hrs, 400kV Bhadla(RS)-Bikaner(RS) Ckt-1 tripped on Y-B fault. Due to the voltage dip, a solar generation loss of around 1600 MW was observed in the complex.
7	17-Dec-23	13:14 hrs	At 13:14 Hrs on the same day, 400kV Bhadla(RS)-Bikaner(RS) Ckt-2tripped due to Y-B fault while charging 400kV Bhadla(RS)-Bikaner(RS) Ckt-1 (Was tripped at 13:02hrs). Due to this tripping, solar generation loss of around 2100 MW was observed as per PMU.
8	10-Jan-24	12:19 hrs	At 12:19 hrs, 400kV Bhadla(RS)-Bikaner(RS) Ckt-2 tripped due to a phase-to-phase fault. In the event approx. 1900 MW solar generation dip was observed as per PMU data, out of which 1000MW Solar generation was restored within one second.
9	15-Jan-24	13:59 hrs	400 kV Bhadla (Raj)- Bikaner (Raj) -1 tripped at 14:03 Hrs and around 2000MW reduction in NR Solar generation reported at 13:59hrs and almost fully recovered by 14:03hrs
10	15-Jan-24	14:06 hrs	400kV Bhadla(RS)-Bikaner(RS) Ckt-2 tripped at 14:06 and around 1800MW solar generation loss observed.
11	24-Jan-24	10:44 Hrs	220 KV FATEHGARH_II(PG)-AHEJ3L PSS HB_FGRAH_PG (AHEJ3L) (AHEJ3L) CKT-1 tripped at 10:44 hrs due Fault Y-N Jumper broken. Approx. 258 MW solar generation loss was observed
12	24-Jan-24	12:16 Hrs	As reported by SLDC Rajasthan, 400kV Bhadla(RS)-Bikaner(RS) Ckt-1 tripped at 12:16 hrs (Y-B fault). Approx. 1200 MW solar generation momentarily dip was observed. Solar generation restored within 2-3 minutes.
13	25-Feb-24	12:55 Hrs	ICT 1 at 400kV Bhadla (RS) tripped due to burning of isolator as reported. It led to tripping of of ICT-2 and ICT-3 due to overloading. At the same time, 3566 MW generation was affected in Rajasthan ISTS pooling stations, out which apprx 1900 MW generation was recovered back within 1 second.
14	03-Mar-24	14:01 Hrs	400 KV Kankani-Jaisalmer (RS) Ckt-2 tripped due to due to phase to phase fault. At the same time, 2800 MW generation was affected in Rajasthan ISTS pooling stations, out which apprx 1000 MW generation was recovered back within 1 second.

RE Contingencies in 2023-24



Major Observations:

- > Plants entering into LVRT mode even when POI Voltage is > 0.9 pu
- > Opposite/insignificant reactive power injection by Plants during faults
- Delayed recovery of active power post fault clearance
- > Partial recovery of active power after clearance of fault in the system
- > No issues observed in the submitted dynamic models of the RE plants. Real-time behavior completely in variance with the models submitted during FTC.

Frequent Outage of 400kV Bhadla(RS)-Bikaner(RS) Ckt-1 & 2 in 2023-24:

- After charging of 400kV Bikaner(PG) Bikaner-II(PBTSL) D/C line, 400kV Bikaner(RS) got disconnected from 400kV Bikaner(PG) and got directly connected to 400 kV Bhadla (RS). Both lines were charged on 18th August 2023.
- ➤ There have been multiple instances of planned (for attending defects hotspots/jumper tightening etc.) and forced outages of 400kV Bhadla(RS)-Bikaner(RS) Ckt-1 & 2
- Faults related to conductor snapping/broken have taken place which have led to large generation outages in the RE complex.
- There have been 9 nos of planned and emergency outages and 7 fault related trippings 400kV Bhadla(RS)-Bikaner(RS) Ckt-1.
- There have been 6 nos of planned and emergency outages and 5 fault related trippings for 400kV Bhadla(RS)-Bikaner(RS) Ckt-2.







- N-1 Constraints in several ICTs
- Severe low voltage & huge MVAR drawl at RVPN during winter months (even below 0.8 at number of 400/220kV ICTs)
- 37 Nos. of Grid disturbances/incidents in 2023 in Rajasthan (intra-state) network
- · 23 Nos. of load loss events & 12 Nos. of generation loss events in 2023.

	ICT Constraints		
N-1 Contingency of 3*315 MVA ICT at Chittorgan	rh .		
N-1 Contingency of 2*315+1*500 MVA ICT at Ba	ssi 3 rd 315MVA ICT at Chittorgarh first time charged on 06.01.2024. Even after capacity augmentation		
N-1 Contingency of 2*315 MVA ICT at Jodhpur	at Chittorgarh, 3*315MVA ICTs are near to N-1 non-compliance.		
N-1 Contingency of 2*315 MVA ICT at Bhinmal	Painthan STILlian planted and involve and SDS at the call with the DDI it		
N-1 Contingency of 2*315 MVA ICT at Ajmer	Rajasthan STU has planned and implemented SPS at these locations. (except Bhilwara) New 1*500MVA ICT under bidding at these S/s by RVPNL. As per latest information shared by RVPN, bids for new 500MVA transformers at Ajmer, Bikaner, Hindaun, Merta, Babai and Jaisalmer-2 substations will be opened on 22.01.2024.		
N-1 Contingency of 2*315 MVA ICT at Bikaner			
N-1 Contingency of 2*315 MVA ICT at Merta			
N-1 Contingency of 2*315 MVA ICT at Hindaun			
N-1 Contingency of 1*315+1*500 MVA ICT at Bh	nilwara		
	Low Voltage Issues		
	New 400/220kV Dholpur S/s likely to provide some relief, however approved by CEA on 27th Jan 2023, so		
Low voltage issues at Hindaun, Alwar, Bhinmal	issue likely to persist for next 1-2 winter seasons.		
,	Other immediate measures required by RVPN.		
1/-l			

Voltages reaching 310kV at Alwar (400kV), 360 KV(Bhinmal) and 325kV at Hindaun (400kV).

400kV Bharatpur is under internal approval with LILO of 400kV Agra-Sikar.

KV(Bhinmal) and 325kV at Hindaun (400 Similar poor profile at 220kV side also.

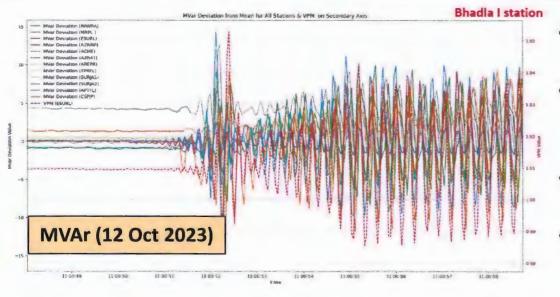
Severe issues observed during Dec 2022-Jan 2023 months. As discussed in 70 NRPC meeting, RVPN is being asked to run Dholpur generation, however, same is not being done by RVPN. Communications sent from NRLDC side in this regard.

Low voltage issues in RE generation pockets

Additional reactive power support devices for maintaining grid voltages within IEGC prescribed limits to be expedited (STATCOMs approved in intrastate network). Intrastate RE generators to support the grid by operating in voltage control mode.

Oscillations Observed in NR RE Complex 92





- Frequency of oscillation observed was in the range of 3 to 5 Hz.
- These are dominantly high frequency oscillations.
 Further, various modes of oscillations have been observed in the system.
- Recently, oscillations with frequency ranging from 3
 8 Hz are being observed during solar hours.
- In these oscillations, the common point is that frequency is above the IEGC band at the starting point of oscillations

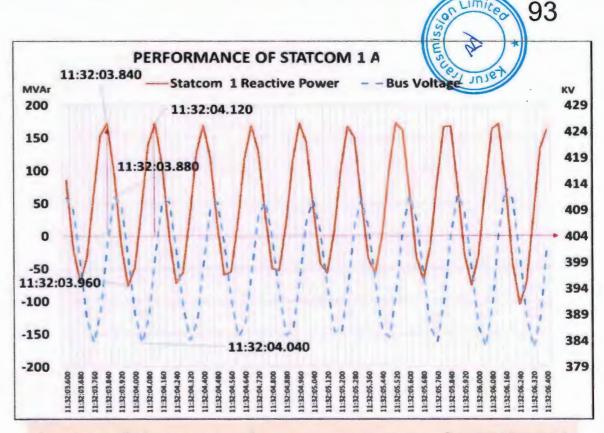
Actions taken to minimize the issue of voltage oscillation in RE pocket of NR (Rajasthan RE complex):

- 1. Detection of source and sink of oscillation, their modes and damping factor through OSLp tool in real-time operation
- 2. The observations and possible measures were communicated to plant having issue of oscillatory response and momentarily sharp reduction in voltage
- 3. Changing the mode of control for a few RE plants from Voltage control to Fixed PF and Fixed Q
- 4. Tuning of few parameters of their PPCs like Proportional gain (Kp), Integral time constant (Ti) and change in Voltage dead-band (Vdb) (changed from 1% to 2%) for identified RE Plants connected at Fatehgarh-II(PG) and Fatehgarh-I

Oscillations Observed in NR RE Complex (STATCOM Behaviour)

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- STATCOMs at Bikaner II, Bhadla II & Fatehgarh – II have been commissioned.
- Feedback has been given for tuning of the control parameters of STATCOMs in the NR RE Complex
- A detailed study on prevailing system conditions may be carried out by the respective TSP/OEM (before interconnection of the STATCOM) to assess the performance of the STATCOM.
- Parameter tuning to avoid any adverse impact on the grid with integration of the STATCOM shall also be identified and implemented at this stage.
- Tuning of POD along with an interaction study with nearby HVDC/FACTS controllers.



In one of the cases, the response time of a STATCOM at Bhadla – II during oscillations has been observed to be on the higher side 80 ms – 120 ms which may be resulting in enhancing the oscillations



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Recent Disturbances and Resulting Transmission Constraints



Cloudburst and Damage of Teesta Dam – 04th October 2023



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- Due to continuous high silt and rise in inflow due to cloud burst in the upstream area of the reservoir, Teesta-III all units (6*200 MW) (On bar gen around 1300 MW) taken out of bar at 00:50 Hrs on 04-10-2023.
- Dikchu both units (2*48 MW) taken out of bar at 01:49 hrs due to flash flood
- All 3 units of Teesta V (3*170 MW) (generating around 504 MW) taken out of bar at 02:37 hrs due continuous high silt
- Entire ~1900 MW of Hydro Generation is yet to be revived

Lines Under Forced Outage	Remarks
400KV-RANGPO-TEESTA-V-1	Tower collapsed at loc. 1
400KV-RANGPO-TEESTA-V-2	
400KV-TEESTA-III-RANGPO-1	Hand-tripped as a
400KV-TEESTA-III-DIKCHU-1	precautionary measure
400KV-RANGPO-DIKCHU-1	

High impact Low frequency event in Teesta Valley





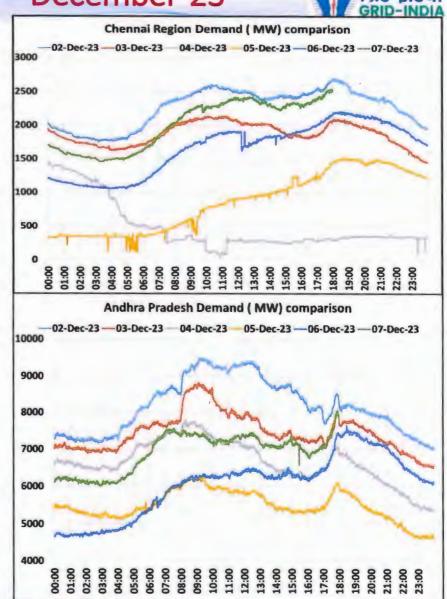
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Severe Cyclonic Storm "MICHAUNG" – December 23



- Severe Cyclonic Storm "MICHAUNG" made its landfall near
 Bapatla in Andhra Pradesh on 05th Dec 2023.
- Impact on System:
 - Tamil Nadu
 - ~4000 MW Demand Reduction
 - 60 :- 110 kV & above lines tripped
 - · 840 MW: Capacity taken under RSD
 - Andhra Pradesh
 - ~3000 MW Demand Reduction
 - 32:-132 kV & above lines tripped
 - Chennai
 - Demand reduction from almost 2500 MW to 300
 MW
 - Tower Collapse in four lines
- Demand Restored by 07th Dec 23.





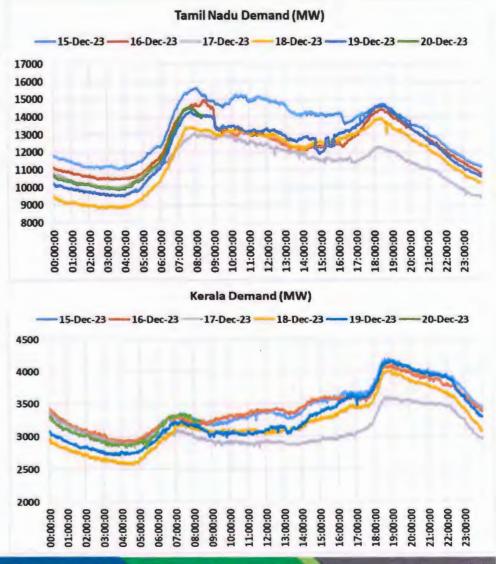
Heavy Rainfall Activity Over South Tamil Nadu & Kerala -



December'23

- On 19th December 23, heavy rain fall occurred at many places very likely over south Tamil Nadu and Kerala state.
- Impact on System:
 - Following Units hand tripped due to Water Logging:
 - Coastal Energen unit-2: 600 MW
 - Tuticorin units 1 to 5 : 5*210 (1050 MW)
 - NTPL Unit-1 and Unit-2: 2*500 (1000 MW)
 - Tuticorin_GRT Jewellers 150MW solar plant.
 - Following Stations hand tripped due to Water Logging:
 - 400kV Ottapidaram S/s
 - 230kV Tuticorin S/s
 - Demand Reduction:
 - Tamil Nadu: ~1000 MW
 - Kerala: ~400 MW





Load Loss Event in Rajasthan – 31st December 2023 98

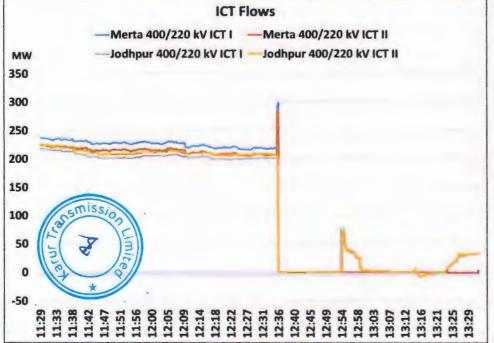


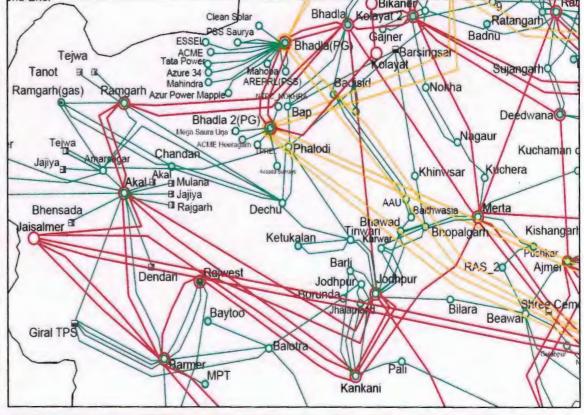
- At 12:35Hrs 220 kV lines connected at Bhawad (Raj) & Jodhpur (Raj) tripped due to fault in the 220kV network. This
 led to off-loading of ICTs at Jodhpur(Raj).
- Further, the 400/220 KV 315 MVA ICT-1 and 500 MVA ICT-2 at Kankani tripped on overloading

At 12:37Hrs, 400/220 KV 315 MVA ICT 1 & 2 at Merta tripped on overloading (Cascade tripping as SPS is effective

till 460MW)

This resulted in a load-loss of ~1500 MW



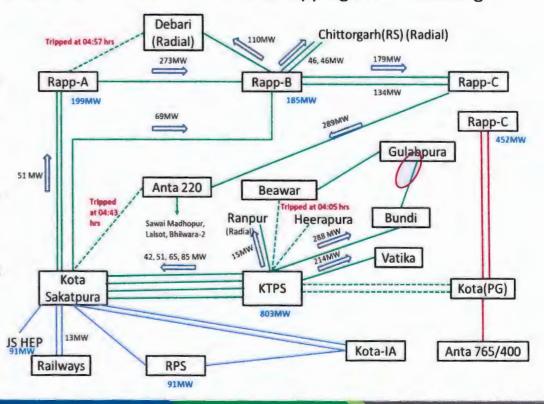


Generation Loss Event in Rajasthan – 5th January 2024



- KTPS: 220 KV Kota(PG)-KTPS(RVUN) (RS) Ckt-1 & 2 were out of service, 220kV KTPS-Heerapura ckt was under shutdown, 220kV KTPS-Beawar ckt tripped at ~04:05hrs on fault
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- 220 KV Anta(NT)-Sakatpura(RS) (RS) Ckt tripped at 04:43hrs on B-N fault
- At RAPS-A: 220 KV Debari(RS)-RAPS_A(NP) (RS) Ckt tripped at 04:57 hrs on B-N fault
- 220kV Bundi Gulabpura (RS) ckt was manually opened on SLDC instruction to avoid line tripping on overloading.
- Over-loading led to cascaded tripping of other lines
- Due to tripping of lines, connectivity to main load centre was cut off and only radial load were available for RAPS-A, RAPS-B and KTPS system got isolated from main Grid
- Units at RAPS B, RAPS-A, RAPS-C & KTPS tripped due to over frequency/ over-speed/loss of auxiliary supply
- Generation loss of approx ~1500 (700MW in Thermal & 800MW in Nuclear) occured



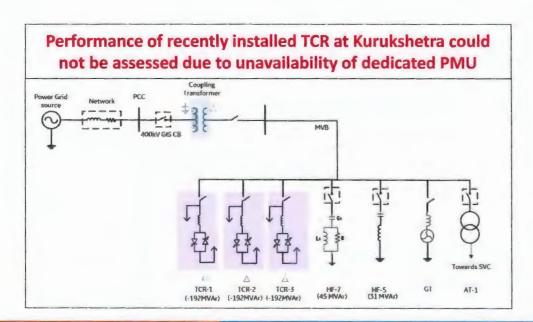
Outage of HVDC Champa – Kurukshetra and Oscillations

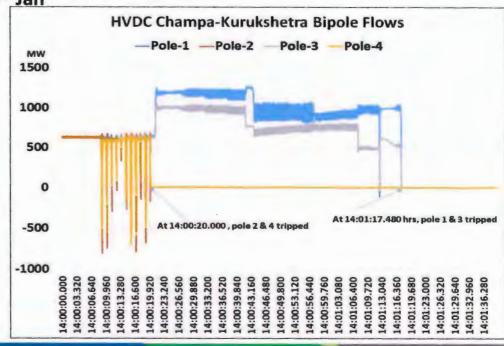


On 9th January 2024, all four poles of HVDC Champa – Kurukshetra tripped at around 14:01 hrs. Wide-spread oscillations were observed in all the nodes of the country. During the event.

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- As per the information from the site, Pole–4 tripped due to some issue in the control card and the other three poles tripped due to instability protection.
- From PMU analysis, it was observed that just before oscillations, there was variation in power order
- Subsequently, oscillations were reflected at all the nodes.
- After the tripping of poles, there were no oscillations observed.
- HVDC Champa Kurukshetra Poles 1 & 3 also tripped on 10th Jan





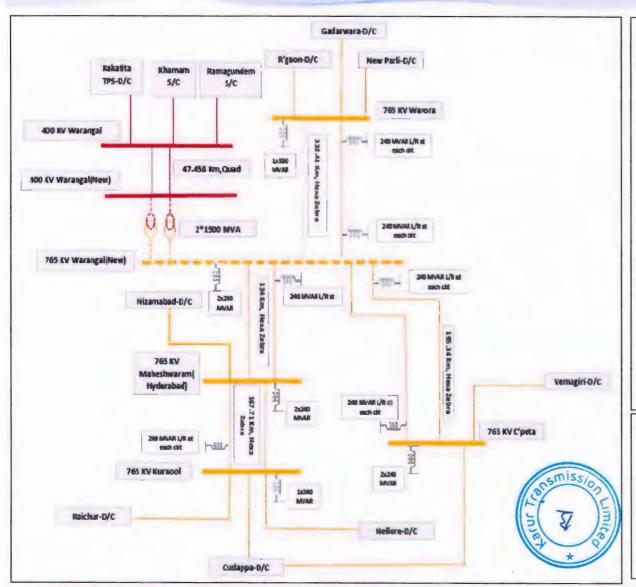


Major Constraints in Interregional Network



TTC/ATC Revisions in NEW-SR Corridor





<u>Charging of 765 kV Warora – Warangal D/C and associated transmission elements:</u>

- 1. 765 KV Warora-Warangal-D/C (Inter-regional Line)
- Warangal (Existing) –Warangal New 400kV D/C.
- 2x1500 MVA, 765/400kV ICTs at Warangal New.
- 765 KV Chilakaluripeta Warangal New -D/C
- 765 kV Warangal New Hyderabad (Maheshwaram) D/C
- 6. 765 KV Kurnool-Maheshwaram-D/C.

(NEW-SR TTC Increased by +3400 MW)

Charging of Nizamabad ICT - 3

 765/400 kV, 1500 MVA ICT – 3 at Nizamabad has been energized. (Trial Run Certificate to be issued)

(NEW-SR TTC Increased by +1600 MW)

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TTC/ATC Revisions in NEW-SR Corridor

Reason for Revision: With the first time energization of

- 765 kV Warora (Pool) Warangal (New) D/C inter-regional link between Western Region (WR) and Southern Region (SR) and other related transmission elements
- 765/400 kV ICT 3 at Nizamabad

Corridor	TTC (MW)	RM (MW)	ATC (MW)	Increment from Current TTC/ATC (MW)	Limiting Constraint
WR-SR	16100	650	15450	+4500	1. The outage of any one of the 2x1500 MVA, 765/400 kV ICTs at Maheswaram overloads the other ICT
ER-SR	6200	350	5850	<mark>+500</mark>	1.Low voltage observed at 400 kV Gazuwaka – East bus
SR Import	22300	1000	21300	<mark>+5000</mark>	 The outage of any one of the 2x1500 MVA, 765/400 kV ICTs at Maheswaram overloads the other ICT Low voltage observed at 400 kV Gazuwaka – East bus

- Post charging of the 3rd ICT at Nizamabad, the constraint for SR import TTC has shifted to 765/400 kV, 2x1500 MVA ICTs at Maheswaram.
- Also, under the limiting conditions, the angular stability issue is observed for 765 kV Angul Srikakulam D/C lines.
 Under N-1 of one line, the voltage angle separation between the two buses becomes more than 20 degrees. (53 degrees under N-2)
- Periodic assessment & declaration of Transfer Capability in other corridors i.e. NR Import/Export, SR Export, NER Import/Export based on change in network topology and change in LGB.

Commissioning of Elements Eagerly Awaited

> For Enhancement in SR Export

- 765/400 kV ICTs at Kotra S/S (approved in 8th NCT meeting)
 - Section A (1 No of ICT)
 - Section B (2 No of ICTs)
- Till the commissioning of ICTs, maximum flow on HVDC will depend upon the generation that is being pooled at Raigarh PS.
- Enhancement of Reverse Capability of HVDC Raigarh Pugalur in SR to WR direction from 3000 to 6000 MW: Will help in export of power from SR to NEW grid. A high-level meeting held on 12th January 2024 among senior officials from POWERGRID, CTU, GRID-INDIA, SRPC, TANGEDCO, APTRANSCO, KSEBL, TSNDPL, TANGEDCO and TANTRANSCO. Study results awaited from POWERGRID/ HITACHI regarding the feasibility of enhancement of reverse capability. Further transmission upgradation to be planned by CTUIL for power evacuation at Raigarh (Kotra) end.
- 765 kV Narendra Pune D/C (Will Enhance SR Export Transfer Capability & limit the constraint of 400 kV Kudgi Kolhapur D/C)
 (SCOD: July'2024)
- Mumbai system (400/220 kV Navi Mumbai & 400/220 kV Vikhroli) also as without commissioning of additional feeding to Mumbai system, high export from SR to WR may aggravate the present constraints (i.e., Mumbai/Pune feeding lines from Pune (GIS)/Pune(PG).

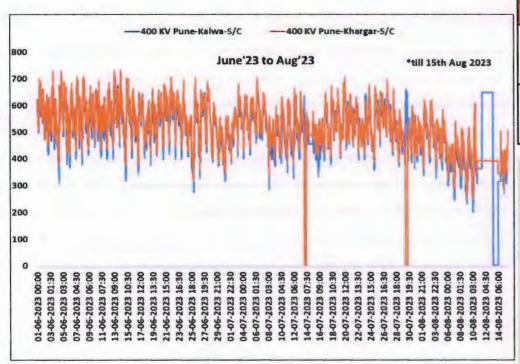
> For Enhancement in NR Export

- Bypassing of 400 KV Kankroli Bhinmal Zerda lines at Bhinmal to form 400 kV Kankroli Zerda (direct line) and reconductoring of 400 KV Jodhpur (RVPN)-Kankroli-S/C line with twin HTLS conductor approved under 9th NCT.
- Reconductoring work completed, The planned bypassing of 400 kV Kankroli Bhinmal-Zerda line at Bhinmal to form 400 kV Kankroli Zerda (direct) line as per modified arrangement (till completion of bay works at 400kV Bhinmal) as a temporary



Constraint in SR Export Corridor





Corridor	TTC (MW)
SR-WR	6000 (Non-Solar)
	7650 (Solar)
SR Export	5150 (Non-Solar)
	6600 (Solar)
	SR-WR

- CTUIL has shared study reports for facilitating export of power from SR - NEW grid for in case of delay in Narendra - Pune 765 kV D/c line
- 2. Grid-India has suggested that the **commissioning of SPS** would be required for evacuation of green power from SR in case of delay in the Narendra Pune 765 kV D/c line
- Further, even with Narendra Pune 765 kV line, downstream constraints in Maharashtra would limit the power flow from SR to NEW grid until upgradation.

Limiting Constraints in SR - WR Corridor

- •Angular separation between Kudgi & Kolhapur (PG) under N-1 touches 30 deg.
- •N-1 Contingency of 400 kV Pune Kalwa will overload 400 kV Pune Khargar & and vice-versa.
- •Low voltage at 400 kV Chakan, Jejuri, Lonikhand etc
- •N-1 non-compliance of 2*1500 MVA, 765/400 kV ICTs at Section— A at Raigarh PS (Kotra) with the increase in HVDC Raigarh Pugalur Bipole
- II power order beyond 950 MW (Solar Hours)
- •N-1 non-compliance of 2*1500 MVA, 765/400 kV ICTs at Section—B at Raigarh PS (Kotra) with the increase in HVDC Raigarh Pugalur Bipole
- I power order beyond 450 MW (Solar Hours)

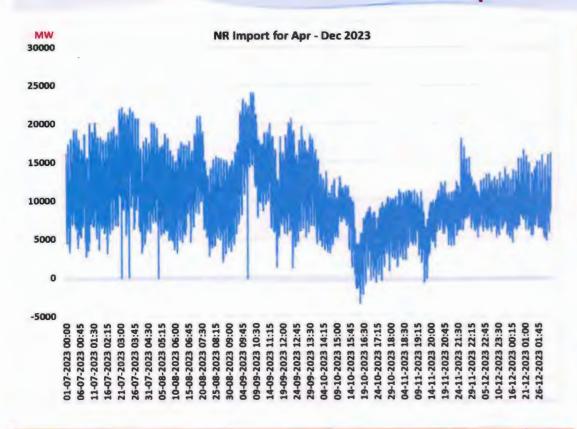
Augmentation in Maharashtra System to Mitigate Operational Constraints



High loading is observed near the Mumbai area during peak demand periods

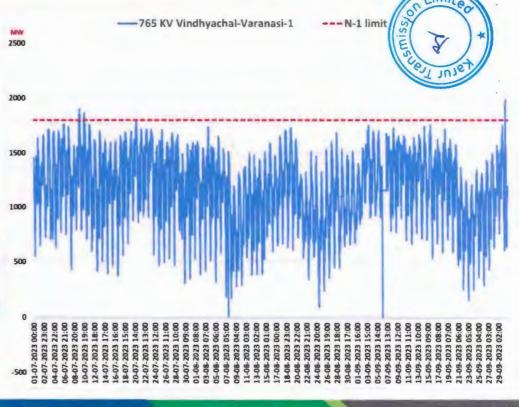
- 106
- During those periods, any constraint in HVDC Pagdhe power order have also created alarming situations in real time as
 it leads to further increase in the line loadings.
- N-1 violation observed in,
 - 400 kV Parli(PG)- Parli(MS) D/C line (Bypassing of 400 kV Parli(PG)- Parli(MH)-D/c and 400 kV Parli(New)-Parli(PG)_D/c at outskirts Parli(PG) S/s completed, Reconductoring of Ckt = 1 completed & Ckt = 2 completed)
 - 2x1500 MVA, 765/400 kV Ektuni ICTs (Inter trip scheme implemented. Installation of 1x1500MVA ICT-III at Ektuni to be expedited)
 - 400 kV Pune (GIS)-Pune (PG)-Q/c lines
 - 220kV level at Pune (PG)(GIS) and Installation of 2x500MVA, 400/220kV ICTs at Pune (PG)(GIS) & LILO of both ckts of 220kV Khed City –
 Ranjangaon D/c line at Pune GIS with high capacity conductor
 - LILO of one ckt of Lonikand-I-Jejuri 400 kV D/c line at Pune (PG)(GIS) with high capacity conductor along with reconductoring of Lonikand-I-Jejuri line section
 - 400kV Pune(PG)-Kharghar & 400kV Pune(PG)-Kalwa S/C line & 400 kV Padghe- Kalwa D/C
 - 3x500 MVA, 400/220kV ICTs, 400 kV Kharghar-Vikhroli-D/c & LILO of 220 kV Trombay Salsette-D/c at Vikhroli completed
 - Commissioning of remaining planned system at 400/220 kV Navi Mumbai & Vikhroli are yet to be done
 - 400 kV Pune(PG)-Chakan S/C





 HVDC Vindhyachal could not be operated from WR to NR direction for considerable period of time due to high loading of 400 KV Anpara-Obra-S/C.

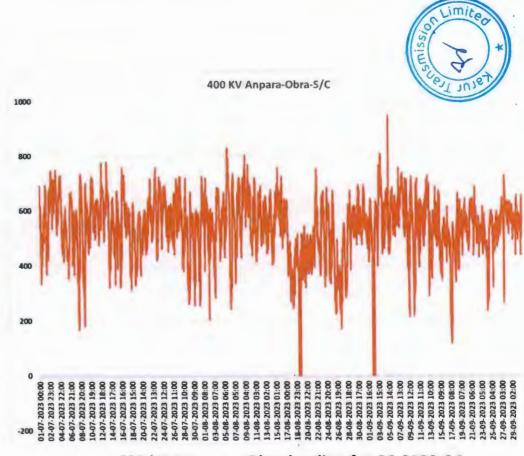
- High WR-NR/NR Import flow has been observed in 2023-24 specially in the month of July and September
- The loading on 765 KV Varanasi-Vindhyachal also remained high (also exceeded its N-1 limit) during high NR Import period



Constraint in HVDC Vindhyachal B2B



- It is observed that due to high loading of lines in Anpara complex, particularly 400 kV Anpara – Obra S/C (loading more than 700 MW), real-time constraint is faced in increasing the power order of HVDC B2B V'chal in WR to NR direction.
- UPPTCL needs to explore the possibility by shifting some load, keeping generation at 220kV Obra or by reconfiguration of existing network to mitigate this constraint.
- Also, as per the recommendations of the 1st Meeting of Northern Regional Power Committee (Transmission Planning) (NRPCTP), 400 kV Singrauli – Anpara shall be opened to control the high fault levels in Anpara – Singrauli – Rihand complex.
- Opening of this line will relieve the loading of 400 kV Anpara – Obra and provide flexibility in the operation of HVDC back-to-Back Vindhyanchal in both directions.
- 400 kV Anpara-Singrauli line should remain in service till commissioning of 2X1000 MVA ICTs at Obra C and revised SPS for Anpara Complex is commissioned. The line shall be opened after discussion in OCC.



400 kV Anpara – Obra loading for Q2 2023-24

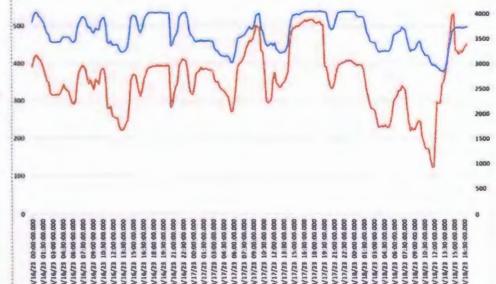


- NR WR flow remains high during the peak solar hours and the outage of 400 kV Jodhpur Kankroli has led to further loading of 400 kV Bhinmal - Zerda.
- HVDC Mundra Mahendragarh is helpful in controlling the loading of lines in the NR WR corridor including that of 400 kV Bhinmal - Zerda.
- However, high generation at APL Mundra and high loading of lines emanating from APL i.e. 400 kV APL Versana D/C posed constraints in the reduction of HVDC Power Order.

 Further, 400 kV APL-Sami-2 FSC at Sami is under forced outage from 14th Jan'23 and high loading on the following elements is being observed during full generation at APL

- 400 kV APL-Varsana-D/c
- 400 kV APL-Mansar-S/c
- 2x315 MVA, 400/220 kV APL ICTs

 Considering the line loadings and SPS settings at APL Mundra, Mundra HVDC can be kept in the NR to WR path when the APL generation is less than 3500 MW.



Constraint in HVDC Mundra - Mahendragarh

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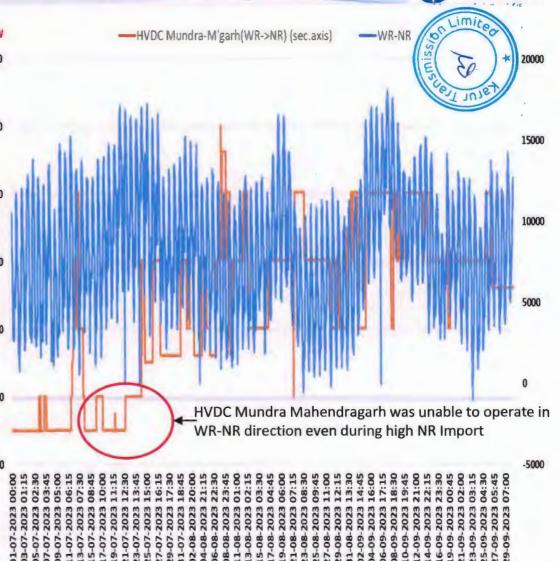
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 HVDC Mundra-Mohendergarh is needed to operate in both the directions in WR to NR direction during high NR Import period and NR to WR direction during high NR Export periods.

 HVDC power order reversal requires 6-8 hours of cooling time and therefore poses a constraint in flexibility of HVDC operation during high NR period lead to high flow in AC lines from WR to NR.

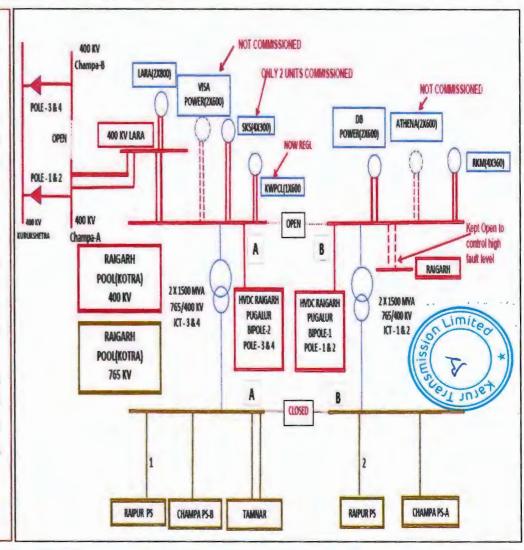
Pre- Operation Status	Operation	NLDC Code issued Date & Time	Actual Date & Time of operation	Time taken for the Implementation of NLDC Code
Blocked (WR-NR)	Deblocking (NR-WR)	12:51 hrs of 30/01/2023	22:41 hrs of 30/01/2023	9 hr 50 min
Blocked (NR-WR)	Deblocking (WR-NR)	08:33 hrs of 20/02/2023	16:45 hrs of 20/02/2023	8 hrs 18 min
Blocked (WR-NR)	Deblocking (NR-WR)	11:47 hrs of 11/03/2023	20:02 hrs of 11/03/2023	8 hr 15 min

- Meeting held under the chairmanship of Member (GO&D) at CEA on 26.07.2023 on concerns raised by ATIL regarding Bi-directional Operation of HVDC Mundra-Mahendragarh.
- APL Mundra is yet to respond to several communications from Grid-India regarding the capacity and time taken for operation for bidirectional power flow.





- High SR Import during morning hours necessitates the operation of HVDC Raigarh – Pugalur at a high power order in WR – SR direction
- The loading on 400 KV Lara-Kotra-D/C is restricting further increase in power order of HVDC Raigarh - Pugalur(WR-SR). (1st WRPC(TP): Reconductoring with quad moose ampacity conductor is agreed with connectivity of Lara Stage-II)
- Due to the bus split at Champa, sensitivity of HVDC Champa KKR Bipole II has negligible sensitivity on 400 kV Lara Kotra
 loading. However, 100 MW increase in HVDC Champa KKR
 Bipole I (i.e Pole-1 & 2 connected to 400 KV Champa PS_A bus)
 power order will reduce the loading of Lara Kotra(each ckt) by
 12 MW
- However, the voltages at 765kV & 400 kV buses of Champa A remain above 780 kV & 412 kV for all the time and this prevents the deblocking of HVDC Champa Kurukshetra Bipole- 1 inspite of VAR absorption by Units at Champa & Raigarh (Kotra).
- This creates issue in the flexible operation of both the HVDCs
- Additional reactive compensation to be planned at Champa-PS





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Thank you!!



No.15/3/2018-Trans-Pt(5)
Government of India
Ministry of Power
Shram Shakti Bhawan, Rafi Marg, New Delhi

Dated, the 28^h October 2021

OFFICE ORDER

Subject: - Re-constitution of the "National Committee on Transmission" (NCT) - reg.

In super-session of this Ministry's Office Order No. 15/3/2017-Trans dated 04.11.2019, regarding constitution of the National Committee on Transmission (NCT) and subsequent amendment issued vide this Ministry's Office Order No. 15/3/2018-Trans Pt(5) dated 20.05.2021, the undersigned is directed to state that the composition and terms of reference of the existing NCT are amended as mentioned below:

1. Composition of NCT

1	Chairperson, Central Electricity Authority (CEA)	Chairman
2	Member(Power System), CEA	Member
3	Member(Economic & Commercial), CEA	Member
4	Joint Secretary level officer nominated by Secretary, MNRE	Member
5	Director(Trans), M/o Power, Govt. of India	Member
6	Chief Operating Officer, Central Transmission Utility	Member
7	CMD POSOCO	Member
8	Advisor(Energy) , NITI Aayog	Member
9	Two experts from Power Sector to be nominated by MoP*	Members
10	Chief Engineer (from Power System Wing), CEA	Member Secretary

- * Will be nominated for a maximum period of two years from the date of their nomination.
- 2. Terms of Reference (ToR) of the NCT are as under:
- The NCT shall evaluate the functioning of the National Grid on a quarterly basis.
- ii. The Central Transmission Utility (CTU), as mandated under the Electricity Act, 2003, is to carry out periodic assessment of transmission requirement under Inter-State Transmission System (ISTS). The CTU shall also make a comprehensive presentation before the NCT every quarter for ensuring development of an efficient, co-ordinated and economical ISTS for smooth flow of electricity. The CTU, in the process, may also take inputs from the markets to identify constraints and congestion in the transmission system.



28/10/2021

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iii. The CTU after consulting Regional Power Committee(s) [RPC(s)] shall submit the proposal for expansion of ISTS to the NCT for their consideration. For proposal upto Rs. 500 crores, prior consultation with RPC would not be required.

- iv. As per provision of Electricity (Planning, Development and Recovery of ISTS charges) Rules 2021, the CTU shall also prepare a five-year rolling plan for ISTS capacity addition every year. The Annual Plan shall be put up to the NCT six months in advance, e.g. The Annual Plan for FY 2023-24 will be put up before the NCT by 30th September 2022..
- v. After considering the recommendations of the CTU and views of the RPCs, the NCT shall propose expansion of ISTS after assessing the trend of growth in demand and generation in various regions, constraints, if any, in the inter- State, inter- Region transfer of power, which are likely to arise in the near term/ medium term, so that transmission does not constrain the growth.
- vi. The NCT shall formulate the packages for the proposed transmission schemes for their implementation.
- vii. The NCT shall estimate the cost of transmission packages and may constitute a cost committee for this purpose.
- viii. The NCT shall recommend to Ministry of Power (MoP) for implementation of the ISTS for projects with cost more than Rs 500 crore, along with their mode of implementation i.e. Tariff Based Competitive Bidding (TBCB) / Regulated Tariff Mechanism (RTM), as per the existing Tariff Policy. However, the NCT shall approve the ISTS costing between Rs 100 crore to Rs.500 crore or such limit as prescribed by MoP from time to time, along with their mode of implementation under intimation to MoP. The ISTS costing less than or equal to Rs. 100 crores, or such limit as prescribed by MoP from time to time, will be approved by the CTU along with their mode of implementation under intimation to the NCT and MoP. After approval of the ISTS by the NCT or the CTU (as the case may be), the TBCB project shall be allocated to Bid Process Coordinators through Gazette Notification, while the RTM project shall be allocated to CTU.
- ix. The NCT shall allocate the task of carrying out survey amongst the CTU and Bid Process Coordinators by maintaining a roster.
 - 3. The NCT meetings shall be held every quarter, and on monthly basis, if required.
 - 4. While making their recommendations,
- i. the NCT shall keep in mind the relevant Act, Rules, Regulation, policies and guidelines such as but not limited to - Electricity Act 2003, National Electricity Policy, Tariff Policy, Electricity (Transmission System Planning, Development and Recovery of Inter-State Transmission Charges) Rules, 2021, Guidelines for Encouraging Competition in Development of Transmission Projects, Tariff based Competitive Bidding Guidelines for Transmission Service and any specific advice received from MoP.
- ii. For enabling growth of Renewable Energy (RE) capacity, areas which have high solar/wind energy potential, as identified by Ministry of New and Renewable Energy



28/10/2021,

(MNRE), need to be connected to ISTS, so that the RE capacity can come up there. This is a national mission as a part of our energy transition goal.

5. This issues with the approval of the Hon'ble Minister of Power and New & Renewable Energy.

Onder (Hadia

Under Secretary to the Govt. of India

Telefax: 23325242

Email: transdesk-mop@nic.in

To

- 1. All Members of NCT.
- 2. Secretary, Ministry of New & Renewable Energy, Govt. of India.
- 3. Chairperson, CEA, New Delhi.
- 4. Secretary, CERC
- 5. CMDs of all CPSUs under the Ministry of Power, Govt. of India.
- 6. Heads of all autonomous bodies under the Ministry of Power, Govt. of India.
- 7. Finance/ Budget Section, Ministry of Power.
- 8. Power/ Energy Secretaries of all States/UTs.
- 9. Chief Executives of all State Power Transmission Utilities.
- 10. CEO, NITI Aayog, New Delhi.

Copy to:

- i. PS to Hon'ble MoP/ PS to Hon'ble MoSP/Sr PPS/ PPS/ PS to Secretary(Power)/ AS&FA/ AS(SKGR)/ AS(VKD)/ all Joint Secretaries/ Economic Advisor/ Chief Engineer(Th)/ all Directors/ Dy. Secretaries, Ministry of Power.
- ii. Technical Director, NIC, M/o Power, for publishing this order on the website of M/o Power.

28/10/2001



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Annexure 4



भारत सरकार Government of India विद्युत मंत्रा लय Ministry of Power केन्द्रीय विद्युत प्राधिकरण Central Electricity Authority विद्युत प्रणाली योजना एवं मूल्यां कन प्रभाग-॥ Power System Planning & Appraisal Division-II

सेवा में / To

Chief Operating Officer, CTUIL Saudamini, Plot No. 2, Sector-29, Gurgaon-122001

विषय/Subject: Implementation of ISTS Transmission/Communication Schemes approved by NCT in its 18th meeting held on 05.03.2024- regarding

महोदय/Sir,

The undersigned is directed to inform that NCT has approved implementation of the following ISTS Transmission and Communication Schemes in its 18th meeting held on 05.03.2024, in line with MoP office order dated 28.10.2021 and MoP Guidelines dated 09th March, 2022, to be implemented through Regulated Tariff Mechanism (RTM) route by agency as indicated below:

I. ISTS schemes costing between Rs. 100 Crs to Rs. 500 Crs approved by NCT:

S1.	Name of Transmission	Implement	Tentative	Implementin	Estimated
No.	Scheme	ation	Implementati	g Agency	Cost
		Mode	on timeframe		(Rs. Crs)
1.	Augmentation of 2x500	RTM	18 months	Approved	115
	MVA, 400/230 kV			under RTM	
	transformation capacity	ļ		by owner of	
	(3rd & 4th ICTs) at			existing	
	Karur PS			substation	
L			İ		

II. Modification in SCOD of under construction schemes approved by NCT:

Further, NCT approved the change in SCOD of following transmission scheme:

i. Transmission System for Evacuation of Power from REZ in Rajasthan (20 GW) under Phase-III Part-G and Part-F

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Sl. No.	Project/Scheme Name	Name of TSP	Original SCOD	Revised SCOD
1	Transmission System for Evacuation of Power from REZ In Rajasthan (20 GW) Under Phase-III Part G	Fatehgarh III Beawar Transmission Limited (Subsidiary of M/s Sterlite Grid 19 Ltd.)	31.01.2025	19.03.202
2	Transmission System for Evacuation of Power from REZ In Rajasthan (20GW) Under Phase-III Part F	Beawar Transmission Limited (Subsidiary of M/s Sterlite Grid 27 Ltd.)		No change

Transmission scheme for evacuation of 4.5GW RE injection at Khavda PS under ii. Phase II Part A

SI. No	Project Name	Date of SPV transfer (TSA	Name of TSP	Original SCOD	Revised SCOD
		signing) award under RTM	-		
1	Transmission scheme for evacuation of 4.5GW RE injection at Khavda PS under Phase II Part B	21.03.2023	POWERG RID	21.03.2025	No Change
2	Transmission scheme for evacuation of 4.5GW RE injection at Khavda PS under Phase II Part C	21.03.2023	POWERG RID	21.03.2025	No Change
3	Transmission scheme for evacuation of 4.5GW RE injection at Khavda PS under Phase II Part A	28.03,2023	Adani	28.03.2025	21.03.202 5
4	Transmission Network Expansion in Gujarat Associated with Integration of RE Projects from Khavda Potential RE Zone	21.03.2023	POWERG RID	21.03.2025	No Change
5	Transmission scheme for evacuation of 4.5GW RE injection at Khavda PS under Phase II Part D	RTM (16.02.2023)	Torrent Power	21.03.2025 (matching with aforesaid schemes)	No Change

Accordingly, you are requested to intimate the implementing agency.



III. Communication schemes approved by NCT:

Sl.	Name of Transmission	Implement	Tentative	Implementin	Estimated
No.	Scheme	ation	Implementati	g Agency	Cost
		Mode	on timeframe		(Rs. Crs)
1.	Requirement of	RTM	06 months	POWERGRI	2.4
	Additional FOTE for redundancy at AGC			D	
	locations in ER				
2.	OPGW laying work on	RTM	18 months	POWERGRI	6.83
	400 kV BokaroA-			D	
	Kodarma line				

The above schemes are awarded to CTUIL for implementation under RTM mode. CTUIL is requested to take necessary action for entering into a concession agreement with the respective agency for implementation of the above schemes.

Detailed scope of the schemes are as per minutes of the meeting. Copy of the minutes are enclosed.

Encl.: As above.

भवदीय / Yours faithfully,

(बी.एस.बैरवा/ B.S.Bairwa) निदेशक/ Director

Copy to:

Joint Secretary (Trans), Ministry of Power, Shram Shakti Bhawan, New Delhi-110001



सेंटल टांसमिशन युटिलिटी ऑफ इंडिया लिमिटेड

(पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड के स्वामित्व में) (भारत सरकार का उद्यम)

CENTRAL TRANSMISSION UTILITY OF INDIA LTD.

(A wholly owned subsidiary of Power Grid Corporation of India Limited)

(A Government of India Enterprise)

Ref. No.: CTUIL/OM/14/18th NCT

12th March 2024

As per distribution list

Sub: Implementation of ISTS Transmission/Communication Schemes approved by NCT in its 18th meeting held on 31-01-2024 under Regulated Tariff Mechanism (RTM).

NCT vide letter dated 11.03.2024 has awarded various ISTS Transmission/Communication schemes for its implementation under RTM mode by the respective implementing agencies as indicated in the table below:

SI. No.	Transmission Schemes	implementing Agency
	STS schemes costing between Rs. 100 Crs. To Rs. 500Crs.	
1.	Augmentation of 2x500MVA, 400/230kV transformation capacity (3 rd & 4 th ICTs) at Karur PS	Karur Transmission Ltd. (a subsidiary of Adani Energy Solutions Ltd.)
11. (Communication schemes approved by NCT	
2.	Requirement of additional FOTE for redundancy at AGC locations in ER	POWERGRID
3.	OPGW laying work on 400kV Bokaro A- Kodarma line	POWERGRID

Further, NCT approved the modification in SCOD of the following under construction transmission schemes:

SI. No.	Project/Scheme Name	Name of TSP	Original SCOD	Revised SCOD
	ransmission system for evacuatior art-G and Part-F	of power from REZ in Rajasth	ian (20 GW) u	nder Phase-III,
1.	Transmission System for Evacuation of Power from REZ in Rajasthan (20GW) under Phase-III Part G	Transmission Ltd. (subsidiary of	31.01.2025	19.03.2025
2.	Transmission System for Evacuation of Power from REZ in Rajasthan (20GW) under Phase-III Part F	, ,	Line & S/s: 19.03.2025; STATCOM: 19.09.2025	No change
ii. T	ransmission scheme for evacuation	of 4.5GW RE injection at Khavo	ia PS under P	hase-II, Part-A
1.	Transmission scheme for evacuation of 4.5GW RE injection at Khavda PS under Phase II Part B.	Khavda II-B Transmission Ltd. (a 100% wholly owned subsidiary of Power Grid Corporation of India Ltd.)	21.03.2025	No Change

SI. No.	Project/Scheme Name	Name of TSP	Original SCOD	Revised SCOD
2.	Transmission scheme for evacuation of 4.5GW RE injection at Khavda PS under Phase II Part C.	Khavda II-C Transmission Ltd. (a 100% wholly owned subsidiary of Power Grid Corporation of India Ltd.)	21.03.2025	No Change
3.	Transmission scheme for evacuation of 4.5GW RE injection at Khavda PS under Phase II Part A.	(Khavda II-A Transmission Ltd. (a subsidiary of Adani Energy Solutions Ltd.)	28.03.2025	21.03.2025
4.	Transmission Network Expansion in Gujarat associated with Integration of RE Project from Khavda Potential RE zone.	,	21.03.2025	No Change
5.	Transmission scheme for evacuation of 4.5GW RE injection at Khavda PS under Phase II Part D.	Torrent Power Grid Ltd.	21.03.2025 (matching with aforesaid schemes)	No Change

Copy of NCT letter dated 11-03-2024, in this regard, is enclosed at **Annexure-I**. The detailed scope of work along with implementation time frame for the above Transmission/Communication Schemes shall be as per the enclosed letter of NCT.

The implementing agency shall enter into a concession agreement with CTUIL for implementation of aforementioned Transmission Schemes. However, pending finalization of Concession Agreement, it is requested to initiate necessary actions for implementation of the aforementioned Transmission Schemes.

This is for your kind information and necessary action, please.

Yours faithfully,

(Partha Sarathi Das) Sr. General Manager

Encl.: as stated.



Distribution List:

 The Chairman & Managing Director Power Grid Corporation of India Ltd., Saudamini, Plot No. 2, Sector-29, Gurgaon- 122 001 2. Karur Transmission Ltd.
(a subsidiary of Adani Energy Solutions Ltd.)
3rd Floor, South Block, ACH Building
Adani Shantigram, SG Highway,
Ahmedabad-382421

Shri Balaji Sívan
 Director (Policy, Regulatory & Business Development)
 Fatehgarh III Beawar Transmission Ltd.
 C/o Sterlite Grid 19 Ltd.,

Fatehgarh III Beawar Transmission Ltd C/o Sterlite Grid 19 Ltd., DLF Cyber Park, 9th Floor, Block-B, Sector-20, Gurugram-122008 Shri T. Amarendranath Reddy
 Chief Executive Director
 Beawar Transmission Ltd.
 C/o Sterlite Grid 27 Ltd.
 DLF Cyber Park Tower-B
 9th Floor, Udyog Vihar Phase-III
 Sector-20, Gurugram-122008

5. Shri Bhavesh Kundalia

Khavda II-A Transmission Ltd.
(a subsidiary of Adani Energy Solutions Ltd.)
Adani Corporate House,
Shantigram, S.G. Highway,
Ahmedabad – 382 421,
Gujarat, India.

6. Project Incharge
Khavda II-B Transmission Ltd.,
(A 100% wholly owned subsidiary of Power
Grid Corporation of India Ltd.)
C/o ED (TBCB),
Power Grid Corporation of India Ltd.,
Saudamini, Plot No. 2, Sector-29, Gurgaon
122001.

7. Project Incharge

Khavda II-C Transmission Ltd., (A 100% wholly owned subsidiary of Power Grid Corporation of India Ltd.) C/o ED (TBCB), Power Grid Corporation of India Ltd., Saudamini, Plot No. 2, Sector-29, Gurgaon 122001.

8. Project Incharge
Khavda RE Transmission Ltd.,
(A 100% wholly owned subsidiary of Power
Grid Corporation of India Ltd.)
C/o ED (TBCB),
Power Grid Corporation of India Ltd.,
Saudamini, Plot No. 2, Sector-29, Gurgaon
122001.

Shri Chetan Bundela
 Torrent Power Grid Ltd.
 'SAMANVAY' 600, Tapovan, Ambawadi, Ahmedabad, Gujarat





सेंट्रल ट्रांसिमशन युटिलिटी ऑफ इंडिया लिमिटेड

(पावर ग्रिंड कॉर्पोरेशन ऑफ इंडिया लिमिटेड के स्वामित्व में) (भारत सरकार का उद्यम)

CENTRAL TRANSMISSION UTILITY OF INDIA LTD.

(A wholly owned subsidiary of Power Grid Corporation of India Limited)
(A Government of India Enterprise)

Ref: CTU/S/00/34th CMETS-SR

Date: 29.10.2024

As per distribution list

Subject: Minutes of 34th Consultation Meeting for Evolving Transmission Schemes in Southern Region held on 24.09.2024– reg.

Dear Sir/Ma'am.

दक्षिण क्षेत्र में पारेषण योजनाओं के उत्थान के लिए 34वीं परामर्श बैठक दिनांक 24.09.2024 को वर्चुअल मोड (वीडियो कॉन्फ्रेंसिंग) के माध्यम से संपन्न हुई । अतः इस संदर्भ में संबंधित परामर्श बैठक का कार्यवृत संलग्नक है और वेबसाइट (www.ctuil.in>> ISTS Planning and Coordination >>Consultation Meeting for ISTS>> Southern Region) पर भी उपलब्ध है ।

Please find attached minutes of the 34th Consultation Meeting for Evolving Transmission Scheme in Southern Region held on 24.09.2024 through virtual mode. The minutes are also available at our website (> ISTS Planning and Coordination">www.ctuil.in>> ISTS Planning and Coordination >> Consultation Meeting for ISTS>> Southern Region).

Thanking you,

Yours faithfully,

(Anil Kr. Meena) General Manager



List of Connectivity/ GNA applicants:

1. Shri Pankaj Kumar

Authorised Signatory SAEL INDUSTRIES LIMITED 3rd Floor, Worldmark -1, Aerocity New Delhi - 110037 pankai.sharma@sael.co: ajay.tiwari@sael.co;

3. Shri Tarunveer Singh

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2. Shri Pritpal Singh

SVP

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6. Shri Harshit Gupta

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7. Shri Vaibhav Roongta

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8. Shri Sachin Jindal

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9. Shri Arzaan Dordi

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10. Shri Jegathees Kumar

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25. Ms Anuradha	26. Shri Vishnu Pad Saha
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27. Shri M Prabhakaran	28. Shri Georgie Director
Sr. DEE/TRD/MAS	
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Senior Divisional Electrical Engineer,	Pvt. Ltd.
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29. Shri Angshuman	30. Shri K A Vishwanath Assistant Vice President
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Minutes of the 34th Consultation Meeting for Evolving Transmission Scheme in SR, held on 24.09.2024

GM, CTU welcomed all participants to the 34th Consultation Meeting for Evolving Transmission Scheme in SR, held on 24.09.2024 through virtual mode. Subsequently, agenda of the meeting was taken up for deliberations. List of the participant is attached at **Annexure-P.**

A. Confirmation of the minutes of 33rd CMETS-SR

Minutes of the 33rd CMETS-SR were circulated vide letter dated 27.08.2024. As no observation is received, accordingly minutes were confirmed as circulated.

B. ISTS Network expansion scheme in Southern Region

B.1. Augmentation of transformation capacity by 1x500 MVA ICTs (7th) at Anantapur-II PS

In the meeting, CTU proposed to defer the agenda for augmentation of transformation capacity by 1x500 MVA, 400/220 kV ICT (7th) at Ananthapur-II PS. The proposal to defer the agenda was put up on account of reanalysis of receipt of connectivity application at 220 kV level. The same was agreed and it was decided that augmentation of transformation capacity at Ananthapur-II PS may be taken up as per receipt of application.

B.2. Augmentation of 1x500 MVA, 400/230 kV (5th) ICT at Karur PS

2.1. CTU informed that Karur PS was planned for integration of 2500 MW potential RE capacity. Presently, Karur PS is under operation with 2x500 MVA, 400/230 kV ICTs. Further, 2x500 MVA, 400/230 kV ICTs (3rd & 4th) are under implementation with SCOD as 12.09.2025. Total Connectivity already granted/ agreed for grant is 1582.1 MW. Further, additional Connectivity corresponding to 157 MW has been received and considered for grant. Accordingly, for cumulative connectivity capacity corresponding to 1739.1 MW, 5x500 MVA, 400/230 kV ICTs are required (considering N-1 contingency criteria).

- 2.2. During the 33rd CMETS-SR meeting held on 31.07.2024, it was informed that 1x500 MVA, 400/230 kV (5th) ICT would be required for grant of above the Connectivity at Karur PS. In view of above, augmentation of transformation capacity by 1x500 MVA, 400/230 kV ICT (5th) at Karur PS is being taken up for implementation.
- 2.3. Towards a query raised by TANGEDGO, it was informed that break-up of the Solar and wind components of the projects granted connectivity at Karur PS is 65 solar and 1700 MW wind (details attached at **Annexure-A**). TANGEDGO stated that they shall be submitting the comments on the proposal through written communication.
- 2.4. SRLDC informed that in case of operation of Raigarh-Pugalur HVDC in reverse mode, Karur PS-Pugalur HVDC 400 kV D/c line is overloaded and strengthening of the same is required. Accordingly, ICT augmentation may be taken-up along with the strengthening of the Karur PS-Pugalur HVDC 400 kV D/c line.
- 2.5. In this regard, CTU stated that the issue of overloading of Karur PS-Pugalur HVDC 400 kV D/c line has already been discussed in the SRPC meeting and Karur PS-Pugalur HVDC 400 kV (2nd) D/c line has already been proposed to mitigate the above issue of overloading as a part of AC system strengthening for upgradation of upgradation of ±800kV, 6000 MW Raigarh Pugalur HVDC System for enhancement of reverse power capacity up to 6000MW from existing 3000 MW. However based on the inputs from GRID-INDIA, same may be taken-up separately also. After deliberations, Augmentation of 1x500 MVA, 400/230 kV (5th) ICT at Karur PS was agreed. It was also agreed that requirement of the Karur PS-Pugalur HVDC 400 kV (2nd) D/c line may be studied in the Joint Studies.

B.3. Inter-Regional links between NEW-Grid & SR-Grid

3.1. CTU informed that as per the mandate in the 50th SRPC meeting held on 16.03.2024, Joint Studies were conducted from 2 - 4th May, 2024 at Hyderabad for identification of Inter-Regional links between NEW-Grid & SR-Grid and ISTS network strengthening in SR to facilitate import of additional power for meeting demand by 2029-30 time frame. Minutes of the meeting attached at Annexure-B. The proposals agreed during the Joint Study meeting were submitted to SRPC which were deliberated in the 52nd SRPC meeting held on 03.08.2024 wherein it was decided that the shortest link(s) may be implemented at the earliest. Accordingly, it was agreed 765 kV Parli New (WR) - Bidar D/c link and 765 kV Angul(ER) - Srikakulam 2nd D/c link may be taken-up. For the third inter-regional link, two alternative links were proposed, one is proposed by APTRANSCO and another is proposed by CTUIL and same requires further analysis and discussions.

During the SRPC meeting, it was also informed that Transmission system for proposed Green Hydrogen / Green Ammonia projects in Kakinada area, Andhra Pradesh was discussed in the 33rd CMETS-SR for ISTS proposals held on 25.07.2024 wherein it was informed that Angul – Srikakulam 765 kV 2nd D/c link shall be required for supply of power to Green Hydrogen / Ammonia projects at Kakinada under Phase-I (3000 MW).

It was also informed that Bidar - Parli New 765kV D/c link shall be required to further enhance the import / export capability of SR region. Bidar PS in Karnataka is proposed to be connected to Kurnool-IV through Kurnool-IV — Bidar 765kV D/c line for evacuation of RE potential in Kurnool area of Andhra Pradesh. Towards this, Bidar - Parli New 765kV D/c link shall facilitate evacuation of RE generation in Bidar / Kurnool RE complexes.

Following was decided in the 52nd SRPC meeting for above IR links:

- ✓ SRPC approved the two inter regional links 765 kV Parli-Bidar D/C & 765 kV Angul-Srikakulam D/C. SRPC recommended that both the links shall be considered under National Component as 765 kV Parli-Bidar link would be used for RE evacuation and 765 kV Angul-Srikakulam link would be used to meet the GH&GA loads.
- ✓ CTUIL would furnish the formal proposal to SRPC Secretariat and comments would be collected through mail and separate SRPC meeting may not be required.

Minutes of 52nd SRPC meeting held on 03.08.2024 attached at **Annexure-C**.

- 3.2. It was also informed that in the meeting held on 19.04.2024 under the chairmanship of Hon'ble Minister of Power and NRE, it was decided that Transmission charges for the Transmission system built for supply of power to Green Hydrogen / Green Ammonia manufacturing hubs may be declared as National Component.
- 3.3. It was further informed that Bidar 765/400/220kV PS has been identified for 2.5 GW RE potential and is under implementation bymic POWERGRID through TBCB route and is expected by Feb'26. The broad scheme is as below:
 - Establishment of 765/400 kV 3x1500 MVA, 400/220 kV 5x500 MVA Bidar PS
 - Bidar PS Maheshwaram (PG) 765 kV D/c line

Against the 2.5 GW RE potential at Bidar PS, Connectivity of 2.5 GW at 220kV level have already been granted with the above under implementation transmission system. Further, augmentation of Bidar PS through 1x1500 MVA,765/400kV ICT (4th) and

3x500 MVA, 400/220kV ICTs (6th - 8th) has been approved for grant of additional connectivity applications for 600 MW. In addition, CTU has received additional applications for 550 MW at Bidar PS in the month of July 2024. With this, the total connectivity quantum granted / agreed / under process at Bidar PS shall be about 3350 MW. It is observed that RE Connectivity at Bidar PS has already surpassed the envisaged potential of 2.5 GW and looking into the response of RE developers, additional Connectivity applications are expected in due course of time.

Accordingly, in order to facilitate integration of additional RE potential at Bidar PS, Bidar (SR) - Parli New (WR) 765kV D/c link shall be required for grant of additional connectivity to RE generation projects.

3.4. In view of the above, following Inter-Regional links between NEW Grid and SR Grid are put-up for approval and implementation under National Component with implementation time frame of 24 months:

Scheme-1: Inter-Regional Strengthening between SR Grid and ER Grid

Angul – Srikakulam 765 kV D/c line (about 275 km)

Scheme-2: Inter-Regional Strengthening between SR Grid and WR Grid

Parli New - Bidar 765kV D/c line (about 150 km)

3.5. NLDC informed that the proposed Inter-regional links are very much required and shall facilitate removal of constraints in NEW-SR Grid. However, there are certain observation on the proposed links which may also be considered for timely resolution. NLDC made a presentation and copy of the same in attached at **Annexure-D**.

NLDC stated that as per the Joint Studies carried out in May 2024, Angul – Srikakulam 765 kV D/c line and Parli New – Bidar 765kV D/c line have been proposed to be implemented by 20230. However as per the present proposal, the same have now been proposed by 2026-27. In this regard, CTU stated that as per the mandate given by SRPC, during the Joint Studies, a comprehensive study was carried out for requirement of additional Inter-regional links for meeting the demand of Southern Region by 2030. After detailed deliberations, it was decided that out of the identified IR links, Angul – Srikakulam 765 kV D/c line and Parli New – Bidar 765kV D/c line may be taken-up for implementation.

However, looking into the demand requirements and limitation in import/export ATC, above links are very much required by 2026-27. Further, above links are also required for evacuation of RE generation in Kurnool-IV and supply of power to Green Hydrogen / Green Ammonia production projects in Vizag area which are also expected by 2026-27.

NLDC informed that the angular separation between Kakinada GH and Srikakulam bus under N-1 contingency exceeds 20° and may be studied for stability studies as per the CEA Planning Criteria. CTU stated that loading of about 1700 MW is seen on each circuit and is well within the permissible limits. However, as per the observations from GRID-INDIA, same may be looked into during the forthcoming Joint Study meeting in SR.

NLDC further stated that dynamic compensation may be planned with Green Hydrogen loads. In this regard, CTU stated that STATCOMs are being planned at RE pooling stations for meeting the Dynamic reactive compensation requirements where the generation is variable and intermittent in nature. However, in the case of Green Hydrogen Stations which are envisaged to serve loads of Green Hydrogen / Green Ammonia projects which are largely constant loads in nature and variability / intermittency is not envisaged. Accordingly, as a general practice for load serving substations, 240 MVAr 765kV bus reactor has been planned at such GH Stations. Further, Part-IV, Para-2 of the Central Electricity Authority (Technical Standards for Connectivity to the Grid) provides following:

- "(2) (i) The distribution licensee and bulk consumer shall provide adequate reactive compensation to compensate reactive power requirement in their system so that they do not depend upon the grid for reactive power support.
- (ii) The power factor for distribution system and bulk consumer shall be within ± 0.95;"

In view of the above provisions, the bulk consumers shall be responsible for providing adequate reactive compensation to compensate reactive power requirement in their system so that they do not depend upon the ISTS grid for reactive power support. These provisions shall be incorporated in the grant of Connectivity to the bulk consumers for strict compliances. Further, the matter was raised in the NCT and clarification in this regard is awaited from CEA.

However, despite above provisions in the Regulations, in case GRID-INDIA feel that there are requirements of additional reactive power compensation at GH Stations, GRID-INDIA may carry out the detailed study analysis and submit the same for further deliberations in the physical Joint Study meeting of Southern Region constituents which is expected in Oct/Nov, 2024.

NLDC stated that dynamic compensation may be planned for transient conditions considering large quantum of load to be connected to Grid. It was mentioned that Grid-India may include it in their detailed study analysis for further consideration during the joint study meeting.

CTU further informed that as per the action points emerged in the meeting held in PMO under the chairmanship of the Advisor to the Prime Minister on 31.08.2024, transmission system for Green Hydrogen/ Green Ammonia production projects is to be taken-up for prioritized locations based on the progress made by the potential developers like acquisition of land, ordering of electrolyzes, tie-up of green power etc. Further an advisory has been issued from MoP on 18.09.2024 for taking up the implementation of transmission system for Green Hydrogen/ Green Ammonia Projects in phased manner. Accordingly, the proposed transmission system may be taken-up and any additional transmission system including dynamic compensation, if required, may be taken up subsequently.

NLDC further stated that Maheshwaram and Nizamabad ICTs are not 'N-1' compliant with the consideration of Bidar-Parli 765 kV transmission line. Towards this, CTU stated that above issue has also been highlighted in the Rolling Plan and the analysis has been carried out in the 2029-30 time frame wherein the loads are also considered for the same time frame. However, the ICT augmentation can be done in a short timeframe of 18 months, augmentation of ICTs at Maheshwaran and Nizamabad may be taken-up for implementation separately.

NLDC further pointed out that under N-1 contingency, angular separation between Wardha and Nizamabad 765 kV buses is found to be more than 20° and shall considered for further analysis as per the CEA Planning Criteria. Towards this, CTU clarified that the transmission line is an existing transmission line and any further studies, if required, may be carried out by GRID-INDIA and may be submitted along with appropriate solution for consideration during the next CMETS-SR meeting for further deliberations. NLDC stated that since the constraints are being observed in the future timeframe, the studies may be conducted by CTU. SPRC opined that NLDC may refer the matter to Member (PS), CEA for further deliberations in the matter.

SRLDC stated that suitable system strengthening may also be planned in Western Region, if required, for further dispersal of power. CTU informed that system strengthening has already been identified in Western Region, details given under Agenda point "B.4. Transmission system strengthening for integration of additional RE potential at Bijapur."

After detailed deliberations, following transmission schemes were agreed and it was decided that same shall be submitted to SRPC for views.

Scheme-1: Inter-Regional Strengthening between SR Grid and ER Grid

Angul - Srikakulam 765 kV D/c line (about 275 km)

Scheme-2: Inter-Regional Strengthening between SR Grid and WR Grid

Parli New - Bidar 765kV D/c line (about 150 km)

B.4. Transmission system strengthening for integration of additional RE potential at Bijapur

- 4.1. CTU informed that the Transmission System for integration of Bijapur REZ in Karnataka is under bidding and is expected to be commissioned by Oct'26 (considering SPV transfer by Oct'24). Details of the transmission system is as below:
 - Establishment of 400/220 kV, 5x500 MVA Pooling Station near Bijapur (Vijayapura), Karnataka
 - Bijapur PS Raichur New 400kV (Quad ACSR moose) D/c line
- 4.2. As per the 500 GW report, potential of 2 GW (wind) was envisaged at Bijapur PS and Connectivity of about 1900 MW has already been granted / agreed for grant. Further, CTU has received connectivity applications for 2414 MW. The connectivity quantum of applications has already surpassed the envisaged potential of Bijapur REZ. Accordingly, for grant of additional connectivity to above applications, additional transmission system strengthening beyond Bijapur PS is required.
- 4.3. It was informed that that Solapur PS (near Tuljapur in Maharashtra) is presently under implementation with SCOD of Feb-26 by M/s Torrent Power Ltd for 1500MW SEZ in Solapur. Now, applications for more than 1.5GW (1.55GW till Jul-24) have been received at Solapur PS and there is need to augment the system to enable evacuation upto 3GW RE power from Solapur PS. In view of the above, the "Transmission system for Evacuation of Power from RE Projects in Solapur SEZ in Maharashtra-Phase II (1500MW)" scheme is being planned as given below (to be deliberated in 32nd CMETS-WR scheduled on 24.09.2024):
 - Creation of New 400kV and 220kV Bus Section-II with 400kV and 220kV Bus Sectionalizers
 - 400/220 kV, 3x500 MVA ICT augmentation (5th,6th & 7th) at Solapur PS on new 400kV & 220kV Bus Sections(Sec-II)
 - 5 nos. 220kV line bays for RE Interconnection on new Bus Section-II
 - Solapur PS(Sec-II) Jejuri (M) 400 kV D/c line (Quad ACSR/ AAAC/ AL59 Moose equivalent) Under ISTS



- Jejuri (M) Pune-III 400 kV D/c line (Quad ACSR/ AAAC/ AL59 Moose equivalent) Under ISTS
- Jejuri (M) Hinjewadi (M) 400kV D/c line Under In-STS (MSETCL)

Now, for accommodating additional RE capacity from Bijapur, following additional transmission system is proposed:

- Augmentation of 400/220 kV, 5x500 MVA Pooling Station at Bijapur PS along with 220kV bays for RE interconnection
- Bijapur Solapur PS (Sec-II) (Quad ACSR/ AAAC/ AL59 Moose equivalent) line (~150km.)
- Establishment of 2x1500MVA, 765/400kV Karjat-II New S/s
- LILO of Aurangabad Solapur 765kV D/c line at Karjat-II (LILO route length ~70km.)
- Karjat-II Solapur PS(Sec-II) 400kV D/c (Quad ACSR/ AAAC/ AL59 Moose equivalent) line (~150km)
- Karjat-II Karjat(M) 400kV D/c (Quad ACSR/ AAAC/ AL59 Moose equivalent) line (~30-40km)

Note: 400kV & 220kV Bus Sectionalizers at Solapur PS between Under Construction Bus Section-I and New Bus Section-II shall be normally open to limit injection towards Solapur(PG) S/s.

MSETCL is also planning a 400/220kV Substation at Waghdari (for 1.5GW RE Injection) which may also be interconnected with Solapur PS (Sec-II) / Karjat-II S/s at later stage as per system studies carried out in Western Region. Since the above scheme involves interconnections with MSETCL, the same shall be finalized in consultation with MSETCL as well as other stakeholders in WR.

- 4.4. TANGEDGO stated that since the system studies for the subject transmission scheme have not been submitted, therefore comments on the proposed transmission scheme cannot be furnished. Towards this, CTU stated that as per the deliberations the 32nd CMETS-SR held on 28.06.2024, following transmission system was proposed for integration of additional RE capacity at Bijapur:
 - Bijapur PS Raichur New 400kV (Quad) 2nd D/c line
 - Augmentation of 4x500 MVA, 400/220kV ICTs (6th, 7th, 8th & 9th) at Bijapur PS
 - Augmentation of 1x1500 MVA, 765/400kV ICT (3rd) at Raichur New

During the meeting APTRANSCO opined that instead of proposing Bijapur PS – Raichur New 400kV (Quad) 2nd D/c line of about 200km and stepping up at Raichur with ICT augmentation and exporting to Solapur, integration of Bijapur with Solapur 765/400kV S/s or Solapur STPP may be explored. Further, augmentation of 765/400kV ICTs may be proposed at Solapur based on the requirement. During the meeting, CTU informed that detailed analysis shall be carried out in consultation with CTU-WR team and proposal shall be put up in the next CMETS-SR meeting

Accordingly based on the discussion and as proposed by APTRANSCO, the transmission system has been modified and evolved in consultation with WR.

- 4.5. KPTCL requested for the system study files for the proposed transmission scheme.
- 4.6. SRPC opined that detailed analysis may be carried out in the Joint Studies.
- 4.7. After detailed deliberations, it was decided that the transmission scheme may be studied in the Joint Study meeting scheduled to be held in Nov'24.

C. Connectivity related issued deliberated in earlier CMETS-SR

C.1. Connectivity Related proposal at Kadapa-II PS

SI. No.	Application ID, date	Name of the Applicant	Project Location	Eligibility criterion	Nature of Applicant	Location details of Conn. / GNA (as requested)	Installed Capacity/ GNA (MW)	dijantiim:	Start date of Conn. / GNA (as requested)	Implementation of terminal bay at ISTS end under the scope of (as requested)
i.	2200000885 dt.31.05.24	Shirdi Sai Electricals Limited	Rachayapeta / Gopavaram, YSR, Andhra Pradesh	_	Standalone ESS (PSPP)	Kadapa-II	990	Connectivity 990 [Injection - 900 & Drawl - 990]	30.09.2030	ISTS

CTU informed that application for garnt of Connectivity, as per above details, was discussed in 32nd & 33rd CMETS-SR meeting, held on 28.06.2024 & 31.07.2024 respectively. It was also informed that applicant has sought connectivity at Kadapa-II, however,

transmission scheme for Kaddpa-II is yet to be finalized. Applicant was suggested to consider grant of connectivity at existing Cuddapah S/s / Ananthapuram PS. Representative mentioned that it will submit the details after analysis of suggested locations. Applicant may present the matter.

As no representative from M/s Shirdi Sai Electricals Ltd. join the meeting, therefore it was decided to discuss the application again in next CMETS-SR meeting.

C.2. Connectivity related proposal at Gadag-II PS / Koppal-II PS

SI. No.	Application ID, date	Name of the Applicant	Project Location	Eligibility criterion	Applicant	Location details of Conn. / GNA (as requested)	Installed Capacity/ GNA (MW)	Application & quantum: Connectivity / GNA/ GNA _{RE} (MW)	Start date of Conn. / GNA (as requested)	Implementation of terminal bay at ISTS end under the scope of (as requested)	
i.	2200000825 dt. 20.05.2024	NTPC Renewable Energy. Ltd.	Taralakatt, Koppal, Karnataka	LoA	Generating station(s), including REGS(s), without ESS	Gadag-II PS	76 (wind)	Connectivity 76	16.04.2026	ISTS OF	Limiteo *
ii.	2200000903 dt 13.06.2024	Torrent Power Limited	Koppal, Karnataka	LoA [contract capacity	Generating station(s), including	Koppal-II PS	100 (wind)	Connectivity	30.06.2026	110	Y

 CTU informed that NTPC Renewable Energy. Ltd. has sought connectivity for 76 MW at Gadag-II PS as per above details. Connectivity has been sought on basis of multilocational SECI LoA, SECI/C&P/HPD/T7/LOA-A3/NREL/P1/63858 dated 03.05.2024, for contract capacity of 300 MW.

Application was discussed in 32nd & 33rd CMETS-SR meeting, held on 28.06.2024 and 31.07.2024, wherein CTU informed that margins are not available at Gadag-II PS for grant of additional connectivity and both Gadag-II PS & Koppal-II PS have already closed for grant of additional connectivity.

Subsequently, M/s NTPC Renewable Energy. Ltd. vide email dated 31.07.2024 requested to consider grant of Connectivity at Bellary PS. Detailed proposal for the application for grant of Connectivity is given along with proposal of other applications at Bellary PS at agenda item no. D(8)

ii. Similarly, M/s Torrent Power Ltd. has sought connectivity on basis of SECI LoA, SECI/C&P/WPD/T16/LOA/KA/TPL/P1/62057 dated 09.02.2024. Application was discussed in 33rd CMETS-SR, held on 31.07.2024, wherein it was agreed reiterated that margins are not available at Koppal-II PS for grant of additional connectivity and both Gadag-II PS & Koppal-II PS have already closed for grant of additional connectivity. Applicant was opined to consider grant of Connectivity at other location. Vide email dated 17.08.2024 applicant requested to consider grant of Connectivity at Bellary PS. Subsequently, vide letter dated 21.09.2024, M/s Torrent Power Ltd. has withdrawn its app., no. 2200000903.

After deliberation, it was decided to close the application.

C.3. Proposal for modification in Connectivity transmission system of M/s ACME Solat Holding Ltd. agreed for grant Ananthapuram-II PS

SI. No.		Name of the Applicant	Project Location	Eligibility criterion	Nature of Applicant	Location details of Conn. / GNA (as requested)	Installed Capacity/ GNA (MW)	Application & quantum: Connectivity / GNA/ GNA _{RE} (MW)	Start date of Conn. / GNA (as requested)	Implementation of terminal bay at ISTS end under the scope of (as requested)
i.	2200001003 dt 30.06.2024	ACME Solar Holdings Ltd. (erstwhile ACME Solar Holdings Private Ltd.)	Anantapur, AP	Land BG route	Generating station(s), including REGS(s), without ESS	Ananthapuram- II PS	500 (solar)	Connectivity 500	25.06.2026	ISTS

CTU informed that M/s ACME Solar Holding Ltd. has sought connectivity as per above details. In the 33rd CMETS-SR meeting, it was agreed to grant Connectivity for 500 MW at Ananthapur-II PS through 220 kV D/c line.

However, it is to mention that for optimization of transmission system, all projects with Connectivity quantum of 500 MW and above are considered for grant at 400 kV. In the last CMETS meeting, the application was agreed for grant of Connectivity at 220 kV through D/c line due to oversight.

In view of the above, it was proposed to modify the grant Connectivity to M/s ACME Solar Holdings Ltd. (erstwhile ACME Solar Holdings Private Ltd.) for 500 MW through the following Connectivity transmission system.

				Connectivity	Connectivity Transmission	Syster				
SI. No.	Application ID	Name of the Applicant	Connectivity at	Quantum (MW)	Dedicated Connectivity Transmission System (DTL)	ATS Augmentation other than ATS		Start date of Connectivity	BG details	
i.	2200001003 dt 30.06.2024	ACME Solar Holdings Ltd. (erstwhile ACME Solar Holdings Private Ltd.)	Anantapur-II	500	Generation Station of M/s Acme Solar Holdings Pvt. Ltd – Anantapur-II PS 400 kV S/c line along with line bay at generation PS – under the scope of applicant 1 no. of 400 kV line bay at Anantapur-II PS for above DTL – under the scope of ISTS	NIL	Details given below.	(Tentative) with availability of	• Conn-BG-3 :	

^{*} NCT has approved the implementation of transmission scheme under TBCB.

Common transmission system (augmentation) other than ATS for M/s ACME Solar Holdings Ltd. (app. no 2200001003):

- ISTS Network Expansion scheme in Western Region & Southern Region for export of surplus power during high RE scenarios
 Southern Region as per Annexure-I.
- Transmission system for integration of Davanagere/ Chitradurga REZ (details as per Annexure-II).
- Transmission System for Integration of Anantapur-II (near Rayadurgam) REZs (Phase-1) (details as per Annexure-IV)

Note: applicants are required to submit BGs as per above details within one month of the in-principle grant of Connectivity intimation.

After deliberation, it was agreed by consensus that connectivity transmission system for application no. 1200001003 may be modified as mentioned above.

C.4. Proposal for grant of GNA to M/s Line India Ltd.

SI.	Application ID, date	Name of the Applicant	Eligibility criterion	STU details	Nature of Applicant	Location details of Connectivity / GNA requested	Application & quantum : Connectivity/ GNA / GNA _{RE}	GNA Breakup (Within & outside region)	of GNA	End date of GNA (requested)
i.	2200000857 dt. 28.05.2024	Linde India Ltd.	GNA under 17.1 (ii)	APTRANSCO	Drawee entity connected to Intra State of APTRANSCO	Cherivi S/s of	GNA _{RE} 8 MW	Within region: 8 MW Outside region: 0 MW	16.07.2024	30.06.2039



CTU informed that M/s Linde India Ltd. has sought grant of GNA as per above details. Applicant has submitted NoC dated 16.05.2024, issued by APTRANSCO. Application was also discussed in 32nd CMETS-SR, held on 28.06.2024. During the meeting, applicant requested to consider start date of GNA as 01.01.2025. Applicant was requested to share the details regarding how existing 8 MW load shall be met till grant of GNA. After detailed deliberations, it was decided that application shall be discussed in the next CMETS-SR meeting and applicant was requested to present the case.

In 33rd CMETS-SR, held on 31.07.2024, M/s Lind India Ltd. stated that it is existing consumer and drawing power from DISCOM of Andhra Pradesh. It will continue to draw power from DISCOM of AP, till GNA is made operationalized. Further, GNA sought is within the timeline of issued NoC. Further, on CTU query, M/s Lind India Ltd. stated that it will continue to draw power form both ISTS and DISCOM of AP. CTU stated that it will result in dual GNA for same capacity from ISTS and DISCOMs of AP, which is not permitted under GNA Regulations 2022.

M/s Linde India stated that it has not sought Open Access from DISCOM of AP. it had submitted application for GNA from ISTS only. However, it will continue to remain consumer of DISCOM and draw the power, partly from ISTS and partly from DISCOM of AP and it is ready to pay charges for same.

CTU reiterated that consumer for both ISTS and DISCOM of AP for same quantum result in dual GNA. Dual GNA from ISTS and DISCOMs may result in double billing of ISTS system. One of the bill will be directly billed to applicant for ISTS charges and other will be indirectly for GNA quantum blocked in ISTS by STU on behalf for M/s Lind India Ltd. As per GNA Regulations, GNA is to be taken

up by STUs for respective DISCOMs/ bulk consumer connected to STU/DISCOMs. STU in consultation with DISCOM and SLDC has to bifurcate GNA among Consumers / DISCOMS, including bulk consumer.

APTRANSCO stated that applicant has to approach APTRANSCO for respective settlement of GNA within 30 days of getting GNA. Till such time, applicant is a energy consumer to AP DISCOM. After grant of GNA, energy charges will be collected by CTU and applicant to provide STU transmission charges, as per agreement. Further, all Open Access intra state generators are consumers and all consumers connected to DISCOMs are scheduled consumer of APTRANSCO. For the quantum, they are in HT service agreement with DISCOM, they get Open Access for same quantum. It was also informed that all consumers connected to DISCOMS of AP are by default consumer of DISCOMs of AP and can draw and schedule power from DISCOM of AP. Further, it was stated that conditional NoC has been issued to M/s Lind India Ltd.

CTU stated that it has received NoC without any conditions. Towards same, M/s Linde India Ltd. mentioned that it has not provided complete NoC. Pages related to conditions are missing in the NoC submitted to CTU.

After deliberation, it was decided in the 33rd CMETS-SR that applicant shall submit the complete NoC to CTU along with any other pending documents. APTRANSCO was requested to review the case in line with CERC GNA Regulation 2022 and application shall be discussed in next CMETS-SR.

Subsequently, M/s Linde India Ltd. submitted the complete NoC for 8 MW GNA-RE issued by Transmission Corporation of Andhra Pradesh for the period from 01.07.2024 to 30.06.2039.

In view of submission of complete NoC document, CTU proposed to grant GNA-Re to M/s M/s Linde India Ltd. for 8 MW. APTRANSCO requested CTU to clarify the applicability of the subsidy on GNA-RE being taken up by M/s Linde India Ltd. In this regard, CTU clarified that as per CERC GNA Regulations 2022 CTU is granting connectivity and GNA to applicants as per Regulations. Details of the applicability of the subsidy is beyond the scope of this meeting. APTRANSCO was advised to approach the NLDC on applicability of subsidy on GNA-RE.

After detailed deliberation, it was agreed that M/s Linde India Ltd. may be granted GNA-RE for 8 MW. Further, the NoC issued by APTRANSCO shall be made part of the GNA-RE Intimation.



C.5. Proposal for grant of GNA to Indian Railway

SI. No.	Application ID, date	Name of the Applicant	Eligibility criterion	STU details	Nature of Applicant	Location details of Connectivity / GNA requested	Application & quantum : Connectivity/	GNA Breakup (within / outside region)	Start date of GNA (requested)	End date of GNA (requested)
i.	2200000852 dt 26.06.2024	Indian Railways	GNA under Regulation 17.1 (ii)	TANTRANSC O	Bulk consumer seeking to connect to ISTS directly	Through intra state system	GNA 65 MW	Within region : 0 MW Outside region : 65 MW	29.03.2027	29.03.2052

CTU informed that Indian Railway has sought GNA through connectivity from Sriperumbudur S/s at 400 kV. Matter was also deliberate din 33rd CMETS-SR, held on 31.07.2024, wherein Indian Railway stated that it has already been granted GNA for 65 MW at Thiruvalam S/s and seeking connectivity through Sriperumbudur for reliability of the same. Towards same, CTU stated that Connectivity with N-1 reliability criteria has already been granted to Indian Railway at Thiruvalam. However, Indian Railway may share the detailed plan with CTU so that same may be put up in next can be discussed in next CMETS-SR for deliberation.

In the meeting, Indian Railway stated that it would like to withdraw its application. The same was agreed.

C.6. Connectivity related proposal at Bijapur PS

SI. No.	Application ID, date	Name of the Applicant	Project Location	Eligibility criterion	Nature of Applicant	Location details of Conn. / GNA (as requested)	Installed Capacity/ GNA (MW)	Application & quantum: Connectivity / GNA/ GNA _{RE} (MW)	Start date of Conn. / GNA (as requested)	Implementation of terminal bay at ISTS end under the scope of (as requested)
i.	2200000692 dt. 05.04.2024	Vismaya Renewables India Project Pvt. Ltd.	Bijapur, Karnataka	Land BG	Generating station(s), including REGS(s), without ESS	Bijapur PS	300 (Wind)	Connectivity 300	01.04.2027	ISTS

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ii.	2200000708 dt. 12.04.2024	Sunsure SolarPark RJ One Pvt. Ltd.	Bijapur, Karnataka	Land BG	Generating station(s), including REGS(s), without ESS	Bijapur PS	48 (Wind)	Connectivity Enhancement (against app. no. 2200000586 for 252 MW) 48	31.12.2027	ISTS
iii.	2200000717 dt. 16.04.2024	Welspun Godavari Pvt. Ltd.	Bijapur, Karnataka	Land BG	Generating station(s), including REGS(s), without ESS	Bijapur PS	250 (Wind)	Connectivity 250	31.01.2027	ISTS
iv.	2200000764 dt. 25.04.2024	Enfinity Global Haritha Udwal Pvt. Ltd.	Bijapur, Karnataka	Land Route	Generating station(s), including REGS(s), without ESS	Bijapur PS	100 (Wind)	Connectivity 100	31.12.2026	Requested to grant connectivity through DTL of M/s Tepsol Green Energy Pvt. Ltd. (application no. 2200000657) & submitted the sharing agreement along with application
v.	2200000792 dt. 02.05.2024	UPC Renewables India Management Pvt. Ltd.	Bijapur, Karnataka	Land Route	Generating station(s), including REGS(s), without ESS	Bijapur PS	56 (Wind)	Connectivity Enhancement 56	30.11.2026	Requested to grant connectivity through already granted connectivity to it for app. no. 2200000584.
vi.	2200000868 dt. 30.05.2024 at 13:50 hrs	Purvah Green Power Pvt. Ltd.	Bijapur, Karnataka	Land BG	Generating station(s), including REGS(s), without ESS	Bijapur PS	351 (Wind)	Connectivity 351	01.08.2026 (Vide email dated 06.09.2024 requested to consider start date of connectivity	IST S

									as 31.03.2027)	
vii.	2200000870 dt. 30.05.2024 at 14:20 hrs	Ganeko Four Energy Pvt. Ltd.	Bijapur, Karnataka	Land BG	Generating station(s), including REGS(s), without ESS	Bijapur PS	354 (Hybrid: Wind-99 MW & Solar-255 MW)	Connectivity 300	30.06.2028	ISTS
viii.	2200000871 dt. 30.05.2024 at 15:40 hrs	Purvah Green Power Pvt.Ltd.	Bijapur, Karnataka	Land BG	Generating station(s), including REGS(s), without ESS	Bijapur PS	250.8 (Wind)	Connectivity 250.8	01.08.2026 ((Vide email dated 06.09.2024 requested to consider start date of connectivity as 31.03.2027)	ISTS SIWSUS
ix.	2200000898 dt 03.06.2024	Diyos One Renewables Private Limited	Vijayapura, Karnataka	Land BG route	Generating station(s), including REGS(s), without ESS	Bijapur PS	250 (wind)	Connectivity 250	30.06.2028	ISTS
х.	2200000939 dt. 17.06.2024	Avaada Energy Private Limited	Bijapur, Karnataka	Land BG route	Generating station(s), including REGS(s), without ESS	Bijapur PS	300 (wind)	Connectivity 300	30.06.2027	ISTS
xi.	2200000969 dt 21.06.2024	TEQ Green Power Xiii Private Limited	Vijayapura, Raichur and Bagalkote, Karnataka	Land BG route	Generating station(s), including REGS(s), without ESS	Bijapur PS	120 (wind)	Connectivity	15.03.2027	ISTS
xii.	2200000937 dt 26.06.2024		Vijayapura,	Land BG route	Generating station(s), including REGS(s),	Bijapur PS	88 (wind)	Connectivity enhancement (app. no. 2200000584 for	28.02.2027	-

Private Limited	without E	9 MW) 88
	Total	13.8

CTU informed that above application were listed in 33rd CMETS-SR meeting, held on 31.07.2024, wherein it was agreed that all above applications shall be deliberated in next CMETS meeting after identification and finalization of additional transmission system strengthening beyond Bijapur PS. Proposal for above applications is given with other applications received for grant of Connectivity at Bijapur PS, at agenda item no. D(2)

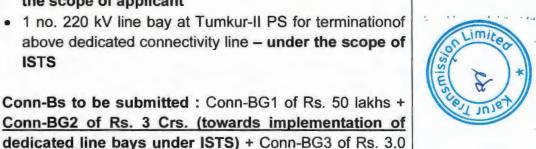
C.7. Revision in Connectivity transmission system of Ayana at Tumkur-II PS after revocation of Connectivity of Project Ten

CTU informed that M/s Project Ten Renewable Pvt. Ltd. (application no. 2200000301) was granted In-principle grant of connectivity for 50 MW at Tumkur-II PS through 220 kV S/c line and a new 220 kV bay was allocated for termination of dedicated connectivity transmission line. Subsequently, in the 25th CMETS-SR, held on 28.11.2024, it was agreed to grant connectivity for 150 MW to M/s Ayana Renewable Power Pvt. Ltd. (application no. 2200000320) through sharing of dedicated Connectivity transmission system of M/s Project Ten Renewable Power Pvt. Ltd. (for application no. 2200000301) i.e. generating Pooling Station of M/s Project Ten Renewable Power Pvt. Ltd. – Tumkur-II PS 220 kV S/c line.

CTU vide letter dated 05.08.2024, has revoked the in-principle grant of Connectivity to M/s Project Ten Renewable Pvt. Ltd. (application no. 2200000301). In view of same, it was proposed to reallocate the 220 kV terminal bay at Tumkur-II PS for termination of dedicated connectivity line to M/s Ayana Renewable Power Pvt. Ltd. (application no. 2200000320) and modify the dedicated connectivity transmission system. After deliberation, it was agreed that dedicated connectivity system along with Conn-BG requirement may be modified for M/s Ayana Renewable Power Pvt. Ltd. (application no. 2200000320), as per below given details.



Dedicated Connectivity transmission system as agreed in **Proposed modified dedicated Connectivity** 25th CMETS-SR transmission system · Through sharing of dedicated Connectivity transmission · Generation Pooling Station of M/s Ayana Renewable Power Pvt. Ltd. - Tumkur-II PS 220 kV S/c line - - under system of M/s Project Ten Renewable Power Pvt. Ltd. (for application no. 2200000301) i.e. generating Pooling Station of the scope of applicant M/s Project Ten Renewable Power Pvt. Ltd.- Tumkur-II PS • 1 no. 220 kV line bay at Tumkur-II PS for termination of 220 kV S/c line - all arrangement under the scope of above dedicated connectivity line - under the scope of applicant ISTS • Conn-Bs to be submitted: Conn-BG1 of Rs. 50 lakhs + Conn-Bs to be submitted: Conn-BG1 of Rs. 50 lakhs + Conn-BG2 of Rs. 3 Crs. (towards implementation of Conn-BG3 of Rs. 3.0 Cr. (@Rs.2 lakhs/MW)



C.8. Modification in Connectivity transmission system agreed for grant to M/s Sprng Vayu Kiran Pvt. Ltd. (application no. 2200000751) and at Bidar PS.

Cr. (@Rs.2 lakhs/MW)

CTU informed that in the 31st CMETS-SR meeting held on 30.05.2024, it was agreed to grant Connectivity to M/s Sprng Vayu Kiran Pvt. Ltd. (application no. 2200000751) at Bidar PS for 200 MW through 220 kV S/c line with start date of Connectivity as 30.06.2029. Further, as per applicant request, it was agreed to implement 220 kV terminal line bay at ISTS end under the scope of ISTS.

In the meeting CTU stated that applicants has sought connectivity in longer time frame (30.06.2029). For ease of implementation of dedicated connectivity line bays in the matching time frame of start date of connectivity, where connectivity has been sought in longer time frame, it was proposed that dedicated connectivity line bay at ISTS end may be implemented under the scope of applicant instead of ISTS.

M/s Sprng Vayu Kiran Pvt. Ltd. stated that it would like to implement the bay at ISTS end under the scope of ISTS. Towards the same, CTU reiterated that where start date of connectivity is being sought in longer time frame and ISTS transmission system will come much ahead of the requested start date, in such cases, it will be quite challenging to implement single 220 kV bay under ISTS and match the time frame of the 220 kV line bay and generation project. Therefore, it is proposed to implement 220 kV line bay in the scope of ISTS. Further, if any applicant is willing to develop its project in 2028-30 timeframe, then it is advised to apply for grant of connectivity at such locations where transmission system is being taken up for implementation in same time frame. Transmission scheme for Bidar REZ is under implementation with SCoD as Feb.'2026. Such applications, seeking connectivity in 2028-30, are only squatting the transmission system margins, where transmission system is under implementation, without any benefit to the country.

After detailed deliberation, it was agreed that implementation of 220 kV line bay may be considered under the scope of applicant, M/s Sprng Vayu Kiran Pvt. Ltd. (application no. 2200000751), and Connectivity transmission system of may be revised as per below modification.

Dedicated Connectivity transmission system as agreed in 31st CMETS-SR	Modified
· Generation Pooling Station of M/s Sprng Vayu Kiran Pvt. Ltd.	 Genera
- Bidar PS 220 kV S/c line along with line bay at generation	Ltd I
pooling station – under the scope of applicant	genera
• 1 no. 220 kV line bay at Bidar PS end for termination of	applica
dedicated line - under the scope of ISTS	• 1 no. 2
• Conn-Bs to be submitted : Conn-BG1 of Rs. 50 lakhs +	dedicat
Conn-BG2 of Rs. 3 Crs. (towards implementation of	• Conn-E
dedicated line bays under ISTS) + Conn-BG3 of Rs. 4.0 Cr.	Conn-E
(@Rs.2 lakhs/MW)	

Modified dedicated Connectivity transmission system

- Generation Pooling Station of M/s Sprng Vayu Kiran Pvt.
 Ltd. Bidar PS 220 kV S/c line along with line bay at generation pooling station under the scope of applicant
- 1 no. 220 kV line bay at Bidar PS end for termination of dedicated line – under the scope of applicant
- Conn-Bs to be submitted: Conn-BG1 of Rs. 50 lakhs + Conn-BG3 of Rs. 4.0 Cr. (@Rs.2 lakhs/MW)



C.9. Connectivity quantum reduction of SAEL from 300 MW to 250 MW at Kurnool-IV

CTU informed that in the 32nd CMETS-SR held on 28.06.2024, it was agreed to grant in-principle grant of Connectivity to M/s SAEL Industries Pvt. Ltd. (app. no. 2200000843) for 300 MW at Kurnool -IV PS. Intimation for in-principle grant of Connectivity was issued vide letter dated 09.08.2024. Subsequently, M/s SAEL Industries Pvt. Ltd., vide letter dated 02.09.2024, has requested for reduction in Connectivity capacity from 300 MW to 250 MW.

After deliberation, it was agreed that Connectivity quantum may be reduced for M/s SAEL Industries Pvt. Ltd. (app. no. 2200000843) from 300 MW to 250 MW.

D. Connectivity related proposal for applications received in July 2024

D.1. Connectivity related proposal at Davangere PS

SI.	Application ID & date	Name of the Applicant	Project Location	Application for: Conn. / GNA/ GNARE	Eligibility criterion for application	Nature of Applicant	Location details of Conn. / GNA requested	Total Installed Capacity/ GNA		GNA (as requeste	
l.	2200001015 dt 20.06.2024	JSW Neo Energy Ltd.	Didege, Jagalur, Davangere, Karnataka	Connectivity	LoA [contract capacity - 300 MW (Solar :200 MW at Gujarat & Wind : 100 MW at Davangere, Karnataka)]	Generating station(s), including REGS(s), without ESS	Davangere PS	100 (wind)	100	31.07.202 6	ISTS
II.	2200001019 dt. 05.07.2024	JSW Neo Energy Ltd.	Didege, Jagalur, Davangere, Karnataka	Connectivity	SECI LoA [contract capacity - 300 MW (Solar :200	Generating station(s), including REGS(s), without ESS	Davangere PS	100 (wind)	100	31.07.202 6	ISTS
				Total					200		Simiss

- CTU informed that M/s JSW Neo Energy Ltd. has connectivity on basis of SECI LoA SECI/C&P/HPD/T8/LOA-A/JSWNEL/P1/65169 dated 25.06.2024 and SJVN LoA, SJVN/CC-Delhi/REIA/2024/HYBRID-2/JSW/387 dated 26.306.2024 & amendment dated 03.07.2024 for application no. 2200001019 and 2200001015 respectively.
- 4x1500 MVA, 765/400kV and 4x500 MVA, 400/220 kV Davanagere / Chitradurga Pooling Station is being established as part of
 'Transmission system for integration of Davanagere / Chitradurga REZ'. Details of transmission system as per Annexure-II. The
 transmission scheme has been recommended for implementation through TBCB route in the 18th NCT held on 05.03.2024 and
 Gazette Notification published on 15.03.2024 by Ministry of Power with implementation time frame of 24 months. Considering the
 bidding process timeline, the scheme is expected tentatively by Sept. /Oct.' '2026.
- In 33nd CMETS-SR, held on 31.07.2024, it was agreed to augment transformation capacity by 4x500 MVA, 400/220 kV ICTs (5th 8th) at Davangere PS.
- Total Connectivity already granted/ agreed for grant at Davanagere PS: 2625 MW
- Total additional connectivity capacity under consideration: 200 MW [100 MW + 100 MW]
- System studies has been carried out and it was observed that connectivity may be granted for 200 MW at Davanagere / Chitradurga with existing/under-construction/under bidding transmission system which includes ISTS Network Expansion scheme in Western Region & Southern Region for export of surplus power during high RE scenario in Southern Region (details given at Annexure-I) and Transmission system for integration of Davanagere / Chitradurga REZ (details as per Annexure-II) and augmentation of 4x500 MVA, 400/220 kV ICT (5th 8th) at Davanagere PS.
- In the meeting, M/s JSW Neo Energy Ltd. proposed to implement the 220 kV S/c line for application 2200001015 through stringing of 2nd arm of D/c tower of dedicated connectivity transmission line agreed/ granted for application no. 2200000932. The same was agreed. However, applicant was advised to submit the proposal for same. Subsequently, vide email dated 25.09.2024, M/s JSW Neo Energy Ltd. submitted the request for same.
- · After deliberation, it was agreed that connectivity may be grated to above applications as per details given below.

	Application	Name of the	Connectivit	Conn.	Connectivity Transmission System			Start date of	637
SI.	ID	Applicant	Connectivit y at	Quantum (MW)	Dedicated Connectivity Transmission System (DTL)		Augmenta tion other than ATS		BG details
1.	2200001015 dt. 05.07.2024	JSW Neo Energy Ltd.	Davangere PS	100	 Generation Pooling Station of M/s JSW Neo Energy Ltd. – Davanagere / Chitradurga PS 220 	NIL	Details given below.	31.10.2026* (Tentative) with	• Conn-BG1 : Rs. 50 lakhs

					kV S/c line (through stringing of 2 nd arm of D/c tower of dedicated connectivity transmission line agreed / granted for application no. 2200000932) along with line bay at generation PS – under the scope of applicant 1 no. 220 kV line bay at Davanagere / Chitradurga PS for above DTL – under the scope of ISTS		availability of common tr. System other than ATS	Rs.3.0 Cr
11.	2200001019 dt 05.07.2024	JSW Neo Energy Ltd.	Davangere PS	100	 Through dedicated connectivity transmission system agreed for M/s JSW Neo Energy Ltd. for app. no. 2200001015 i.e. Generation Pooling Station of M/s JSW Neo Energy Ltd. – Davanagere / Chitradurga PS 220 kV S/c line (through stringing of 2nd arm of D/c tower of dedicated connectivity transmission line agreed / granted for application no. 2200000932) – all arrangement under the scope of applicant 	Details given below.	31.10.2026* (Tentative) with availability of common tr. System other than ATS	Conn-BG2 : NA (towards bay)Conn-BG-3 :

^{*}Firm date of start date of connectivity shall be informed after successful transfer of SPV.

Common transmission system (augmentation) other than ATS for M/s Serentica Renewables India 11 Pvt. Ltd. (application no. 2200000855) M/s JSW Neo Energy Ltd. (application no. 2200000932) and M/s Hexa Climate Solutions Pvt. Ltd. (application no. 2200000982):

- ISTS Network Expansion scheme in Western Region & Southern Region for export of surplus power during high RE scenario in Southern Region as per Annexure-I.
- Transmission system for integration of Davanagere/ Chitradurga REZ (details as per Annexure-II).
- Augmentation of 4x500 MVA, 400/220 kV ICT (5th 8th) at Davangere PS.

Note: applicants are required to submit BGs as per above details within one month of the in-principle grant of Connectivity intimation.

D.2. Connectivity related proposal at Bijapur PS

Details of the application, submitted in July'2024, seeking connectivity at Bijapur PS is given below.

SI.	Application ID & date	Name of the Applicant	Project Location	Application for: Conn. / GNA/ GNARE	Eligibility criterion for applicatio n	Nature of Applicant	Location details of Conn. / GNA requested	/GNA	Conn. Sought for [Power interchange with ISTS (MW)]	Start date of Conn. / GNA (as requested)	Implementatio n of terminal bay at ISTS end under the scope of (as requested)
i.	2200001041 dt 11.07.2024	Sunsure Solarpark RJ One Private Limited	Yankanchi, Sindgi Taluka, Bijapur Karnataka	Connectivity	Land BG route	Generating station(s), including REGS(s), without ESS	Bijapur PS	150 (wind)	150	31.12.2027	ISTS
11.	2200001108 dt. 31.07.2024 & 12.08.2024	Purvah Green Power Private Limited	Hunsagi & Bandeppan ahalli, Yadgir & Bijapur, Karnataka	in Connectivity of app. no. 220000871 (250.8 MW)	Land BG route	Generating station(s), including REGS(s), without ESS	Bijapur PS	90 (wind)	í	01.08.2026 (vide email dated 06.09.2024 applicant requested to consider start date of connectivity as 31.03.2027)	-
				Total					240		



Details of the application received in April, May and June'2024 are given below.

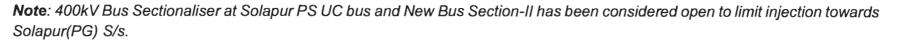
SI. No.	Application ID, date	Name of the Applicant	Project Location	Eligibility criterion	Nature of Applicant	Location details of Conn. / GNA (as requested)	Installed Capacity/ GNA (MW)	Application & quantum: Connectivity / GNA/ GNA _{RE} (MW)	Start date of Conn. / GNA (as requested)	Implementation of terminal bay at ISTS end under the scope of (as requested)
i.	2200000692 dt. 05.04.2024	Vismaya Renewables India Project Pvt. Ltd.	Bijapur, Karnataka	Land BG	Generating station(s), including REGS(s), without ESS	Bijapur PS	300 (Wind)	Connectivity 300	01.04.2027	ISTS
ii.	2200000708 dt. 12.04.2024	Sunsure SolarPark RJ One Pvt. Ltd.	Bijapur, Karnataka	Land BG	Generating station(s), including REGS(s), without ESS	Bijapur PS	48 (Wind)	Connectivity Enhancement 48	31.12.2027	ISTS
iił.	2200000717 dt. 16.04.2024	Welspun Godavari Pvt. Ltd.	Bijapur, Karnataka	Land BG	Generating station(s), including REGS(s), without ESS	Bijapur PS	250 (Wind)	Connectivity 250	31.01.2027	ISTS
iv.	2200000764 dt. 25.04.2024	Enfinity Global Haritha Udwal Pvt. Ltd.	Bijapur, Karnataka	Land Route	Generating station(s), including REGS(s), without ESS	Bijapur PS	100 (Wind)	Connectivity 100	31.12.2026	Requested to grant connectivity through DTL of M/s Tepsol Green Energy Pvt. Ltd. (application no. 2200000657)
٧.	2200000792 dt. 02.05.2024	UPC Renewables India Management Pvt. Ltd.	Bijapur, Karnataka	Land Route	Generating station(s), including REGS(s), without ESS	Bijapur PS	56 (Wind)	Connectivity Enhancement 56	30.11.2026	Requested to grant connectivity through already granted connectivity to it for app. no. 2200000584.

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vi.	2200000868 dt. 30.05.2024 at 13:50 hrs	Purvah Green Power Pvt. Ltd.	Bijapur, Karnataka	Land BG	Generating station(s), including REGS(s), without ESS	Bijapur PS	351 (Wind)	Connectivity 351	01.08.2026	ISTS
vii.	2200000870 dt. 30.05.2024 at 14:20 hrs	Ganeko Four Energy Pvt. Ltd.	Bijapur, Karnataka	Land BG	Generating station(s), including REGS(s), without ESS	Bijapur PS	354 (Hybrid: Wind-99 MW & Solar-255 MW)	Connectivity 300	30.06.2028	ISTS
viii.		Purvah Green Power Pvt.Ltd.	Bijapur, Karnataka	Land BG	Generating station(s), including REGS(s), without ESS	Bijapur PS	250.8 (Wind)	Connectivity 250.8	01.08.2026 (vide email dt 06.09.2024 requested to consider start date as 31.03.2027)	ISTS
ix.	2200000898 dt 03.06.2024	Diyos One Renewables Private Limited	Vijayapura, Karnataka	Land BG route	Generating station(s), including REGS(s), without ESS	Bijapur PS	250 (wind)	Connectivity 250	30.06.2028	ISTS
Χ.	2200000939 dt. 17.06.2024	Avaada Energy Private Limited	Bijapur, Karnataka	Land BG route	Generating station(s), including REGS(s), without ESS	Bijapur PS	300 (wind)	Connectivity 300	30.06.2027	ISTS
xi.	2200000969 dt 21.06.2024	Limited	Vijayapura, Raichur and Bagalkote, Karnataka	Land BG route	Generating station(s), including REGS(s), without ESS	Bijapur PS	120 (wind)	Connectivity	15.03.2027	ISTS
xii.	2200000937 dt 26.06.2024	Renewables	Basavanabag ewadi, Taluka Vijayapura, Karnataka	Land BG route	Generating station(s), including REGS(s),	Bijapur PS	88 (wind)	Connectivity enhancement (app. no. 2200000584 for	28.02.2027	osimission in the second

Private Limited	without ESS	160 MW) 88	
То	tal	2413.8	

- CTU informed that Bijapur PS has been considered with 5x500 MVA, 400/220 kV transformation capacity. Details of the transmission scheme is given at Annexure-III. At present transmission scheme is under bidding and SPV transfer is expected by Sept. / Oct.'2024. Considering N-1 criteria, Connectivity corresponding to 2000 MW may be considered for grant with under bidding transmission scheme.
- Total Connectivity granted/ agreed for grant : 1614.4 MW
- At present, about 385 MW margin is available for grant of additional connectivity at Bijapur PS with under bidding transmission scheme.
- Total Connectivity under consideration: 2413.8 [applications pending from 32nd CMETS-SR (1655.8 MW) + applications received in June'24 (758 MW) + Application received in July'2024(240 MW)]
- As per priority of the application, M/s Vismaya Renewables India Project Pvt. Ltd. (application no. 2200000692 for 300 MW) and M/s Sunsure SolarPark RJ One Pvt. Ltd. (application no. 2200000708 for 48 MW) may be considered for grant of connectivity at Bijapur PS with under bidding transmission system for Bijapr REZ, as per Annexure-III.
- Further, for grant of additional connectivity for 2265.8 MW, additional transmission system strengthening beyond Bijapur PS has been identified. Details of the transmission system is given below.
 - > Augmentation of 400/220 kV, 5x500 MVA Pooling Station at Bijapur PS along with 220kV bays for RE interconnection
 - ➤ Bijapur Solapur PS (Sec-II) (Quad ACSR/ AAAC/ AL59 Moose equivalent) line (~150km.)
 - ➤ Karjat-II Solapur PS 400kV D/c (Quad ACSR/ AAAC/ AL59 Moose equivalent) line (~150km)
 - ➤ Establishment of 2x1500MVA, 765/400kV Karjat-II New S/s
 - ➤ LILO of Aurangabad Solapur 765kV D/c line at Karjat-II (LILO route length ~70km.)
 - Karjat-II Karjat(M) 400kV D/c (Quad ACSR/ AAAC/ AL59 Moose equivalent) line (~30-40km)





Considering implementation schedule of 24 months, Bidding process timeline, discussion and approval of scheme in Western Region and other administrative process, the additional transmission system strengthening beyond Bijapur PS is expected tentatively by April/ May ' 2027.

It is to mention that transmission system for grant of connectivity is expected by April/May' 2027, however, applicants are seeking
connectivity in longer time frame (2028 and beyond). For ease of implementation of dedicated connectivity line bays in the matching
time frame of start date of connectivity, where connectivity has been sought in longer time frame, it is proposed that dedicated
connectivity line bay at ISTS end may be implemented under the scope of applicant.

 After detailed deliberation, it was agreed that connectivity may be granted to M/s Vismaya Renewables India Project Pvt. Ltd. (application no. 2200000692 for 300 MW) and M/s Sunsure SolarPark RJ One Pvt. Ltd. (application no. 2200000708 for 48 MW) at Bijapur PS through following connectivity transmission system.

	Application	Name of the	Connectivi	Conn.	Connectivity Transmission Syst			Start date of	missi
SI.	ID	Applicant	ty at	Quantum (MW)	Dedicated Connectivity Transmission System (DTL)	ATS	Augmenta tion other than ATS	Connectivity	BG details
i.	2200000692 dt. 05.04.2024	Vismaya Renewables India Project Pvt. Ltd.	Bijapur PS	300	 Generation Station of M/s Vismaya Renewables India Project Pvt. Ltd. – Bijapur PS 220 kV S/c line along with line bay at generation PS – under the scope of applicant 1 no. 220 kV line bay at Anantapur-II PS for above DTL – under the scope of ISTS 	Nil	As per details given below	01.10.2027 (with availability of common tr. System other than ATS)	terminal bay)
ii.	2200000708 dt. 12.04.2024	Sunsure SolarPark RJ One Pvt. Ltd.	Bijapur PS	Connectivity Enhancement 48	 Through dedicated Connectivity transmission system granted to M/s Sunsure SolarPark RJ One Pvt. Ltd. for application no. 2200000586 (252 MW) i.e Generation Pooling station of 	Nil	As per details given below	31.12.2027 (with availability of common tr. System other than ATS)	NA

M/s Sunsure SolarPark RJ One Pvt. Ltd. – Bijapur PS 220 kV S/c	(@ Rs. 2.0 lakh /MW)
line along with line bay at	lakii /ivivv)
generation pooling station – all	
arrangement under the scope	
of applicant	

Common transmission system (augmentation) other than ATS for above applications at Bijapur PS:

Transmission Scheme for integration of Bijapur REZ in Karnataka, as per Annexure-III.

Note: applicants are required to submit BGs as per above details within one month of the in-principle grant of Connectivity intimation

Further, connectivity to other pending applications shall be granted after finalization of transmission system required for evacuation of power.

D.3. Connectivity related proposal at Ananthapuram-II PS

SI.	Application ID & date	Name of the Applicant	Project Location	Application for: Conn. / GNA/ GNARE	Eligibility criterion for a pplication	Nature of Applicant	Location details of Conn. / GNA requested	GNA	Conn. Sought for [Power interchange with ISTS (MW)]	Start date of Conn. /	at ISTS end
l.	2200001043 dt 11.07.2024	Hexa Climate Solutions Pvt. Ltd.	Yerur, Ananthpur, AP	Connectivity	Land BG route	Generating station(s), including REGS(s), with ESS	Anantpur-II PS	200 (Wind : 200 MW + BESS : 50 MW)	200	30.06.2028	ISTS
11.	22000001074 dt 22.07.2024	JSW Neo Energy Ltd.	Raptadu, Ananthpur, AP	Connectivity	LoA [Contract Capacity : 500 MW]	Generating station(s), including REGS(s), without ESS	Anantpur-II PS	Solar : 500 + ESS : 500 MW	500	31.08.2026	ISTS (for 220 kV)

111.	2200001077 dt 24.07.2024	Renewable	Donimukkala, Nelagonda, Thimmapuram , Ananthpur, AP	Connectivity	Land route	Generating station(s), including REGS(s), without ESS	Anantpur-II PS	Hybrid: 430 MW [Solar: 200 MW + Wind: 230 MW]	300	31.12.2026	ISTS
				Total					1000		

- CTU informed that applicants have sought grant of Connectivity as per above details. M/s JSW Neo Energy Ltd. has submitted application on basis of SECI LoA, SECI/C&P/SPD/ISTS-XV/LOA/JSWNEL/P1/65776 dated 19.07.2024.
- Ananthapuram-II PS in Andhra Pradesh was identified with 6x1500 MVA, 765/400 kV & 9x500 MVA, 400/220 kV ICTs for integration & evacuation of about 7.5 GW RE capacity from Anantapur area of Andhra Pradesh. During the 32nd CMETS-SR, it was decided that the transmission scheme may be considered for implementation in two phases. Phase-1 of the transmission scheme includes establishment of 4x1500 MVA, 765/400 kV & 6x500 MVA, 400/220 kV Ananthapuram-II PS, Andhra Pradesh along with 2x330 MVAr (765 kV) bus reactors at Ananthapuram-II PS. The transmission scheme was agreed in 22nd NCT meeting held on 23.08.2024. Details of the transmission system are given at Annexure-IV. Considering administrative approval and bidding process with implementation time period of 24 months, transmission scheme is expected by Feb. / March 2027.
- Total connectivity granted / agreed for grant at Anantpur-II PS: 2489.7 MW (includes grant of connectivity for 500 MW at 400 kV agreed at agenda item no. C.3)
- Total Connectivity under consideration: 1000 MW (includes proposed grant of connectivity for 500 MW at 400 kV)
- Accordingly, it was deliberated that for immediate evacuation of power Phase-I transmission system of Ananthapuram-II PS is sufficient for cumulative connectivity capacity corresponding to 3489.7 MW (includes 1000 MW connectivity at 400 kV level).
- CTU informed that system studies has been carried out and it is observed that connectivity may be granted for 1000 MW at Anantapur-II PS with existing/under-construction/under bidding transmission system which includes ISTS Network Expansion scheme in Western Region & Southern Region for export of surplus power during high RE scenario in Southern Region (details given at Annexure-I), Transmission system for integration of Davanagere/ Chitradurga REZ (details as per Annexure-II), Phase-1 of Transmission System for Integration of Anantapur-II (near Rayadurgam) REZs (details as per Annexure-IV).
- It is to mention that for optimization of transmission system, all applications, seeking connectivity for 500 MW and above, are being
 considered for grant at 400 kV. Further, transmission system for grant of connectivity is expected by Feb. /March 2027, however,
 applicants are seeking connectivity in longer time frame (2028 and beyond). For ease of implementation of dedicated connectivity

line bays in the matching time frame of start date of connectivity, where connectivity has been sought in longer time frame, it is proposed that dedicated connectivity line bay at ISTS end may be implemented under the scope of applicant.

In the meeting, M/s JSW Neo Energy Ltd. requested to implement 400 kV terminal line bay at Ananthapur-II PS for termination of its
project, under the scope of ISTS and implementation of 400 kV S/c line on D/c tower. The same was agreed. M/s JSW Neo Energy
Ltd. submitted request for same, vide email dated 25.09.2024.

After deliberation, it was agreed that connectivity may be granted to above applicants as per details given below.

	Application	Name of the		Conn.	Connectivity Transmission	Syster		Start date of	
SI.	ID	Applicant	Conn. location	Quantum (MW)	Dedicated Connectivity Transmission System (DTL)	ATS	Augmentatio n other than ATS	Connectivit y/	BG details
I.	2200001043 dt 11.07.2024	Hexa Climate Solutions Pvt. Ltd.	Ananthapuram- II PS	200	 Generation Station of M/s Hexa Climate Solutions Pvt. Ltd – Anantapur-II PS 220 kV S/c line along with line bay at generation PS – under the scope of applicant 1 no. 220 kV line bay at Anantapur-II PS for above DTL – under the scope of applicant 	NIL	Details given below.		Rs. 50 lakhs Conn-BG2: NA
11.	2200000107 4 dt 22.07.2024	JSW Neo Energy Ltd.	Ananthapuram -II PS	500	 Generation Station of M/s JSW Neo Energy Ltd.— Anantapur-II PS 400 kV S/c line along with line bay at generation PS – under the scope of applicant 1 no. 400 kV line bay at Anantapur-II PS for above DTL – under the scope of ISTS 	NIL	Details given below.	31.03.2027 * (Tentative) with	Conn-BG1: Rs. 50 lakhs Conn-BG2: 6.0 Crs. (towards terminal bay at ISTS) Conn-BG-3: Rs. 10.0 Cr (@ Rs. 2.0 lakh /MW)

III. dt Renewables India Pvt. Ltd. Ananthapura	m 300	 Generation Station of M/s Serentica Renewables India Pvt. Ltd.— Anantapur-II PS 220 kV S/c line along with line bay at generation PS — under the scope of applicant 1 no. 220 kV line bay at Anantapur-II PS for above DTL — under the scope of ISTS 	NIL	Details given below.	31.03.2027 * (Tentative) with availability of common tr. System other than ATS	 Conn-BG1: Rs. 50 lakhs Conn-BG2: RS. 3.0 Crs. (towards terminal bay at ISTS) Conn-BG-3: Rs. 6.0 Cr (@ Rs. 2.0 lakh /MW)
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Common transmission system (augmentation) other than ATS for M/s Hexa Climate Solutions Pvt. Ltd. (app. no 2200001043), M/s JSW Neo Energy Ltd. (app. No. 2200001074) and M/s Serentica Renewables India Pvt. Ltd. (app. no 22000010077):

- ISTS Network Expansion scheme in Western Region & Southern Region for export of surplus power during high RE scenario in Southern Region as per Annexure-I.
- Transmission system for integration of Davanagere/ Chitradurga REZ (details as per Annexure-II).
- Transmission System for Integration of Anantapur-II (near Rayadurgam) REZs (Phase-1) (details as per Annexure-IV)

Note: applicants are required to submit BGs as per above details within one month of the in-principle grant of Connectivity intimation.

D.4. Connectivity related proposal at Bidar PS

SI.	Application ID & date	Name of the Applicant	Project Location	for: Conn. /	Eligibility criterion for applicatio n	Nature of Applicant	Location details of Conn. / GNA requested	Installed Capacity/ GNA	[Power interchang	Start date of Conn. / GNA (as requested)	Implementati on of terminal bay at ISTS end under the scope of (as requested)
I.	2200001072 dt 19.07.2024	Hero Solar Energy Private Limited	Goundgaon & Hassikera, Bidar, Karnataka	Connectivity	oupdoity.	Generating station(s), including REGS(s),	Bidar PS	250 MW [Solar : 250 MW & BESS : 125	250	31.10.2026	ISTS

						with ESS		MW]			
II.	2200001098 dt 30.07.2024	Lambent Energy (Eight)	Deoni, Latur, Maharashtra		Land BG route	Generating station(s), including REGS(s), without ESS	Bidar PS	Hybrid: 354 MW [Solar: 255 MW & Wind: 99 MW]	300	31.12.2027	ISTS
				Total					550		

- CTU informed that Hero Solar Energy Pvt. Ltd. has Connectivity on basis of SECI LoA, SECI/C&P/SPD/ISTS-XV/LOA/HSEPL/P1/65774 dated 19.07.20254.
- 3x1500 MVA, 765/400kV & 5x500 MVA, 400/220 kV Bidar PS has been under implementation as part of "Transmission Scheme for Solar Energy Zone in Bidar (2500 MW), Karnataka" with implementation schedule of 09.02.2026. In 33rd CMETS-SR, held on 31.07.2024, it was agreed for implementation of 3x500 MVA (6th 8th), 400/220 kV ICT and 1x1500 MVA, 765/400kV ICT (4th) at Bidar PS.
- Earlier Connectivity granted / agreed for grant at Bidar PS: 2800 MW.
- Additional grant of connectivity under consideration: 550 MW
- Considering implementation schedule of 21 months and other administrative and bidding process, augmentation of transformation capacity may be available tentatively by Sept./ Oct.' 2026, if required in matching time frame.
- Study analysis has been carried out for grant of additional connectivity for 550 MW. From study analysis, it is observed that Connectivity may be granted along with existing/under-construction transmission system which includes ISTS Network Expansion scheme in Western Region & Southern Region for export of surplus power during high RE scenario in Southern Region (details given at Annexure-I), Transmission Scheme for Solar Energy Zone in Bidar (2500 MW), Karnataka (details as per Annexure-V) and augmentation of 3x500 MVA, 400/220 kV (6th 8th) ICTs and 1x1500 MVA, 765/400kV ICT (4th) at Bidar PS.
- M/s Lambent Energy (Eight) Private Limited has sought connectivity from 31.12.2027, which is long time ahead. For ease of implementation of 220 kV dedicated connectivity line bay at ISTS end in matching time frame of generation project, it is proposed to implent 220 kV dedicated Connectivity line bay at ISTS end under the scope of applicant. M/s Lambent Energy (Eight) Pvt. Ltd. requested that it is ready to prepone the start date of connectivity as 31.12.2026 if terminal line bay at ISTS end may be taken for

implementation under ISTS. After deliberation it was agreed that as M/s Lambent Energy (Eight) Pvt. Ltd. has preponed the start date of connectivity and there is no too much time gap between start date of connectivity and availability of connectivity transmission system, therefore, terminal line bay may be taken up for implementation under the scope of ISTS.

- M/s Hero Solar Energy Pvt. Ltd. requested to consider implementation of 220 kV S/c line on D/c tower. The same was agreed.
- Subsequently, vide email dated 29.09.2024, M/s Lambent Energy (Eight) Pvt. Ltd. requested to consider start date of connectivity at 31.12.2026 and implement the terminal line bay at Bidar PS under the scope of ISTS.
- After deliberation it was agreed that connectivity may be granted to M/s Hero Solar Energy Pvt. Ltd. and M/s Lambent Energy (Eight)
 Pvt. Ltd. as per details given below.

				Connectivit	Connectivity Transmission Sy	stem	under GNA	Start date	
SI.	Application ID	Name of the Applicant	Connectivit y at	y Quantum (MW)			Augmentatio n other than ATS		BG details
1.	2200001072 dt 19.07.2024	Hero Solar Energy Private Limited	Bidar PS	250	 Generation Pooling S/s of M/s Hero Solar Energy Pvt. Ltd. – Bidar PS 220 kV S/c line on D/c tower along with line bay at generation PS – under the scope of applicant 1 no. 220 kV line bay at Bidar PS for above DTL – under the scope of ISTS 	NIL	Details given below.	31.10.2026 (Tentative) with availability of common tr. System other than ATS	Crs. (towards
n.	2200001098 dt 30.07.2024	Lambent Energy (Eight) Private Limited	Bidar PS	300	 Generation Pooling S/s of M/s Lambent Energy (Eight) Pvt. Ltd. – Bidar PS 220 kV S/c line along with line bay at generation PS – under the scope of applicant 1 no. 220 kV line bay at Anantapur-II PS for above DTL – under the scope of ISTS 	NiL	Details given below.	31.12.2026 (Tentative) with availability of common tr. System other than ATS	Crs. (towards

Common transmission system (augmentation) other than ATS for M/s Hero Solar Energy Private Limited (app. no 2200001072) for 250 MW and M/s Lambent Energy (Eight) Private Limited (app. no 2200001098) for 300 MW:

- ISTS Network Expansion scheme in Western Region & Southern Region for export of surplus power during high RE scenario in Southern Region as per Annexure-I.
- Transmission Scheme for Solar Energy Zone in Bidar (2500 MW), Karnataka (details as per Annexure-V)
- Augmentation of 3x500 MVA, 400/220 kV (6th 8th) ICTs and 1x1500 MVA, 765/400kV ICT (4th) at Bidar PS

Note: applicants are required to submit BGs as per above details within one month of the in-principle grant of Connectivity intimation

D.5. Connectivity related proposal at Kurnool-IV PS

SI.	Application ID & date	Name of the Applicant	Project Location	Application for: Conn. / GNA/ GNARE	Eligibility criterion for application	Nature of Applicant	Location details of Conn. / GNA requested	Installed Capacity/ GNA	Solidht for	Start date of Conn. / GNA (as requeste	terminal bay
I.	2200001099 dt 31.07.2024	Pratapati Energy (Seven) Private Limited	Ramakris hnapuram , Kurnool, Andhra Pradesh	Connectivity	Land BG route	Generating station(s), including REGS(s), without ESS	PS PS	Hybrid :354 MW (solar : 255 MW + Wind : 99 MW)		31.12.202 7	ISTS
				Total					300		

- CTU informed that 6x1500 MVA, 765/400 kV & 10x500 MVA, 400/220 kV Kurnool-IV PS, near Aspiri, has planned for integration of additional RE capacity (7.5 GW). In the 32nd CMETS-SR it was agreed to implement Kurnool-IV PS in phased manner. In 23rd NCT held on 2.09.2024, it was agreed to implement Phase-I transmission system, which includes establishment of 4x1500 MVA, 765/400 kV and 4x500 MVA, 400/220 kV Kurnool-IV PS. Details of the phase-I transmission system is given at Annexure-VI. Considering administrative approval and bidding process with implementation time period of 24 months, transmission scheme is expected by Feb / Mar, 2027.
- Earlier Connectivity granted / agreed for grant at Kurnool-IV PS: 1230 MW.

- Additional grant of connectivity under consideration: 300MW
- System studies have been carried out and it is observed that additional connectivity may be granted for 300 at Kurnool-IV PS with
 existing/under-construction/under bidding transmission system which includes ISTS Network Expansion scheme in Western Region
 & Southern Region for export of surplus power during high RE scenario in Southern Region (details given at Annexure-I), and Phase1 of Transmission System for Integration of Kurnool-IV REZs (details as per Annexure-VI).

After detailed deliberation, it was agreed that connectivity may be granted to above applications as per details given below.

	Application	Name of the	Connectivit	Connectivit	Connectivity Transmission S			Start date of	la s
SI.	ID	Applicant	y at	y Quantum (MW)	Dedicated Connectivity Transmission System (DTL)	ATS	Augmentatio n other than ATS	Connectivit	BG details
l.	2200001099 dt 31.07.2024	Pratapati Energy (Seven) Private Limited	Kurnool-IV PS	300	 Generation Station of M/s Pratapati Energy (Seven PVt. Ltd.— Kurnool -IV PS 220 kV S/c line along with line bay at generation PS — under the scope of applicant 1 no. 220 kV line bay at Kurnool-IV PS for above DTL — under the scope of ISTS 	NIL	Details given below.	(Tentative) with	

Common transmission system (augmentation) other than ATS for M/s Pratapati Energy (Seven) Private Limited (app. no 2200001099):

- ISTS Network Expansion scheme in Western Region & Southern Region for export of surplus power during high RE scenario in Southern Region as per Annexure-I.
- Transmission System for Integration of Kurnool-IV PS (Near Aspiri) (Phase-1) details as per Annexure-VI)

Note: applicants are required to submit BGs as per above details within one month of the in-principle grant of Connectivity intimation.

D.6. Connectivity related proposal at Karur PS

SI.	Application ID & date	Name of the Applicant	Project Location		Eligibility criterion for application	Nature of Applicant	Location details of Conn. / GNA requeste d	Total Installed Capacity/ GNA	Sought for	Start date of Conn. / GNA (as requeste	terminal bay at ISTS end
I.	2200001023 dt 08.07.2024	Nannai Solar Park Pvt. Ltd.	Karur, Tamil Nadu	Connectivity	Land BG route	Generating station(s), including REGS(s), without ESS		57 (Wind)	57	30.09.202 5	Enhancement of application no. 2200000628 (93 MW)
II.	2200001033 dt 22.07.2024	Navaladi Wind Park Pvt. Ltd.	Karur, Tamil Nadu	Connectivity	Land BG route	Generating station(s), including REGS(s), without ESS	Karur PS	100 (Wind)	100	30.09.202 5	-
				Total					157		

- CTU informed that M/s Navaladi Wind Park Pvt. Ltd. has sought connectivity under Regulation 5.7 and submitted the dedicated connectivity sharing agreement with M/s Nannai Solar Park Pvt Ltd., which has been granted connectivity for 93 MW at Karur for application no. 2200000628.
- Karur PS was planned for 2500 MW potential RE capacity. Presently, Karur PS is under operation with 2x500 MVA, 400/230 kV ICTs. Further, 2x500 MVA, 400/230 kV ICTs (3rd & 4th) are under implementation with SCOD as 12.09.2025.
- Total Connectivity already granted/ agreed for grant: 1582.1 MW.
- Total Connectivity under consideration for grant: 157 MW.
- For grant of additional Connectivity, augmentation of 1x500 MVA, 400/230 kV ICT (5th) is required. Considering implementation schedule of 18 months and other administrative approval/ process, transmission scheme is expected by Sept.'2026.
- System Studies have been carried out and Connectivity may be granted with existing / under construction/ planned system, which
 includes Narendra- Pune 765 kV D/c line, details as per Annexure-I, and augmentation of 1x500 MVA, 400/230 kV ICT (5th) at
 Karur PS.

- It is to mention that M/s Nannai Solar Park Pvt Ltd. has already been granted connectivity for 93 MW [application no. 2200000628] through 230 kV S/c line. Subsequently, M/s Amplus Theta Energy Pvt. Ltd. (application no. 2200000698 for 65 MW) and M/s Amplus Sun Beat Pvt. Ltd. (application no. 2200000699 for 80 MW) were grant connectivity at Karur PS through sharing of dedicated connectivity transmission system of M/s Nannai Solar Park Private Ltd. for application no. 2200000628 (for 93 MW).
- With consideration of all applications granted/ agreed for grant/ under process for connectivity, total connectivity granted through dedicated connectivity infrastructure for application no. 2200000628 will be 395 MW (93 MW for application no. 2200000628 + 65 MW for application no. 2200000698 + 80 MW for application no. 2200000699 + 57 MW for application no. 2200001023 + 100 MW for application no. 2200001033)
- In view of above it is proposed to grant connectivity through stringing of 2nd arms of 230 kV D/c towers of the dedicated connectivity line for application no. 2200000628, 2200000698 & 220000699 and bunching both arms circuit at both ends to form single circuit line for termination in same bay allocated for application no. 2200000628, 2200000698.
- Representative from M/s Nanni Solar Park Pvt. Ltd. and M/s Navaladi Wind Park Pvt. Ltd. stated that M/s Amplus Theta Energy Pvt. Ltd. and M/s Amplus Sun Beat Pvt. Ltd. have not approached to it regarding sharing of dedicated connectivity infrastructure.. If connectivity is granted to M/s Amplus Theta Energy Pvt. Ltd and M/s Amplus Sun Beat Pvt. Ltd. through its connectivity transmission system, it may affect its project viability. M/s Nanni Solar Park Pvt. Ltd. proposed to allocate new bay to M/s Amplus Theta Energy Pvt. Ltd and M/s Amplus Sun Beat Pvt. Ltd. instead of sharing of connectivity system with it.
- Towards same, CTU stated that for efficient and economic optimization of transmission system, CTU grant connectivity to the
 applicants through sharing of connectivity transmission system of the other applicants, if sufficient margins are available to
 accommodate complete connectivity quantum.
- After detail deliberation it was agreed that connectivity may be granted to above applications as per details given below.

	Application	Name of the	Connectivit	Connectivit	Connectivity Transmission Sys			Start date	1/2
SI.	ID	Applicant	y at	y Quantum (MW)	Dedicated Connectivity Transmission System (DTL)	ATS	Augmentatio n other than ATS	Of Connectivit y/	BG details
1.	2200001023 dt 08.07.2024	Nannai Solar Park Pvt. Ltd.	Karur PS	57	 Through dedicated connectivity transmission system [allocated to M/s Nannai Solar Park Pvt. Ltd. for application no. 2200000628, M/s Amplus Theta Energy Pvt. Ltd. for application no. 	NIL	Details given below.	30.09.2026* (Tentative) with availability of common tr. System	Conn-BG1: Rs. 50lakhsConn-BG2: NA

								
				220000698 and M/s Amplus Sun Beat Pvt. Ltd. for application no. 2200000699] i.e Generation pooling station of M/s Nannai Solar Park Pvt. LtdKarur PS 230 kV line and stringing of 2 nd arms of 230 kV D/c towers of dedicated connectivity line and bunching both arms circuit at both ends to form single circuit line – all arrangement under the scope of applicant			other than ATS	• Conn-BG-3 : Rs. 1.14 Cr (@ Rs. 2.0 lakh /MW)
2200001033 II. dt 22.07.2024	Navaladi Wind Park Pvt. Ltd	Karur PS	100	Through dedicated connectivity transmission system [allocated to M/s Nannai Solar Park Pvt. Ltd. for application no. 2200000628, M/s Amplus Theta Energy Pvt. Ltd. for application no. 2200000698 and M/s Amplus Sun Beat Pvt. Ltd. for application no. 2200000699] i.e Generation pooling station of M/s Nannai Solar Park Pvt. LtdKarur PS 230 kV line and stringing of 2nd arms of 230 kV D/c towers of dedicated connectivity line and bunching both arms circuit at both ends to form single circuit line — all arrangement under the scope of applicant	NIL	Details given below.	30.09.2026* (Tentative) with availability of common tr. System other than ATS	• Conn-BG1 : Rs. 50 lakhs

^{*}Firm date of start date of connectivity shall be informed after successful transfer of SPV/ issuance of OM.

Common transmission system (augmentation other than ATS) for M/s Nannai Solar Park Pvt. Ltd. & Navaladi Wind Park Pvt. Ltd. (for application nos. 2200001023 & 2200001033 respectively):

- ISTS Network Expansion scheme in Western Region & Southern Region for export of surplus power during high RE scenario Southern Region as per Annexure-I.
- Augmentation of 1x500 MVA, 400/230 kV ICT (5th) at Karur PS.

Note: As, connectivity has already been granted / agreed for grant to M/s Nannai Solar Park Pvt. Ltd. (application no. 2200000628), M/s Amplus Theta Energy Pvt. Ltd. (application no. 2200000698) and M/s Amplus Sun Beat Pvt. Ltd. (application no. 2200000699) through common dedicated connectivity transmission system, therefore intimation for in-principle grant of Connectivity to M/s Nannai Solar Park Pvt. Ltd. application no. 2200001023 shall be issued only after submission dedicated Connectivity infrastructure sharing agreement with M/s Amplus Theta Energy Pvt. Ltd. (application no. 2200000698) and M/s Amplus Sun Beat Pvt. Ltd. (application no. 2200000699). Similarly, Intimation for in-principle grant of connectivity shall be issued to M/s Navaladi Wind Park Pvt. Ltd. (for application no. 2200001033) only after submission of dedicated Connectivity infrastructure sharing agreement with M/s Amplus Theta Energy Pvt. Ltd. (application no. 2200000698) and M/s Amplus Sun Beat Pvt. Ltd. (application no. 2200000699) and M/s Nannai Solar Park Pvt. Ltd. for application no. 2200000628 and 2200001023.

D.7. Connectivity Related proposal at Tumkur-II PS

SI.	Application ID & date	Name of the Applicant	Project Location	Application for: Conn. / GNA/ GNARE	Eligibility criterion for application	Nature of Applicant	Location details of Conn. / GNA requested	Installed Capacity/ GNA	Sought for	Start date of Conn. / GNA (as requeste	terminal bay
I.	2200001012 dt 03.07.2024	SAEL Industries Ltd.	Palavalli, Tumkur, Karnataka	Connectivity	Land BG	Generating station(s), including REGS(s), without ESS	Tumkur-II PS	300 (solar)	300	30.09.202 6	ISTS
11.	2200001017 dt 04.07.2024	Sunsure Solar Park Rj One Pvt. Ltd.	Srirangapur a, Tumkur, Karnataka	Connectivity	Land BG	Generating station(s), including REGS(s), without ESS	Tumkur-II PS	300 (solar)	300	31.03.202 8	ISTS

III.	2200001061 dt 17.07.2024	Jagaluru Solar Power Pvt. Ltd.	Kamanadur ga, Tumkur, Karnataka	Connectivity	Land BG	Generating station(s), including REGS(s), without ESS	Tumkur-II PS	300 (solar)	300	31.12.202 7	ISTS
IV.	2200001075 dt 22.07.2024	EG Arka Solar Pvt. Ltd.	Kamanadur ga, Tumkur, Karnataka	Connectivity	Land BG	Generating station(s), including REGS(s), without ESS	Tumkur-II PS	100 (solar)	100	31.12.202 6	Applicant
V.	2200001082 dt 26.07.2024	ACME Solar Holdings Ltd.	Bypura & Aralikunte, Tumkur, Karnataka	Connectivity	LoA (contract capacity 350 MW)	Generating station(s), including REGS(s), without ESS	Tumkur-II PS	350 (Solar and ESS: 175 MW)	350	31.12.202 6	ISTS
				Total					1350		

- CTU informed that M/s SAEL Industries has sought connectivity on basis of LOA, SECI/C&P/SPD/ISTS-XIC/LOA/SIL/P1/63588 dated 23.04.2023 issued by SECI.
- 4x500 MVA, 400/220 kV Tumkur-II PS, detailed scheme as per Annexure-VII, is under implementation with SCOD as 03.09.2026.
- Connectivity already granted/ agreed for grant at Tumkur-II PS: 1350 MW
- Connectivity under consideration for grant: 1350 MW.
- CTU informed that earlier it was agreed to grant connectivity to M/s Ayana Renewable Power Pvt. Ltd. for 150 MW (application no. 2200000320) at Tumkur-II PS. Sufficient margins is there for grant of additional connectivity for about 150 MW through sharing of dedicated connectivity transmission infrastructure. In view of optimization of transmission system, it is proposed to grant Connectivity to M/s EG Arka Solar Pvt. Ltd. through dedicated connectivity transmission system of M/s Ayana Renewable Power Pvt. Ltd.
- For grant of additional connectivity, 2x500 MVA, 400/220 kV (5th & 6th) ICTs are required. Considering implementation schedule of 21 months, bidding timeline and other administrative process, system may be expected tentatively by Sept / Oct.'2026.
- System studies have been carried out and it is observed that connectivity may be granted with under implementation and planned transmission system, which includes Transmission Scheme for integration of Tumkur-II REZ in Karnataka, as per Annexure-VII, ISTS Network Expansion scheme in Western Region & Southern Region, as per Annexure-I and augmentation of transformation capacity by 2x500 MVA (5th & 6th) at Tumkur-II PS.

M/s Sunsure Solar Park Rj One Pvt. Ltd. and M/s Jagaluru Solar Power Pvt. Ltd have sought connectivity from 31.03.2028 and
31.12.2027 respectively, which is long time ahead. For ease of implementation of 220 kV dedicated connectivity line bay at ISTS
end in matching time frame of generation project, it is proposed to implement the 220 kV dedicated Connectivity line bay at ISTS
end under the scope of applicant.

M/s Jagaluru Solar Power Pvt. Ltd. (application no. 2200001061) stated that it will prepone the start date of connectivity from 31.12.2027 to 31.03.2027 and requested to consider the implementation of line termial bay at Tumkur-II PS under the scope of ISTS. After deliberation the same was agreed. Subsequently, vide email dated 25.09.2024, M/s Jagaluru Solar Power Pvt. Ltd. submitted the request to consider start date of connectivity as 31.03.2027 and implement the terminal line bay at Tumkur-II PS under the scope of ISTS.

After detailed deliberation it was agreed that connectivity may be granted to above applicants as per below given details.

	Application	Name of the	Conn.	Conn.	Connectivity Transmission	System un		Start date of	100
SI.	ID	Applicant	location	Quantum (MW)	Dedicated Connectivity Transmission System (DTL)	ATS	Augmentati on other than ATS	Connectivit y/	BG details
1.	2200001012 dt 03.07.2024	SAEL Industries Ltd.	Tumkur-II PS	300	 Generation Station of M/s SAEL Industries Ltd. – Turnkur-II PS 220 kV S/c line along with line bay at generation PS – under the scope of applicant 1 no. 220 kV line bay at Turnkur-II PS for above DTL – under the scope of ISTS 	NIL	Details given below.	31.10.2026* (Tentative) (with availability of common tr. System other than ATS	Rs. 3.0 Crs.
11.	2200001017 dt 04.07.2024	Sunsure Solar Park Rj One Pvt. Ltd.	Tumkur-II PS	300	 Generation Station of M/s Sunsure Solar Park Rj One Pvt. Ltd. – Tumkur-II PS 220 kV S/c line along with line bay at generation PS – under the scope of applicant 1 no. 220 kV line bay at Tumkur-II PS for above DTL 	NIL	Details given below.	31.03.2028 (with availability of common tr. System other than ATS	 Conn-BG1: Rs. 50 lakhs Conn-BG2: NA Conn-BG-3: Rs. 6.0 Cr (@ Rs. 2.0 lakh /MW)

					 under the scope of applicant 				
111.	2200001061 dt 17.07.2024	Jagaluru Solar Power Pvt. Ltd.	Tumkur-II PS	300	 Generation Station of M/s Jagaluru Solar Power Pvt. Ltd. – Tumkur-II PS 220 kV S/c line along with line bay at generation PS – under the scope of applicant 1 no. 220 kV line bay at Tumkur-II PS for above DTL – under the scope of ISTS 	NIL	Details given below.	31.03.2027 (with availability of common tr. System other than ATS	 Conn-BG1: Rs. 50 lakhs Conn-BG2: 3.0 Crs. Conn-BG-3: Rs. 6.0 Cr (@ Rs. 2.0 lakh /MW)
IV.	2200001075 dt 22.07.2024	EG Arka Solar Pvt. Ltd.	Tumkur-II PS	100	 Through dedicated connectivity transmission system granted to M/s Ayana Renewable Power Pvt. Ltd. for application no. 2200000320(150 MW) i.e. Generation Station of M/s s Ayana Renewable Power Pvt. Ltd. – Tumkur-II PS 220 kV S/c line – all arrangement under the scope of applicant. 	NIL	Details given below.	31.12.2026* (Tentative) (with availability of common tr. System other than ATS	Rs. 50 lakhs • Conn-BG2 :
V.	2200001082 dt 26.07.2024	ACME Solar Holdings Ltd.	Tumkur-II PS	350	 Generation Station of M/s ACME Solar Holdings Ltd. – Tumkur-II PS 220 kV S/c line along with line bay at generation PS – under the scope of applicant 1 no. 220 kV line bay at Tumkur-II PS for above DTL – under the scope of ISTS 	NIL	Details given below.	31.12.2026* with availability of common tr. System other than ATS	Rs. 3.0 Crs. (towards terminal, bay

^{*}Part Transmission scheme is under approval.

Common transmission system (augmentation other than ATS) for M/s SAEL Industries Ltd. (application no. 2200001012), for M/s Sunsure Solar Park Rj One Pvt. Ltd (application no. 2200001017), for M/s Jagaluru Solar Power Pvt. Ltd. (application no. 2200001061), for M/s EG Arka Solar Pvt. Ltd. (application no. 2200001075) and M/s ACME Solar Holdings Ltd (application no. 2200001082):

- ISTS Network Expansion scheme in Western Region & Southern Region for export of surplus power during high RE scenario in Southern Region as per **Annexure-I**.
- Transmission Scheme for integration of Tumkur-II REZ in Karnataka, as per Annexure-VII
- Augmentation of transformation capacity by 2x500 MVA, 400/220 kV ICTs at Tumkur-II PS.

Note: applicants are required to submit BGs as per above details within one month of the in-principle grant of Connectivity intimation

D.8. Connectivity Related proposal at Bellary PS

SI.	Application ID & date	Name of the Applicant	Project Location	Application for: Conn. / GNA/ GNARE	Eligibility criterion for application	Nature of Applicant	I Ann /	Installed	Conn. Sought for [Power interchange with ISTS (MW)]	Start date of Conn. /	Implement ation of terminal bay at ISTS end under the scope of (as requested)
l.	2200000825 dt 20.05.2024	NTPC Renewable Energy Ltd.	Koppal, Karnataka	Connectivity	LoA SECI/C&P/ HPD/T7/LOA -A3/NREL/P1 /63858	Generating station(s), including REGS(s), without ESS	Gadag-II PS	76 (wind)	76	16.04.2026	ISTS
11.	2200001102 dt 31.07.2024	NTPC Renewable Energy Ltd.	Koppal, Karnataka	Connectivity	PP/P-91/2	Generating station(s), including REGS(s), without ESS	Gadag-II PS	345 (wind)	345	14.08.2026	ISTS

111.	2200001103 dt 31.07.2024	NTPC Renewable Energy Ltd.	Koppal, Karnataka	Connectivity	11/1-31/2	Generating station(s), including REGS(s), without ESS	Gadag-II PS	55 (wind)	55	14.08.2026	ISTS
				Total					476		

- CTU informed that 4x500 MVA, 400/220kV Pooling Station near Bellary, detailed scheme as per Annexure-VIII, is under bidding
 and expected tentatively by Sept. 2026 (considering SPV transfer by Sept. / Oct. 2024 with implementation schedule of 24 months).
- System studies has been carried and it is observed that Connectivity may be granted with existing/ under-construction/ under bidding
 transmission system which includes ISTS Network Expansion scheme in Western Region & Southern Region for export of surplus
 power during high RE scenario in Southern Region (details given at Annexure-I) and Transmission Scheme for integration of Bellary
 REZ in Karnataka, as per Annexure-VIII.
- After detailed deliberations it was agreed that connectivity may be granted to above applications as per details given below.

SI.	Application	Name of the Applicant	Connectivit	y Quantum	Connectivity Transmissio Dedicated Connectivity	n Systen	Augmentatio	Start date of	BG details
	10	Арричани	yat	(MW)	Transmission System (DTL)	ATS	n other than ATS	Connectivity	
1.	2200000825 dt 20.05.2024	NTPC Renewable Energy Ltd	Bellary PS	76	 Generation Station of M/s NTPC Renewable Energy Ltd. – Bellary PS 220 kV S/c line along with line bay at generation PS – under the scope of applicant 01 no. 220 kV line bay at Bellary PS for above DTL – under the scope of ISTS 	NIL	Details given below.	30.10.2026 (Tentative)* with availability of common tr. System other than ATS	 Conn-BG1
II.	2200001102 dt 20.05.2024	NTPC Renewable Energy Ltd	Bellary PS	345	 Generation Station of M/s NTPC Renewable Energy Ltd. – Bellary PS 	NIL	Details given below.	30.10.2026 (Tentative)* with	Conn-BG1Rs. 50lakhs

				 220 kV S/c line along with line bay at generation PS – under the scope of applicant 01 no. 220 kV line bay at Bellary PS for above DTL – under the scope of ISTS 			availability of common tr. System other than ATS	: 3.0 Crs.
2200001 ² III. dt 31.07.20	Renewable	Bellary PS	55	 Through dedicated connectivity transmission system proposed for grant of Connectivity to M/s NTPC Renewable Energy Ltd. (application no. 2200000825) and M/s Torrent Power Ltd. (application no. 220000903) [i. e Generation Station of M/s NTPC Renewable Energy Ltd. – Bellary PS 220 kV S/c line along with line bay at generation PS – all 	NIL	Details given below.	30.10.2026 (Tentative)* with availability of common tr. System other than ATS	 Conn-BG1 Rs. 50 lakhs Conn-BG2 NA Conn-BG-3 Rs. 1.10 Cr (@ Rs. 2.0 lakh /MW)

Common transmission system (augmentation) other than ATS for M/s NTPC Renewable Energy Ltd. (application nos. 2200000825, 2200001102 & 2200001103) and M/s Torrent Power Ltd. (Application no. 2200000903):

arrangement under the scope of applicant]

- ISTS Network Expansion scheme in Western Region & Southern Region for export of surplus power during high RE scenario in Southern Region as per **Annexure-I**.
- Transmission Scheme for integration of Bellary REZ in Karnataka, as per Annexure-VIII.

^{*}Firm date of start date of connectivity shall be informed after successful transfer of SPV.

Transmission system for integration of Davanagere/ Chitradurga REZ (details as per Annexure-II)

Note: applicants are required to submit BGs as per above details within one month of the in-principle grant of Connectivity intimation.

In-principle grant of connectivity shall be issued to M/s Torrent Power Ltd. (app. No. 2200000903) after submission of dedicated Connectivity infrastructure sharing agreement with M/s NTPC Renewables Energy Ltd. (appl. No 2200000825). Further, In-principle grant of connectivity shall be issued M/s NTPC Renewable Energy Ltd. for app. No. 2200001013 only after submission of dedicated connectivity infrastructure agreement with M/s Torrent Power Ltd. (app. No. 2200000903).

D.9. Connectivity related proposal at Trichy / Nagapattinam Substation, Tamil Nadu

SI.	Application ID & date	Name of the Applicant	Project Locatio n	Conn. / GNA	Eligibility criterion for application	Nature of Applicant	Location details of Conn. / GNA requested	Installed	Conn. Sought for [Power interchang e with ISTS (MW)]	Start date of Conn. / GNA (as requested)	at ISTS end
1.	2200001079 dt 24.07.2024	Subramaniyapura m Wind Park Pvt. Ltd.	Trichy, Tamil Nadu	Connectivity	Land Route	Generating station(s), including REGS(s), without ESS	Connectivit y requested through LILO of 400kV Pugalur Naveily line	440 (wind)	440	31.03.2026	ISTS
				Total					440		

- CTU informed that M/s Subramaniyapuram Wind Park Pvt. Ltd has sought connectivity for 440 MW on Land route basis. As Pugalur

 Naveily 400 kV line is important line for evacuation of power from Naveily complex. Further, Pugalur S/s is also connected to
 Pugalur HVDC. In view of above, it is proposed to grant connectivity at Trichy or Nagapattinam substation through 400 kV S/c line.
- System studies has been carried and it is observed that Connectivity may be granted with existing/ under-construction/ under bidding transmission system which includes ISTS Network Expansion scheme in Western Region & Southern Region for export of surplus power during high RE scenario in Southern Region (details given at Annexure-I).

- In view of above, it was proposed to grant connectivity at Trichy. M/s Subramaniyapuram Wind Park Pvt. Ltd. requested to grant the
 connectivity through LILO of Naveily Puglaur 400 kV line only. It stated that Trcihy S/s is quite distant from its project. If connectivity
 is granted there, project will not be feasible.
- SRLDC stated that Pugalur Naveily 400 kV line is important line for evacuation of power from Naveily complex. High loadings have observed during high RE scenario in this area. Further, M/s Subramaniyapuram Wind Park Pvt. Ltd. has sought connectivity for 400 MW. Such quantum of injection at Trichy may cause overloading of ICTs. Accordingly, connectivity may be considered for grant at ISTS Nagapattinam S/s. SRPC stated that it agreed with views of SRLDC. Nagapattinam S/s was planned for integration of nos. of generators. Therefore, sufficient margins is available for grant of additional connectivity. Accordingly, application may be considered for grant of Connectivity at Nagapattinum S/s. TANGEDCO stated that considering the overloading of ICTs, application may not be considered for grant of connectivity at Trichy. The same may be considered at other ISTS point.
- In view of above, CTU mentioned that M/s Subramaniyapuram Wind Park Pvt. Ltd. may be granted connectivity at either Nagapattinam S/s of Karur PS. M/s Subramaniyapuram Wind Park Pvt. Ltd. submitted that it will submit its confirmation very soon regarding location for grant of connectivity. Subsequently, vide letter dated 15.10.2024, M/s Subramaniyapuram Wind Park Pvt. Ltd. requested to grant connectivity for 350 MW at Karur PS through dedicated connectivity transmission system of M/s JSP Green wind 1 Pvt. Ltd.
- In view of reduction in connectivity quantum and grant of connectivity at Karur PS, application for grant of connectivity shall be deliberated again in the next CMETS-SR.

E. GNA Related proposal for applications received in Southern Region

E.1. Proposal for grant of GNA Applications

SI	Application ID, date of submission	Name of the	Applicatio n for: Connectivit y/ GNA/ GNARE	GNA Breakup (Within & outside region)	Eligibility under GNA Regulation s 2022	STU details	Nature of Applicant	Location details of GNA requested		Start date of GNA (requested)	
l.	2200000433 dt 16.12.2023	AM Green Ammonia (India) Pvt. Ltd.	GNARE	Within Region : 0 MW	Under GNA Regulations 17.1 (iii)		Bulk consumer seeking to	Kakinada GH	700	01.07.2026	30.06.2050

				Outside			connect to				
				Region : 700 MW			ISTS directly				
11.	2200000607 dt 29.02.2024	AM Green Ammonia (India) Pvt. Ltd.	GNARE	Within Region : 0 MW Outside Region : 1660 MW	Under GNA Regulations 17.1 (iii)		Bulk consumer seeking to connect to ISTS directly	Tuticorin GH	1660	01.12.2026	30.11.2051
111.	2200001034 dt 10.07.2024	Green Infra Renewable Energy Farms Pvt. Ltd.	GNARE	Within Region : 800 MW Outside Region : 0 MW	Under GNA Regulations 17.1 (iii)		Bulk consumer seeking to connect to ISTS directly	Tuticorin GH	800	31.12.2028	25.12.2053
IV.	2200001052 dt 17.07.2024	ACC Ltd.	GNARE	Within Region : 0 MW Outside Region : 22.5 MW	Under GNA Regulations 17.1 (ii)	KPTC L	Drawee entity connected to Intra State	220/110 kV Shahabad S/s	22.5	01.09.2024	31.03.2026
V.	2200001053 dt 17.07.2024	ACC Ltd.	GNARE	Within Region : 0 MW Outside Region : 9 MW	Under GNA Regulations 17.1 (ii)	KPTC L	Drawee entity connected to Intra State	66kV Gowribidanur S/s	9	01.09.2024	31.03.2026
VI	2200001066 dt 18.07.2024	AM Green Ammonia (India) Pvt. Ltd.	GNARE	Within Region : 1300 MW Outside Region : 0 MW	Under GNA Regulations 17.1 (iii)	ı	Drawee entity connected to ISTS	Kakinada	1300	01.01.2027	31.12.2052

a. Proposal for Grant of GNA for Green Hydrogen/ Ammonia projects at Tuticorin:

i. CTU informed that M/s AM Green Ammonia (India) Pvt. Ltd. (app. No. 2200000607) has sought grant GNA for 1660 MW (Within Region: 0 MW & Outside Region: 1660 MW) as Bulk Consumer. Application was also discussed in 29th CMETS-SR meeting held on 28.03.2024 and 31st CMETS-SR held on 30.05.2024.

- ii. For app. No 2200001034, M/s Green Infra Renewable Energy Farms Pvt. Ltd. has sought grant of GNA for 800 MW. As per submitted application GNA sought within region as 0 MW and GNA outside the region as 800 MW. However, vide letter dated 12.08.2024, it has requested to consider the GNA quantum within the region as 05 MW and outside the region as 795 MW.
- iii. Transmission scheme required to supply power to Green Hydrogen / Green Ammonia developers in Tuticorin area was also discussed in 31st CMETS-SR, held on 30.05.2024 wherein it was also informed that a meeting was held on 19.10.2023 chaired by Hon'ble Minister with Green Hydrogen stakeholders/association, wherein it was instructed that developers shall share the details of year-wise planned Green Ammonia / Green Methanol capacities and corresponding drawl capacities desired at different locations. Hon'ble minister also instructed that this information should be shared with CTU for planning the required substation capacities at these specified locations. MNRE vide letter dated 01.11.2023 has forwarded the consolidated information of the planned projects and drawl requirements of various developers. (copy of letter attached at **Annexure-C**)
 - In this regard, a meeting was convened by CEA with Green Hydrogen/ Green Ammonia manufacturers to access the year wise electricity demand for proper planning of transmission system. In Tuticorin area, about 7000 MW demand has been envisaged for the Green Hydrogen/ Green Ammonia projects.
- iv. The Transmission scheme required to supply power to Green Hydrogen / Green Ammonia developers in Tuticorin area was also discussed and agreed in the 52nd SRPC meeting held on 03.08.2024. The National Committee on Transmission in its 22nd meeting held on 23.08.2024 has recommended the implementation of the subject transmission scheme through TBCB route. As per minutes of the NCT, implementation schedule of the transmission scheme 30 months from date of allocation to implementing agency. Considering Administrative process, bidding timeline and implementation schedule of the scheme, transmission scheme is expected by June/ July' 2027. Brief transmission system is given below, however, detailed transmission system is given at **Annexure-IX**.

Transmission system for proposed Green Hydrogen / Green Ammonia projects in Tuticorin area.

- Establishment of 3x1500 MVA, 765/400 kV Tuticorin (GH) project with 1x240 MVAR bus Reactor.
- Upgradation of 765 kV Tuticorin Pool (presently charged at 400 kV) to its rated voltage at 765 kV along with 3x1500 MVA, 765/400 kV ICTs and 1x330 MVAr bus Reactor.
- Upgradation of 765 kV Dharmapuri (presently charged at 400 kV) to its rated voltage at 765 kV along with 3x1500 MVA, 765/400 kV ICTs and 1x330 MVAr bus Reactor.

- Upgradation of Tuticorin Pool Dharmapuri 765 kV line (presently charged at 400 kV) to its rated voltage at 765 kV along with 1x330 MVAr Switchable Line Reactor at both end of each circuit.
- Upgradation of Dharmapuri Madhugiri 765 kV 2xS/c lines (presently charged at 400 kV) to its rated voltage at 765 kV along with 1x330 MVAr Switchable Line Reactor at Dharmapuri end of each circuit
- Tuticorin Pool Tuticorin (GH) 765 kV D/c line.

Further, as per the meeting held on 12.07.2023 among CEA and CTUIL regarding deliberations on the identification of Associated Transmission System (ATS) and common Augmentation of Inter State Transmission System (ISTS) for grant of Connectivity and GNA under General Network Access (GNA) Regulations, 2022 of CERC, following was agreed:

- a. The ISTS identified/planned for multiple injecting entities e.g. RE potential zone (identified by MNRE/SECI) can be considered as an augmentation without ATS. Accordingly, the Connectivity for such injecting entities can be granted with common augmentation. The same approach can be followed for potential based bulk consumers including consumers producing green hydrogen provided the potential site of such bulk consumers has been confirmed by the central/state government.
- b. The ISTS identified/planned exclusively for specific injecting entity(ies), can be considered as an augmentation with ATS. Accordingly, the Connectivity for such injecting entity(ies) can be granted with ATS.
- c. For ISTS augmentation being implemented under Tariff based Competitive Bidding (TBCB), the same can be considered to be under implementation if the Special Purpose Vehicle (SPV) transfer has been completed before the completion of the interconnection study. Similarly, for the ISTS augmentations under Regulated Tariff Mechanism (RTM), they can be considered to be under implementation from the date of its intimation by CTU to the Transmission Service Provider (TSP), considering the conditions stipulated, if any.

In view of above it was proposed to grant GNA-RE to M/s AM Green Ammonia (India) Pvt. Ltd. and M/s Green Infra Renewable Energy Farms Pvt. Ltd. at Tuticorin GH S/s. After deliberation, it was agreed that GNA-RE may be granted to above applicants M/s AM Green Ammonia (India) Pvt. Ltd. (application no. 2200000607) and M/s Green Infra Renewable Energy Farms Pvt. Ltd. (application no. 2200001034) as per details given below.



	Application	Name of the	Connecti	GNA-RE	Connectivity Transmissi GNA-RE		stem under	Canad data	End data	
SI.	Application ID	Applicant	vity at	Quantum (MW)	Dedicated Connectivity Transmission System (DTL)	ATS	Augmentatio n other than ATS	Start date of GNA	end date of GNA	BG details
ı.	2200000607 dt 29.02.2024	AM Green Ammonia (India) Pvt. Ltd.	Tuticorin GH	Within Region : 1660 MW Outside Region : 0 MW	 Generation Station of M/s AM Green Ammonia (India) Pvt. Ltd. – Tuticorin GH 400 kV D/c line along with line bay at generation PS – under the scope of applicant 02 no. 400 kV line bay at Tuticorin GH for above DTL – under the scope of applicant 	NIL	Details given below.	31.07.2027* (Tentative) (with availability of common tr. System other than ATS)		• Conn-BG1 : Rs. 50 lakhs • Conn-BG2 : NA • Conn-BG-3 : Rs. 33.2 Cr (@ Rs. 2.0 lakh /MW)
II.	2200001034 dt 10.07.2024	Green Infra Renewable Energy Farms Pvt. Ltd.	Tuticorin GH	Within Region : 800 MW Outside Region : 0 MW	 Generation Station of M/s Green Infra Renewable Energy Farms Pvt. Ltd. — Tuticorin GH 400 kV D/c line along with line bay at generation PS — under the scope of applicant 02 no. 400 kV line bay at Tuticorin GH for above DTL — under the scope of applicant 	NIL	Details given below.	31.12.2028* (Tentative) (with availability of common tr. System other than ATS)	25.12.205 3	 Conn-BG1 Rs. 50 lakhs Conn-BG2 NA Conn-BG-3 Rs. 16 Cr (@ Rs. 2.0 lakh /MW)

Common transmission system (augmentation other than ATS) for M/s AM Green Ammonia (India) Pvt. Ltd. (application nos. 2200000607) and M/s Green Infra Renewable Energy Farms Pvt. Ltd. (Application no. 2200001034):

• Transmission system for proposed Green Hydrogen / Green Ammonia projects in Tuticorin area, as per Annexure-IX.

Note: applicants are required to submit BGs as per above details within one month of the in-principle grant of Connectivity intimation.

b. Proposal for Grant of GNA for Green Hydrogen/ Ammonia projects at Kakinada:

- i. For app. nos. 2200000433 and 2200001066, M/s AM Green Ammonia (India) Private Limited [as an eligible entity under Regulation 17.1 (iii)] has sought grant of GNA as Bulk Consumer for 700 MW (Within Region: 0 MW & Outside Region: 700 MW) and 1300 MW (Within Region: 1300 MW & Outside Region: 0 MW) respectively. Applicant has sought the GNA as per above details.
- ii. Application no. 2200000433 was also discussed in the 27th CMETS-SR, held on 30.01.2024, it was agreed to grant GNA-RE to M/s AM Green Ammonia Pvt. Ltd. (application no. 2200000433) for 700 MW through establishment of 2x1500 MVA, 765/400 kV Kakinada PS and Pooling Station of M/s AM Green Ammonia (India) Private Limited Kakinada PS 400 kV D/c line (as dedicated connectivity transmission system) with tentative start date of connectivity as 31.08.2026.

Subsequently, vide letter dated 21.02.2024, M/s AM Green Ammonia Pvt. Ltd. mentioned that manufacturing of Green Ammonia is scheduled to commence by the end of May'2026. The requirement of power supply is anticipated w.e.f June 1, 2026. Therefore, M/s AM Green Ammonia (India) Pvt. Ltd. requested to revised the connectivity transmission system and provide the connectivity through 400 kV D/c (twin Moose) from 765/400 kV Vemagiri (GIS) S/s instead of connectivity through establishment of 765/400 kV S/s at Kakinada.

Application further deliberated in 29th CMETS-SR meeting held on 28.03.2024, wherein, it was informed that 765/400 kV Vemagiri (GIS) S/s is under operation with 2x1500 MVA, 765/400 kV ICTs. For additional drawl of power, 1x1500 MVA 765/400 kV ICT (3rd) is required. In the meeting, matter regarding applicability of ATS to bulk consumer was also deliberated. Regulations 12.5 of GNA Regulation provides that 'In case of an entity covered under Regulation 17.1(iii), the line to connect such an entity to the ISTS and necessary augmentation for providing connection to the ISTS, shall be constructed and maintained by a licensee at the cost of such entity'

During the meeting CTU mentioned that, as per GNA Regulations 2022, following system may be considered for grant of Connectivity/ GNA-RE to the applicant (application no. 2200000433 for 700 MW).

Dedicated Connectivity Tr. System:

Pooling Station of M/s AM Green Pvt. Ltd.- Vemagiri (GIS) S/s 400 D/c (twin Moose) line along with line bays at both ends
under the scope of applicant.

Augmentation in ISTS network for providing Connectivity / GNA:

- 1x1500 MVA, 765/400 kV ICT(3rd) at Vemagiri (GIS) S/s implementation and maintenance under the scope of applicant
- Start date of Connectivity: 01.06.2026

Further, applicant is required to submit BGs as per following details within one month of the in-principle grant of intimation: • Conn-BG1 of Rs. 50 lakhs and Conn-BG3 of Rs.14.0 Cr. (@Rs. 2 lakh/ MW

In the meeting it was also informed that as per GNA Regulations, bulk consumer is required to implement and maintained required augmentation in ISTS at the cost of bulk consumer. Further, transmission system under ISTS can be implemented through TBCB route or RTM route and needs clarification for implementation of ISTS at the cost of bulk consumer. Accordingly, matter is being taken up with CERC.

Subsequently matter was taken up with CERC and expected to be resolved shortly.

iii. However, it is to mention that MNRE vide letter dated 01.11.2023 (copy attached at **Annexure-C**) has forwarded the consolidated information of the planned projects and drawl requirements of various developers.

Subsequently, CEA convened a meeting with Green Hydrogen/ Green Ammonia manufacturers to access the year wise electricity demand for proper planning of transmission system. In Kakinada area, about 6000 MW demand has been envisaged for the Green Hydrogen/ Green Ammonia projects. The details of the phased development are as follows:

Year	Cumulative Electricity Demand (MW)
by 2027	1775
by 2028	3275
by 2029	4645
by 2030	6015

In view of the upcoming Green Hydrogen / Green Ammonia plants / industries, planning of transmission system has been done for delivery of power to Green Hydrogen / Ammonia manufacturing projects at Kakinada in Andhra Pradesh. Upon discussions between CTU and CEA, following transmission system has been identified for supply of power to Green Hydrogen / Ammonia projects at Kakinada:

Transmission system for proposed Green Hydrogen / Green Ammonia projects in Kakinada area

Phase-I: 3000 MW

- Establishment of Kakinada 765/400 kV, 3x1500 MVA substation
- LILO of Vemagiri Srikakulam 765 kV D/c line at Kakinada substation

Note *: Angul – Srikakulam 765 kV 2nd D/c line shall also be required.

Phase-II: Cumulative 6000 MW

- Augmentation by 3x1500 MVA, 765/400 kV ICTs at Kakinada substation
- Establishment of Khammam-II 765/400 kV, 3x1500 MVA substation
- Warangal Khammam-II 765 kV D/c line
- Khammam-II Vemagiri 765 kV D/c line
- Khammam-II Khamman (exisiting) 400 kV D/c (quad) line
- Vemagiri Kakinada 765 kV 2nd D/c line

The transmission system for proposed Green Hydrogen / Green Ammonia projects in Kakinada area was deliberated in the 33rd CMETS-SR meeting held on 25.07.2024 and 31.07.2024. After detailed deliberations, the proposal for "Transmission system for proposed Green Hydrogen / Green Ammonia projects in Kakinada area, Andhra Pradesh (Phase-I)" was agreed, the details of the scheme are as below:

Transmission system for proposed Green Hydrogen / Green Ammonia projects in Kakinada area (Phase-I)

- Establishment of Kakinada 765/400 kV, 3x1500 MVA substation alongwith bus reactor
- LILO of Vemagiri Srikakulam 765 kV D/c line at Kakinada substation

Note *: Angul – Srikakulam 765 kV 2nd D/c line shall be required for meeting the Green Hydrogen / Green Ammonia demand in SR in general and Kakinada area in particular.

The transmission system was also deliberated and agreed in-principally in the 52nd SRPC meeting held on 03.08.2024. Considering implementation schedule of 24 months and other administrative & bidding process, the scheme is expected by March/ April '2027.

iv. In view of pending clarification from CERC on GNA Regulation 12.5 regarding bulk consumer is required to implement and maintained required augmentation in ISTS at the cost of bulk consumer, it is proposed to modify the GNA transmission system for application no. 2200000433 and grant the Connectivity / GNA at Kakinada GH S/s.



AM Green Ammonia (India) Pvt. Ltd. requested to consider the grant of connectivity at 765/400 kV Vemagiri PS with necessary augmentation in ISTS. It was also stated that grant of GNA-RE for drawl of power from Vemagiri S/s shall ensure availability of power by June 2026. Further it was also requested that modalities for development of infrastructure in ISTS may be taken up with concerned authorities.

In this regard, CTU informed that augmentation of ICT at Vemagiri shall be implemented in about 24 months after successful transfer of SPV to the bidder. The proposed transmission scheme for Kakinada Green Hydrogen projects may have implementation schedule of 24 months after successful transfer of SPV. Further pending clarification regarding Regulation 12.5 connectivity may not be considered fort grant at Vemagiri.

After detailed deliberation and as per decision of the meeting dated 12.07.2023 held between CEA & CTU, it was agreed that GNA-RE may be granted to M/s AM Green Ammonia (India) Private Limited for application no. 2200000433 (700 MW) and 2200001066 (1300 MW) at Kakinada GH as per below given details.

	Application	Name of the	Connecti	Connectivity Transmission System under GNA-RE		NA-RE GNA-RE		Start date of	End date	
SI.	ID	Applicant	vity at	Quantum (MW)	Dedicated Connectivity Transmission System (DTL)	ATS	Augmenta tion other than ATS		of GNA	BG details
1.	2200000433 dt 16.12.2023	AM Green Ammonia (India) Pvt. Ltd.	Kakinada GH	Within Region : 0 MW Outside Region : 700 MW	 Generation Station of M/s AM Green Ammonia (India) Pvt. Ltd. – Kakinada GH 400 kV D/c line along with line bay at generation PS – under the scope of applicant 02 no. 400 kV line bay at Tuticorin GH for above DTL – under the scope of applicant 	NIL	Details given below.	30.04.2027* (Tentative) (with availability of common tr. System other than ATS)		 Conn-BG1
11.	2200001066 dt 18.07.2024	AM Green Ammonia (India) Pvt. Ltd.	Kakinada GH	Within Region : 1300 MW Outside	 Generation Station of M/s AM Green Ammonia (India) Pvt. Ltd. – Kakinada GH 400 kV D/c line along with line bay at 	NIL	Details given below.	30.04.2027* (Tentative) (with availability of common tr.	25.12.2053	Conn-BG1Rs. 50lakhsConn-BG2NA

O2 no. 400 kV line bay at Tuticorin GH for above DTL – under the scope Cr (@ Rs. 2.0 lakh //MW)	Region: generation PS – uno the scope of applica		• Conn-BG-3 : Rs. 26.0
DTL – under the scope /MW)	 02 no. 400 kV line bay 	yat	Cr (@ Rs.
of applicant		1 1 1	

Common transmission system (augmentation other than ATS) for M/s AM Green Ammonia (India) Pvt. Ltd. (application nos. 2200000433 & 2200001066):

Transmission system for proposed Green Hydrogen / Green Ammonia projects in Kakinada area (Phase-I), as per Annexure-X.

Note: applicants are required to submit BGs as per above details within one month of the in-principle grant of Connectivity intimation.

c. Proposal for Grant of GNA to STU connected drawee entities in Karnataka:

CTU informed that for application nos. 2200001052 and 2200001053, M/s ACC Ltd. [as an eligible entity under Regulation 17.1 (ii)] has applied for GNA as drawee entity connected to Intra State (KPTCL) for 22.5 MW (Within Region: 0 MW & Outside Region: 22.5 MW) and 9 MW (Within Region: 0 MW & Outside Region: 9 MW) seeking connectivity/GNA at 220/110 kV Shahabad S/s and 66kV Gowribidanur S/s in Karnataka with start and end date as 01.09.2024 & 31.03.2026 respectively for both applications.

Further, M/s ACC Ltd has requested for grant of cumulative GNA for 31.5 MW and has submitted NoC dated 11.07.2024 issued by SLDC of Karnataka for both applications with start and end date of NoC as 01.09.2024 & 31.03.2026 respectively.

It is to mention that Karnataka has registered a maximum drawl of 8538 MW from ISTS. Presently, GNA for 5376 MW has been allocated to KPTCL and in addition that Indian Railways has given GNA for 37.45 MW through transmission system of KPTCL. In view of above, sufficient margins are available in ISTS for drawl of 31.5 MW [9 MW +22.5 MW] by M/s ACC Ltd. and GNA-RE may be considered for grant.

KPTCL stated that STU NoC is required to for grant of GNA-Re to M/s ACC Ltd. Accordingly, M/s ACC Ltd. was advised to approach KPTCL for grant of NOC in above matter.

Accordingly, after deliberation it was decided that the applications shall be discussed in next CMET-SR meeting after submission of STU NoC from Karnataka.

Annexure-I

ISTS Network Expansion scheme in Western Region & Southern Region for export of surplus power during high RE scenario in Southern Region

SI.	Scope of the Transmission Scheme	Capacity /km
1.	Narendra New (GIS) - Pune	340 km
	(GIS) 765kV D/c line with	765 kV line bays -2 (GIS) (at Narendra New)
	1x330MVAr switchable line	765 kV line bays -2 (GIS) (at Pune)
	reactor on each ckt at both	• 765 kV, 330 MVAr SLR – 2 nos (7 X 110 MVAr incl. 1 switchable spare unit) at Pune
	ends	(GIS)
		 765 kV, 330 MVAr SLR – 2 nos (6 X 110 MVAr) at Narendra (New) (GIS)
2.	Upgradation of Narendra	• 765/400 kV, 1500 MVA- 4 no. (13 X 500 MVA incl. 1 spare unit)
	(New) (GIS) to its rated	765 kV ICT bays- 4 nos. (GIS)
	voltage of 765 klevel along	• 400 kV ICT bays- 4 nos. (GIS)
	with 4x1500 MVA transformer	• 765 kV, 330 MVAr BR – 2 nos. (7 X 110 MVAr incl. 1 switchable spare unit to be
	and 2x330 MVAr Bus	used for both bus/line reactors)
	Reactor.	765 kV Bus Reactor bays – 2 nos. (GIS)

Annexure-II

Transmission Scheme for integration of Davanagere / Chitradurga REZ in Karnataka

- i) Establishment of 765/400kV 4x1500 MVA, 400/220kV 4x500 MVA Pooling Station near Davanagere / Chitradurga, Karnataka with provision of two (2) sections of 4500 MVA each at 400kV level and provision of four (4) sections of 2500 MVA each at 220kV level
- ii) Upgradation of Narendra New Madhugiri 765kV D/c line (presently charged at 400kV level) at its rated 765kV voltage level
- iii) Upgradation of Madhugiri {Tumkur(Vasantnarsapura)} to its rated voltage of 765kV level alongwith 3x1500 MVA, 765/400kV ICTs and 2x330 MVAr, 765kV bus reactors

- iv) LILO of Narendra New Madhugiri 765kV D/c line at Davanagere / Chitradurga 765/400kV PS (~35 km) {with 240 MVAr SLR at both ends on Narendra New Davanagere section (~280 km) and 330 MVAr SLR at Davanagere end on Davanagere Madhugiri section (~200 km)}
- v) 400 kV line reactors (80 MVAr) on both ends of Narendra New Madhugiri 765kV D/c line shall be utilized as bus reactors at respective 400kV substations based on availability of bays or may be utilized as line reactor / bus reactor at other line / substation as per requirements.
- vi) 2x330 MVAr (765kV) bus reactors at Davanagere/ Chitradurga PS

Annexue-III

Transmission Scheme for integration of Bijapur REZ in Karnataka

- Establishment of 5x500 MVA, 400/220kV Pooling Station near Bijapur (Vijayapura) area, Karnataka
- Bijapur PS Raichur New 400kV (Quad ACSR moose) D/c line with 80 MVAr SLR at Bijapur end on both circuits (~150 km)
- 2x125MVAr 420 kV bus reactors at Bijapur PS

Annexure-IV

Transmission System for Integration of Anantapur-II (Near Rayadurgam) REZs (for 7.5 GW)

- Establishment of 6x1500 MVA, 765/400 kV & 10x500 MVA, 400/220 kV Anantapur-II Pooling Station near Kurnool, Andhra Pradesh along with 2x330 MVAr (765 kV) bus reactors at Anantapur-II PS (4 GW injection at 220 kV level and 3.5 GW injection at 400 kV level)
- + 300 MVAR STATCOM at Ananthpur-II, 2x125 MVAr MSR
- Establishment of 3x1500 MVA, 765/400 kV CN'Halli Station 765/400 along with 2x330 MVAr (765 kV) bus reactors
- Anantapur-II Davangere 765kV D/c line (about 150km) with 240 MVAR SLR at Anantapur-II end on both circuits
- Anantapur-II Cuddapah 765kV D/c line (about 200km) with 330 MVAR SLR at Anantapur-II end on both circuits
- Anantapur-II CN'Halli 765kV D/c line (about 180km) with 330 MVAR SLR at Anantapur-II end on both circuits

CN'Halli - CN'Halli (KPTCL) 400 kV (quad) D/c line (about 10km)

Phase-I (4 GW)

- Establishment of 4x1500 MVA, 765/400 kV & 6x500 MVA, 400/220 kV Anantapur-II Pooling Station near Kurnool, Andhra Pradesh along with 2x330 MVAr (765 kV) bus reactors at Anantapur-II PS
- + 300 MVAR STATCOM at Ananthpur-II, 2x125 MVAr MSR
- Anantapur-II Davangere 765kV D/c line (about 150km) with 240 MVAR SLR at Anatpur-II end on both circuits
- Anantapur-II Cuddapah 765kV D/c line (about 200km) with 330 MVAR SLR at Anatpur-II end on both circuits

Phase-II (3.5 GW)

- Augmentation of 2x1500 MVA, 765/400 & 6x500 MVA, 400/220 kV Anantapur-II Pooling Station
- Establishment of 3x1500 MVA, 765/400 kV CN'Halli Station along with 2x330 MVAr (765 kV) bus reactors
- Anantapur-II CN'Halli 765kV D/c line (about 180km) with 330 MVAR SLR at Anatpur-II end on both circuits
- CN'Halli CN'Halli (KPTCL) 400 kV (quad) D/c line (about 10km)

Annexure-V

Transmission Scheme for Solar Energy Zone in Bidar (2500 MW), Karnataka

- Establishment of 3x1500MVA (765/400kV), 5x500MVA (400/220kV)
- Bidar PS with 765kV (1x240 MVAR) and 400kV (1x125 MVAR) Bus Reactor
- Bidar PS Maheshwaram (PG) 765kV D/C line with 240 MVAr SLR for each circuit at Bidar PS end

Annexure-VI

Transmission System for Integration of Kurnool-IV (Near Aspiri) REZ (for 7.5 GW)

- Establishment of 6x1500 MVA, 765/400 & 10x500 MVA, 400/220 kV Kurnool-IV Pooling Station near Kurnool, Andhra Pradesh along with 2x330 MVAr (765 kV) bus reactors at Kurnool-IV PS (4 GW injection at 220 kV level and 3.5 GW injection at 400 kV level)
- + 300 MVAR STATCOM at Kurnool-IV, 2x125 MVAr MSR



- Establishment of 3x1500 MVA, 765/400 kV Veltoor-II Station with 2x330 MVAr (765 kV) bus reactors
- Kurnool-IV Veltoor-II 765kV D/c line (about 180 kms) with 330 MVAR SLR at Kurnool-IV on both circuits
- Veltoor-II

 Bidar 765kV D/c line (about 200 kms) with 330 MVAR SLR at Bidar end on both circuits
- Kurnool-IV Kurnool-III PS 765 kV D/c line (about 150 kms) with 240 MVAR SLR at Kurnool-IV end on both circuits
- Augmentation of 1x1500 MVA, 765/400 kV ICT at C'Peta
- Veltoor-II

 Veltoor TS 400 kV (quad) D/c line (about 60 kms)
- Veltoor-II
 Udandpur 400 kV (quad) D/c line (about 30 kms)
- LILO of Vijayawada-Nellore 400 kV D/c line at C'Peta (about 20 kms)

Phase-I (4.5 GW)

- Establishment of 4x1500 MVA, 765/400 & 4x500 MVA, 400/220 kV Kurnool-IV Pooling Station near Kurnool, Andhra Pradesh along with 2x330 MVAr (765 kV) bus reactors at Kurnool-IV PS (1.5 GW injection at 220 kV level and 3 GW injection at 400 kV level)
- + 300 MVAR STATCOM at Kurnool-IV, 2x125 MVAr MSR
- Kurnool-IV Bidar 765kV D/c line (about 330 kms) with 330 MVAR SLR at both end on both circuits
- Kurnool-IV Kurnool-III PS 765 kV D/c line (about 150 kms) with 240 MVAR SLR at Kurnool-IV end on both circuits
- Augmentation of 1x1500 MVA, 765/400 kV ICT at C'Peta

Phase-II (3 GW)

- Augmentation of 2x1500 MVA, 765/400 & 6x500 MVA, 400/220 kV Kurnool-IV Pooling Station (2 GW injection at 220 kV level and 2 GW injection at 400 kV level)
- Establishment of 3x1500 MVA, 765/400 kV Veltoor-II Station with 2x330 MVAr (765 kV) bus reactors
- LILO of Kurnool-IV Bidar 765kV D/c line at Veltoor-II (about 60 kms)
- Veltoor-II

 Veltoor TS 400 kV D/c (quad) line (about 60 kms)
- Veltoor-II
 Udandpur 400 kV D/c (quad) line (about 30 kms)
- LILO of Vijayawada-Nellore 400 kV D/c line at C'Peta (about 20 kms)



Annexure-VII

Transmission Scheme for integration of Tumkur-II REZ in Karnataka

- Establishment of 400/220 kV 4x500 MVA Pooling Station near Tumkur, Karnataka.
- Tumkur-II Tumkur(Pavagada) 400 kV (Quad ACSR moose) D/c line.
- 2x125 MVAr, 420 kV bus reactors at Tumkur-II PS

Annexure-VIII

Transmission Scheme for integration of Bellary REZ in Karnataka

- Establishment of 4x500 MVA, 400/220kV Pooling Station near Bellary area (Bellary PS), Karnataka
- Bellary PS Davanagere / Chitradurga 400kV (Quad ACSR moose) D/c line
- 2x125MVAr 420 kV bus reactors at Bellary PS



Annexure-IX

Transmission system for proposed Green Hydrogen / Green Ammonia projects in Tuticorin area

- Establishment of 3x1500 MVA, 765/400 kV Tuticorin (GH) S/s with 1x240 MVAR bus Reactor
- Tuticorin PS Tuticorin (GH) 765 kV D/c line
- Upgradation of Tuticorin PS Dharmapuri (Salem New) 765kV D/c line (presently charged at 400kV level) at its rated 765kV voltage level with 1x330 MVAr switchable Line Reactor on both ends of each circuit
- Transmission line for change of termination from 400kV switchyard to 765kV switchyard for Tuticorin PS Dharmapuri (Salem New) 765kV D/c line at Tuticorin PS & Dharmapuri (Salem New)
- Upgradation of Tuticorin PS to its rated voltage of 765kV level alongwith 3x1500 MVA, 765/400kV ICTs and 1x330 MVAr, 765kV bus reactors
- Upgradation of Dharmapuri (Salem New) to its rated voltage of 765kV level alongwith 3x1500 MVA, 765/400kV ICTs and 1x330 MVAr, 765kV bus reactor

- 400 kV line reactors on Tuticorin PS Dharmapuri (Salem New) 765kV D/c line shall be utilized as bus reactors at respective 400kV substations based on availability of bays
- Upgradation of Dharmapuri (Salem New) Madhugiri 765kV 2xS/c lines (presently charged at 400 kV) to its rated voltage at 765 kV with 1x330 MVAr switchable Line Reactor on Dharmapuri (Salem New) end of each circuit
- Transmission line for change of termination from 400kV switchyard to 765kV switchyard for Dharmapuri (Salem New) –
 Madhugiri 765kV 2xS/c line at Dharmapuri (Salem New) & Madhugiri
- 400 kV line reactors on Dharmapuri (Salem New) Madhugiri 765 kV 2xS/c lines shall be utilized as bus reactors at respective 400kV substations based on availability of bays.

Note:

- i. POWERGRID shall provide space for upgradation of Tuticorin PS to its rated voltage level of 765kV level
- ii. POWERGRID shall provide space for upgradation of Dharmapuri (Salem New) to its rated voltage level of 765kV level
- iii. POWERGRID / TSP shall provide space for 2 nos. of 765kV line bays at Madhugiri 765kV for termination of Dharmapuri (Salem New) Madhugiri 765kV 2xS/c lines

Annexure-X

Transmission system for proposed Green Hydrogen / Green Ammonia projects in Kakinada area (Phase-I)

- Establishment of Kakinada 765/400 kV, 3x1500 MVA substation alongwith bus reactor
- LILO of Vemagiri Srikakulam 765 kV D/c line at Kakinada substation

Note *: Angul – Srikakulam 765 kV 2nd D/c line shall be required for meeting the Green Hydrogen / Green Ammonia demand in SR in general and Kakinada area in particular.

Annexure-A

List of participants to 34th Consultation Meeting for Evolving Transmission Scheme in SR held on 24.09.2024.

SRPC

1. Shri Asit Singh

MS

CEA

1. Ms. Kanchan Chauhan

DD

GRID-INDIA

1. Shri S P Kumar

ED, SRLDC

2. Shri Vivek Panday

GM, NLDC

3. Shri T Mutukumar

Sr. DGM, SRLDC

4. Shri A Janardhan

Ch. Mgr, SRLDC

5. Shri Rahul Shukla

Ch. Mgr, NLDC

Shri Gurram Praveen Kumar

Mgr, SRLDC

STU

1. Shri T. Jagath Reddy

Director/Transmission, TGTRANSCO

2. Shri K Prasnna Lakshmi

ED/Commercial, TGTRANSCO

3. Shri G. Rajeshwari

CE/PS, TGTRANSCO

4. Shri N. Rama Chandra Reddy

CE/Plg & PS, APTRANSCO

5. Shri K V S Ramana

SE/ PS, APTRANSCO

6. Shri B Venkata Subbarao

EE-I/ SS-I, APTRANSCO

7. Shri Sreenivasulu,

DEE-I/SS-I, APTRANSCO

8. Shri Rammohan Rao

AEE/ SS-1, APTRANSCO

9. Shri M. Sudarsan

SE /SYSTEM STDUIES, TANTRANSCO



EE /SYSTEM STUDIES, TANTRANSCO Shri G. Ramesh Kumar AEE /System Studies, TANTRANSCO 11. Ms. J. Kalaiselvi EE-II/SS, TANTRANSCO 12. Ms. T. Sumathi SE /CERC, TANGEDCO 13. Shri M. Suthuraman EE /CERC, TANGEDCO 14. Dr. R. Kathiravan 15. Shri, A Anntonet Daffodil AEE /CERC, TANGEDCO AEE /CERC, TANGEDCO Shri R. Kumutha EE, KPTCL Ms. Gayatri Kulkarni

AEE, KPTCL



SECI

Shri R. K. Agarwal Consultant

CTUIL

Shri V Thiagrajan **CGM** Shri Anil Kumar Meena GM 2. Shri Ajay Dahiya **DGM** 3. Shri Ankush Patel Chief Manager Shri Venkatesh Gorli 5. Chief Manager Ms. Himanshi 6. Manager Engineer Shri Umesh Dhanuk 7. Shri Jitendra Sharma Engineer (Trainee)

Connectivity Applicants

Ms. Divya Prabha H

Shri Sameer Dighe
 Shri M. Prabhakaran
 Shri Sushant Sinha
 Shri Rahul Kumar Jeena
 Southern Railways
 Hero Solar Energy Pvt. Ltd.
 Hero Solar Energy Pvt. Ltd.

5. Shri Rajeev Ranjan

6. Shri Rohit Kumar Sharma

Shri K Rama Murthy

8. Shri Sachin Jindal

9. Shri Agshuman Rudra

10. Ms. Shipra Arora

11. Shri Ajay Pradhan

12. Shri Yogesh Sanklecha

13. Shri Lokesh Yadav

14. Shri Tushar Goyal

15. Shri Rahul Kumar

16. Shri Saravanakumar

17. Shri Jegathees Kumar M

18. Shri Pawan Sharma

19. Shri Devi Dutta

20. Shri Pritpal Singh

21. Shri Manish Kumar

22. Shri Animesh Manna

23. Shri Sushanta Basumatary

24. Shri Farrukh Aamir

25. Shri Adrit Palchoudhury

26. Shri Jayawardhan Sankotai

27. Shri Harshit Gupta

28. Shri Saurabh Pandey

29. Shri Faraz Afridi

Hero Solar Energy Pvt. Ltd

AMPIN Energy Utility Private Limited

Enfinity Global

Enfinity Global/EG Akra

Avaada Energy Private Limited

Avaada Energy Private Limited

Acme Group

Acme Group

Acme Group

Acme Solar Holdings Ltd.

Acme Solar Holdings Ltd.

Subramaniyapuram Wind Park Pvt Ltd

Subramaniyapuram Wind Park Pvt Ltd

Green Infra Renewable Energy Private Limited

Green Infra Renewable Energy Private Limited

JSW Group, Mumbai

Greenko Group

NTPC Renewable Energy Limited

Purvah Green Power Private Limited

Purvah Green Power Private Limited

Purvah Green Power Pvt. Ltd.

Welspun Godavari Private Limited

Hexa Climate Solutions Private limited

Hexa Climate Solutions Private limited

SAEL Industries



30. Shri Ajay Tiwari

Ms. Aakanksha Bhisikar

32. Shri Vishnu Pad Saha

33. Shri Ayush Jain

34. Shri Ranjan Kumar

35. Shri Arunprasath B

36. Shri Ishan Nagpal

37. Shri Gaurav Kumar

38. Shri Piyush Pokhariyal

39. Shri Georgie Thomas

40. Shri Ashish Sontakke

41. Shri Georgie Thomas

42. Shri Tushar Garg

43. Shri K A Vishwanath

44. Shri Madhu Rejeti

45. Ms. Bhavna Kapuria

46. Ms. Bhavna Kapuria

47. Shri Vaibhav Rangoota

48. Shri Jayakrishnan Chonat

SAEL Industries

Serentica Renewables India Private Limited

Shirdi Sai Electricals Limited

Zelestra/Ganeko Group

ACC Limited

Nannai Solar Park Pvt. Ltd.

Sunsure Energy

Sunsure Energy

Sunsure Energy

UPC Renewables India

UPC Renewables India

Vismaya Renewables

Teq Green Power XIII Pvt. Ltd.

Teq Green Power XIII Pvt. Ltd.

Fourth Partner Energy Pvt. Ltd./ Linde India

Nannai Solar

Navaladi

Jagaluru Solar Power Pvt Ltd

Pratapati Energy (Seven) Private Limited



* * * * *



194 Annexure-A

Details of the applicant granted / agreed for grant Connectivity at Karur PS

SI. No.	Applicant name	Connectivity / GNA application no.	Connectivity / GNA quantum (MW)	Generation Type	Solar	Wind	ESS / PSP	Installed Capacity
1	JSW Renew Energy Limited	1200002868	270	Wind	0	270	0	270
2	JSW Neo Energy Ltd (erstwhile JSW Future Energy Ltd)	1200003212	150	Wind	0	150	0	150
3	Tata Power Renewable Energy Ltd.	2200000242	198	Wind	0	198.0	0	198
4	JSP Green Wind 1 Pvt. Ltd.	2200000438	300	Wind	0	300.0	0	300
5	First Energy Pvt. Ltd.	2200000441	100	Wind	0	100.0	0	100
6	Tata Power Renewable Energy Ltd.	2200000448	93.6	Wind	0	93.6	0	93.6
8	Nannai Solar Park Private Ltd.	2200000628	93	Wind	0	93	0	93
9	Amplus Sun Beat Pvt. Ltd.	2200000698	80	Wind	0	80	0	80
10	Amplus Theta Energy Pvt. Ltd.	2200000699	65	Wind	0	65	0	65
11	JSW Neo Energy Ltd.	2200000818	150	Hybrid	65	110	0	175
12	Tata Power Renewable Energy Ltd.	2200000967	82.5	Wind	0	82.5	0	82.5
13	Nannai Solar Park Private Ltd.	2200001023	57	Wind	0	57	0	57
14	Navaladi Wind Park Pvt. Ltd.	2200001033	100	Wind	0	100	0	100
	Total		1739.1		65	1699.1		1764.1





सेंट्रल ट्रांसिमशन यटिलिटी ऑफ इंडिया लिमिटेड

(पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड के स्वाभित्व में) (भारत सरकार का उद्यम)

CENTRAL TRANSMISSION UTILITY OF INDIA LTD.

(A wholly owned subsidiary of Power Grid Corporation of India Limited)
(A Government of India Enterprise)

Ref. No.: CTU/S/00/Joint Study MoM

Date: 28.05.2024

As per distribution list

Subject: Minutes of the Joint Study meeting of Southern Region Constituents held from 2nd to 4th May, 2024 at Hyderabad.

Dear Sir / Madam.

The Joint Study meeting of Southern Region Constituents was held from 2nd to 4th May, 2024 at Hyderabad regarding Inter-Regional links between NEW-Grid & SR-Grid and ISTS network strengthening in SR to facilitate import of power for meeting demand by 2029-30 time frame and various ISTS proposals.

Kindly find attached the Minutes of the meeting.

Thanking you,

Yours faithfully.

(Anil Kr. Meena) General Manager



Distribution List:

1. Chief Engineer (PSP&A I) Central Electricity Authority Sewa Bhawan, R.K.Puram, New Delhi 110 066.	2. Member Secretary Southern Regional Power Committee 29, Race Course Cross Road Bangalore – 560 009.
3. Director (Transmission) Transmission Corp. of Andhra Pradesh Ltd. (APTRANSCO) Vidyut Soudha, Gunadala, Eluru Rd, Vijayawada, Andhra Pradesh – 520 004	4. Director Transmission) Transmission Corp. of Telangana Ltd. Vidyut Soudha Hyderabad – 500 082 Fax: 040-23321751
5. Director (Transmission) Karnataka State Power Transmission Corp. Ltd., Cauvery Bhawan Bangalore – 560 009 Fax: 080-22228367	6. Director (Trans. & System Op.), Kerala State Electricity Board Ltd. Vidyuthi Bhawanam, Pattom, P.B. No. 1028 Thiruvananthapuram – 695 004. Fax: 0471-2444738
7. Director (Transmission Projects) Tamil Nadu Transmission Corporation Ltd (TANTRANSCO) 6th Floor, Eastern Wing, 800 Anna Salai, Chennai – 600 002 Fax: 044-28516362	8. Superintending Engineer —I First Floor, Electricity Department Gingy Salai, Puducherry — 605 001
9. Executive Director SRLDC, GRID-INDIA 29, Race Course Cross Road, Bangalore – 560 009	



Minutes of the Joint Study meeting of Southern Region Constituents held from 2nd to 4th May, 2024 at Hyderabad

In the 50th SRPC meeting held on 16.03.2024 and 29th CMETS-SR held on 28.03.2024, it was decided to hold physical Joint Study meeting for Inter-Regional links between NEW-Grid & SR-Grid and ISTS network strengthening in SR to facilitate import of power for meeting demand by 2029-30 time frame and various ISTS proposals. Accordingly, Joint Study meeting was conducted from 2nd to 4th May, 2024 at POWERGRID SRTS-I RHQ Hyderabad with participation from SRPC, CTUIL, SRLDC, KPTCL, KSEBL, APTRANSCO, TSTRANSCO, TANTRANSCO and TANGEDCO. List of participants is attached at **Annexure-I**.

As host for the Joint Study meeting, ED, SRTS-I, POWERGRID welcomed all the participants and expressed gratitude for providing the opportunity for hosting the meeting towards identification / strengthening of SR Grid. He wished the participants all the very best for fruitful deliberations and planning of optimal transmission system for SR Grid. He requested SRPC and CTU to proceed with the agenda for the meeting.

Superintendent Engineer, SRPC, welcomed the participants and stated that Joint Studies would be conducted as per the decision in the 50th SRPC meeting held on 16.03.2024 for identification of Inter-Regional links between NEW-Grid & SR-Grid and ISTS network strengthening in SR to facilitate import of power for meeting demand by 2029-30 time frame. Further based on the decision in the meeting, the schemes shall be deliberated in the next SRPC meeting. He requested CTU to take up the agenda for the meeting.

CTU stated that tentative proposal along with the system study files have already been circulated vide email dated 29.04.2024. Demand projections have been sought for 2029-30 timeframe from STUs for carrying out the system studies, as per the decision in the various SRPC meetings. Inputs have been received from SR STUs except from KPTCL and Puducherry. KPTCL informed that they would require one month for providing the requisite inputs. It was opined that, in case of non-availability of inputs, demand may be considered as per 20th EPS.

A. <u>Transmission System for integration of Kurnool-IV and Anantapur-II REZs in Andhra Pradesh</u>

1. CTU informed that Transmission System for integration of Kurnool-IV and Ananthapuram-II REZs were discussed in the 28th CMETS-SR held on 29.02.2024 wherein it was informed that Govt. of India has set a target of 500 GW generation capacity from non-fossil fuel resources by 2030. In this direction, MNRE has identified addition of 86 GW RE Potential is identified in the State of Andhra Pradesh, Telangana, Karnataka and Tamil Nadu (Offshore) in Southern Region. Out of the identified (86 GW) RE Potential in Southern Region, 51 GW has been identified in the State of Andhra Pradesh (Ananthapur– 20 GW, Kurnool – 23 GW & Kadapa – 8 GW).

A comprehensive transmission system for integration of 51 GW RE Potential in Andhra Pradesh have been identified by CEA and a report on Transmission System for Integration of over 500 GW RE Capacity has been published by CEA on 07.12.2022. The details of district wise potential is as below.

District Pooling Station		17 17 17	ential W)	Total (GW)	Maximum Dispatch	BESS	Evacuation System
		Wind	Solar		(GW)	(GW)	(GW)
Anantapur	Anantapur, Anantapur-II	10	10	20	15	5	10
Kurnool	Kurnool-IV, Kurnool-V	8	15	23	18	6	12
Kadapa	Kadapa-II	0	8	8	8	3	5
	Total	18	33	51	41	14	27

- 2. As per the CEA 500 GW RE report, following transmission system has been identified for integration of Kurnool-IV, Anantapur-II, Kurnool-V & Kadapa-II:
 - a. Transmission System for integration of Kurnool REZ-I (7.5 GW Solar, 4 GW Wind, 3 GW BESS)
 - Establishment of 5x1500 MVA, 765/400 & 7x500 MVA, 400/220 kV Kurnool-IV Pooling Station near Kurnool, Andhra Pradesh along with 2x330 MVAr (765 kV) & 2x125 MVAr (400 kV) bus reactors at Kurnool-IV PS (3 GW injection at 220 kV level and 3 GW injection at 400 kV level)
 - Kurnool-IV Kurnool-III PS 765 kV D/c line (~100 km)
 - Kurnool-IV Bidar PS 765 kV D/c line with 240 MVAr SLR at both ends (~280 km)
 - b. Transmission System for integration of Kurnool REZ-II (7.5 GW Solar, 4 GW Wind, 3 GW BESS)
 - Establishment of 5x1500 MVA, 765/400 kV & 7x500 MVA, 400/220 kV Kurnool-V Pooling Station near Kurnool, Andhra Pradesh along with 2x330 MVAr (765 kV) & 2x125 MVAr (400 kV) bus reactors at Kurnool-V PS (3 GW injection at 220 kV level and 3 GW injection at 400 kV level)
 - Kurnool-V Chilakaluripeta 765 kV D/c line with 330 MVAr SLR at Kurnool-V PS end (~210 km)
 - Kurnool-V Kurnool-IV 765 kV D/c line (~100 km)
 - Chilakaluripeta Podili 400 kV (quad) D/c line (~100 km)
 - Augmentation by 2x1500 MVA, 765/400 kV ICTs at Chilakaluripeta 765/400 kV substation
 - Augmentation by 2x1500 MVA, 765/400 kV ICTs at Maheshwaram 765/400 kV substation
 - c. Transmission System for integration of Anantapur-II REZ (7.5 GW Solar, 4 GW Wind, 3 GW BESS)

- Establishment of 6x1500 MVA, 765/400 kV & 9x500 MVA, 400/220 kV Anantapur-II
 Pooling Station near Kurnool, Andhra Pradesh along with 2x330 MVAr (765 kV) &
 2x125 MVAr (400 kV) bus reactors at Anantapur-II PS (4 GW injection at 220 kV level
 and 4 GW injection at 400 kV level)
- Anantapur-II Cuddapah 765 kV D/c line with 240 MVAr SLR at Anantapur-II PS (~250 km)
- Anantapur-II Kurnool-V PS 765 kV D/c line (~100 km)

d. Transmission System for integration of Kadapa REZ (8 GW Solar, 3 GW BESS)

- Establishment of 4x1500 MVA, 765/400 kV & 6x500 MVA, 400/220 kV Pooling Station near Kadapa (Kadapa II PS), Andhra Pradesh along with 2x330 MVAr (765 kV) & 2x125 MVAr (400 kV) bus reactors at Kadapa-II PS (2.5 GW injection at 220 kV level and 2.5 GW injection at 400 kV level)
- LILO of both circuits of Anantapur-II Cuddapah 765 kV D/c line at Kadapa-II PS (~10 km)
- Kadapa-II PS Thiruvalam 765 kV D/c line with 240 MVAr SLR at both ends (~250 km)
- 3. Matter was discussed in the 28th CMETS-SR held on 29.02.2024 wherein it was informed that Connectivity of about 7740 MW (2390 MW at 220kV level & 5350 MW at 400kV level) has been granted / agreed for grant at Kurnool-III PS. Similarly, Connectivity of about 3765 MW (1055 MW at 220kV level & 2710 MW at 400kV level) has been granted / agreed for grant at Ananthapuram PS. Keeping above in view, it is prudent to take up the implementation of Kurnool-IV PS and Anantapur-II PS for integration of RE generation projects in Kurnool and Anantapur areas. It was also informed that NREDCAP had requested for establishment of new 765kV substation near Aspiri, Kurnool district, accordingly, same may be established at suitable location near Aspiri in Kurnool district. Further, as requested by NREDCAP Ananthapuram-II PS may be established at suitable location near Raydurg in Ananthapuram district. After detailed deliberations, it was decided that a physical joint study may be carried out for finalization of the transmission system for Kurnool-IV and Ananthapuram-II.
- 4. During the Joint Study meeting, CTU informed that presently Connectivity of about 5300 MW (2390 MW at 220kV level & 5350 MW at 400kV level) has been granted / agreed for grant at Kurnool-III PS. Similarly, Connectivity of about 3905 MW (1195 MW at 220kV level & 2710 MW at 400kV level) has been granted / agreed for grant at Ananthapuram PS. Accordingly, for further grant of connectivity in Kurnool/Ananthpur area, timely implementation of transmission schemes identified in Kurnool/Ananthpur as a part of above identified potential may be taken-up in phases.

It was stated that transmission may be taken-up in phased manner in order to ensure proper utilization of the transmission system. CTU proposed that in the initial phase, Kurnool-IV and Ananthpur-II PS may be taken-up for implementation to facilitate integration of RE.



Further, the transmission system as finalized in the joint Study meeting may be taken-up in phases.

5. CTU informed that as per the 500 GW report, a huge quantum of RE power is being integrated at planned Kurnool-IV, Kurnool-V, Anantapur-II and Kadapa-II PS together with existing/under implementation Kurnool (new), Kurnool-III and Anantapur PS. Further for optimal utilization of the existing/under construction transmission system, additional 3.5 GW power is being integrated at Kurnool-III PS through augmentation of 3x1500 MVA, 765/400 kV ICTs and Kurnool-III- C'Peta 765 kV D/c line. All these Pooling stations are interconnected through 765 kV or 400 kV transmission network. This may lead to overloading of immediate transmission system and may lead to outage of huge quantum of power due to proximity and huge pooling of RE generation as well as common evacuation corridors. In view of the above, it is prudent to review the transmission system in consultation with the regional constituents.

It was informed that as per the proposed transmission system, Kurnool-IV and Anantapur-II PS which were earlier being integrated through Kurnool-V are proposed to be disintegrated and connected to different ISTS points for further dispersal of power. Kurnool-IV PS is being integrated to Kurnool-III, Bidar and Veltoor-II (proposed new substation) through 765 kV high capacity corridors along with 400 kV interconnections to STU substations for meeting load requirements. Further, Anantapur-II PS is proposed to be interconnected to Davangere, Cuddapah and CN'Halli (proposed new substation) through 765 kV high capacity corridors along with 400 kV interconnections to STU substations for meeting load requirements.

It was stated that implementation of transmission system may be taken-up in phased manner in order to utilization of the transmission system. It was proposed that in the initial phase, Kurnool-IV and Ananthpur-II PS may be taken-up for implementation to facilitate integration of RE. Further, the transmission system as finalized in the joint Study meeting may be taken-up in phases.

6. CTU informed that the considering the implementation schedule of 36 months [24 months of implementation and 6 months of approval] transmission scheme for integration of potential REZ at Kurnool-IV and Ananthpur-II PS is likely to be commissioned by Dec'26. Accordingly, system studies have been conducted in 2026-27 timeframe. CTU informed that considering the methodology for preparation of Load generation balance of the Rolling Plan, demand of 61 GW is considered in Scenario-4 (June Solar max), whereas demand of 73 GW is considered in Scenario-7 (February evening peak). In this regard, it was opined that Southern Region has already recorded demand of 64 GW and the same is expected to rise to 80 GW as per the EPS by 2026-27 timeframe. Accordingly, demand considered for system studies may be finalized as per the inputs received from the STUs. Based on the observations received from STUs, load-generation and network updation was carried out and detailed system studies were conducted. As per the revised LGB, export of about 16000 MW was observed in Scenario-4 with the consideration of various RE pooling stations

in Southern Region and proposed Kurnool-IV & Ananthpur-II PS and Davanagere/Chitradurga, Bellary and Bijapur REZ potential. Further, import of about 11000 MW was observed in Scenario-7. The load-generation balance, study results and assumptions considered are enclosed at **Annexure-II**.

7. During the meeting, following comprehensive transmission system was proposed for integration of RE generation projects at Kurnool-IV and Anantapur-II in Andhra Pradesh:

a. Transmission System for Integration of Kurnool-IV (Near Aspiri) REZ (for 7.5 GW)

- Establishment of 6x1500 MVA, 765/400 & 10x500 MVA, 400/220 kV Kurnool-IV Pooling Station near Kurnool, Andhra Pradesh along with 2x330 MVAr (765 kV) bus reactors at Kurnool-IV PS (4 GW injection at 220 kV level and 3.5 GW injection at 400 kV level)
- ± 300 MVAR STATCOM at Kurnool-IV, 2x125 MVAr MSR
- Establishment of 3x1500 MVA, 765/400 kV Veltoor-II Station with 2x330 MVAr (765 kV) bus reactors
- Kurnool-IV Veltoor-II 765kV D/c line (about 180 kms)
- Veltoor-II- Bidar 765kV D/c line (about 200 kms)
- Kurnool-IV Kurnool-III PS 765 kV D/c line (about 150 kms)
- Augmentation of 1x1500 MVA, 765/400 kV ICT at C'Peta
- Veltoor-II

 Veltoor TS 400 kV (quad) D/c line (about 60 kms)
- Veltoor-II

 Udandpur 400 kV (quad) D/c line (about 30 kms)
- C'Peta Thalapaleyam 400 kV (quad) D/c line (about 30 kms)

b. Transmission System for Integration of Anantapur-II (Near Rayadurgam) REZs (for 7.5 GW)

- Establishment of 6x1500 MVA, 765/400 kV & 10x500 MVA, 400/220 kV Anantapur-II Pooling Station near Kurnool, Andhra Pradesh along with 2x330 MVAr (765 kV) bus reactors at Anantapur-II PS (4 GW injection at 220 kV level and 3.5 GW injection at 400 kV level)
- ± 300 MVAR STATCOM at Ananthpur-II, 2x125 MVAr MSR
- Establishment of 3x1500 MVA, 765/400 kV CN'Halli Station 765/400 along with 2x330 MVAr (765 kV) bus reactors
- Anantapur-II Davangere 765kV D/c line (about 150km)
- Anantapur-II Cuddapah 765kV D/c line (about 200km)
- Anantapur-II CN'Halli 765kV D/c line (about 180km)
- CN'Halli CN'Halli (KPTCL) 400 kV (quad) D/c line (about 10km)
- 8. During the meeting, TANGEDGO and APTRANSCO stated that as per the proposal, Kurnool-IV & Ananthpur-II PS are planned with transformation capacity of 7.5 GW each. In this context, how much RE capacity and connectivity shall be integrated/granted at these



Pooling Stations. Towards this, CTU stated that as per the CEA Transmission Planning Criteria, maximum 9 GW of transformation capacity has been stipulated for generation stations. Accordingly, considering 'N-1' criteria, maximum 7.5 GW of RE capacity injection shall be allowed at these proposed substations and the same has been considered in the studies. Further, with respect to quantum of connectivity, it was informed that connectivity for injecting entities shall be limited to 7.5 GW at 400kV/220kV level.

TANGEDGO stated that as per CEA 500 GW report, for optimal utilization of transmission system, dispatch factors were considered against the envisaged RE potential for each RE zone. Further, BESS was also considered at a number of RE Pooling stations for further optimization of the transmission system. In this regard, it was requested to clarify whether the same is being considered in the studies. Towards this, CTU stated that connectivity application being received at RE Pooling Stations have variation from the earlier envisaged configurations. For example, Koppal-II & Gadag-II PS were envisaged with 4 GW potential (Solar-2 GW, Wind-2 GW), however connectivity has been granted for 9181 MW out of which total installed capacity of Solar is 2728 MW and wind is 6794 MW. Further, no application was received from BESS in Koppal-II or Gadag-II. Accordingly, REZ capacity to be integrated at Koppal-II and Gadag-II has surpassed the earlier projections in the report. Accordingly, injections has been considered based on the actual data of the applications.

TANGEDGO stated that in case the dispatch factors and BESS as envisaged in the 500 GW report are not considered, it may lead to excessive transmission system planning and the transmission system may be stranded. In this regard, CTU clarified that connectivity grantees are installing more capacity at the RE Pooling stations in order to meet requisite contracts especially RTC contracts commensurate to the connectivity quantum. Further, there are provisions in the Regulations which allows connectivity grantees to add more generation keeping the connectivity quantum same in order to meet their contract requirements. In such a case, if transmission system is planned considering the dispatch factors, it may lead to sub-optimal planning of transmission system and generation projects may not be able to evacuate power commensurate to the connectivity granted. This may lead to bottle-up of RE generations. Further, in-case BESS apply for connectivity at proposed RE Pooling Stations, it shall further facilitate accommodation of more RE potential without any additional investment in transmission system.

9. APTRANSCO informed that it is understood that connectivity has been granted to PSPs at various RE Pooling stations. PSP are expected to run in motoring mode and draw power from grid under high RE scenario and accordingly the capacity of PSP may be reduced for arriving at net injection at such RE PS. In this regard, CTU informed that there is no mandate/regulation wherein PSP may be restricted to operate in motoring mode in high RE scenarios. Accordingly, no injection or drawl has been considered from PSPs while calculation of margins for grant of Connectivity to RE generations.

After detailed deliberations, it was agreed that CTU may refer the matter to CEA seeking necessary clarification and may request CEA to conduct a meeting with participation from



SR stake holders regarding consideration of PSP in various scenarios. Further dispatch factors from RE generations for consideration for immediate evacuation under various studies may also be discussed and recorded for the purpose of standardization among regions and stakeholders.

10. APTRANSCO stated that Kurnool-III and Anantapur PS is under implementation with 3x1500 MVA 765/400 kV ICTs, 7x500 MVA, 400/220 kV ICTs at Kurnool-III and 7x500 MVA, 400/220 kV ICTs at Anantapur PS. It is understood that connectivity of 5350 MW has been granted at 400 kV and 2650 MW at 220 kV at Kurnool-III. Similarly connectivity of 2710 MW has been granted at 400 kV and 1195 MW at 220 kV at Anatapur PS. Accordingly, 5 nos. of 400/220 kV ICTs are not getting utilized at Kurnool-III / Anantpur PS. It was requested that proper planning must be done to ensure utilization of transmission system.

In this regard, CTU clarified that Kurnool-III and Anantapur PS were planned earlier as part of 66.5 GW of REZ schemes wherein entire power has envisaged at 220 kV level and accordingly all the ICTs were planned and awarded for implementation for accommodating connectivity at 220 kV level. However, looking into the quantum of connectivity being received, connectivity have been granted at 400 kV level also. Options are being explored for utilization of above ICTs at Kurnool-III and Anantapur PS.

CTU further informed that under the 500 GW report, all the RE PS are being planned optimally with about 50% injection at 400 kV and balance at 220 kV level thereby deferring the requirement of additional 400/220 kV ICTs. Same has also been considered in the present proposal wherein 4 GW injection at 220 kV level and 3.5 GW injection at 400 kV level has been considered at Kurnool-IV and Anantapur-II PS.

11. During the meeting, TSTRANSCO enquired about the requirement of STATCOMs at Kurnool-IV and Anantapur-II PS, wherein it was clarified that STATCOMs are being proposed at these RE Pooling stations as a huge quantum of RE power is being pooled at Kurnool (new), Kurnool-III, Anantapur, Kurnool-IV and Anantapur-II. Further, Kurnool-V and Cuddapah-II shall also be integrated in these complex. Looking into the variable and intermittent nature of RE power and huge quantum of RE power being pooled in the Kurnool & Anantapur area, STATCOMs are being proposed to provide dynamic reactive support as well as grid stability in the area. Further, since high voltages are primarily observed in the area, only 2x125 MVAR MSR are being proposed along with the STATCOMs for providing static voltage support.

SRLDC, Grid-India stated that they are not able to utilize the full range of reactive support from the STATCOM due to LV bus voltage. The issue could be addressed by providing online tap change in the coupling transformer of STATCOM. CTU clarified that based on the feedback from Grid-India, the matter is being addressed in the RfP documents for all the upcoming schemes.



- 12. During the meeting TANTRANSCO, TSTRANSCO and APTRANSCO stated that in case, transmission system is implemented under ISTS for dispersal of RE power from the proposed Pooling Stations whether the same shall be considered under national component or not. Towards this, CTU clarified that as per the Sharing Regulations, National Component-Renewable Energy shall comprise of the Yearly Transmission Charges for transmission systems developed for renewable energy projects as identified by the Central Transmission Utility. Further, Transformer Component for a State shall comprise of Yearly Transmission Charges for inter-connecting transformers (ICTs) planned for drawl of power by the concerned State.
- 13. With respect to the proposal of Kurnool-IV, TANGEDGO stated that option may be explored for phasing of the transmission system commensurate with the quantum of connectivity applications received at Kurnool-IV. Further, Kurnool-IV- Bidar 765 kV D/c line may initially be charged at 400 kV and depending on the visibility of generation, same may be upgraded to 765 kV.
 - In this regard, CTU informed that Bidar PS is implemented as 765/400/220 kV pooling station and only marginal investment may be deferred by initially charging Kurnool-IV- Bidar 765 kV D/c at 400 kV level. Further, as per the applications being received at Kurnool-III/Kurnool-IV, upgradation shall be required in a very short period of time. This may lead to delay in implementation of transmission system and bottling-up of RE power in case the upgradation is taken-up at a later stage. According, it is proposed that Kurnool-IV- Bidar 765 kV D/c may be implemented in the initial phase itself and 765/400 kV & 400/220 kV ICTs may be taken-up in phases for optimization of investment in the transmission system.
- 14. TSTRANSCO stated that though the proposal of integration of Kurnool-IV REZ with Velttor (TSTRANSCO) through LILO of Kurnool-IV Bidar 765kV D/c line at Veltoor-II and Veltoor-II Veltoor TS 400 kV (quad) D/c line Veltoor-II Udandpur 400 kV (quad) D/c line primarily seems to be in order, they shall communicate regarding availability of space for termination of proposed transmission lines at Veltoor TS. Further, they would discuss the proposal with senior management.
- 15. APTRANSCO stated that Vijayawada-Nellore 400 kV D/c line is passing in the vicinity of C'Peta substation and accordingly option may be explored for LILO of Vijayawada-Nellore 400 kV D/c line at C'Peta. Same was studied and it was agreed that LILO of Vijayawada-Nellore 400 kV D/c line at C'Peta may be considered in place of C'Peta Thalapaleyam 400 kV (quad) D/c line.
- 16. During the meeting, APTRANSCO also raised the issue of high short circuits at Kurnool. In this regard, CTU informed that the issue has also been reported as a part of Rolling Plan report of CTU and detailed studies shall be carried out for mitigation of high short circuit at all substations reported in the report in consultation with the constituents.



It was noted that prima-facie, with the introduction of 15 ohm series limiting reactor between Kurnool & Kurnool (new) 400 kV D/c line, there is a reduction of 6-7 kA in short circuit current. Further, SC currents at Kurnool are observed excessively high which needs detailed analysis along with the detailed system modelling of the generation projects pooled at Kurnool (new) including hydro PSP generations. Detailed studies and analysis shall be done in due course of time and same shall be deliberated in the CMETS meeting.

- 17. After detailed deliberation, it was agreed that transmission system for Kurnool-IV may be phased out with Kurnool-IV Bidar 765kV D/c line and Kurnool-IV Kurnool-III PS 765 kV D/c line in the first phase and balance transmission system in second phase. It was also agreed that the transmission system may taken-up for further approval in the upcoming CMETS meeting of SR and subsequently with SRPC and NCT.
- 18. With respect to the proposal of Anatapur-II, SRPC stated that as per the proposed transmission system, Anathpur-II is being integrated with CN'Halli 400/220 kV susbstation of KPTCL through Anantapur-II - CN'Halli 765kV D/c line and CN'Halli - CN'Halli (KPTCL) 400 kV (quad) D/c line. In such a case, in case CN'Halli (KPTCL) is delayed, there shall be no evacuation path from CN'Halli 765/400 kV substation. CTU stated that proposed CN'Halli 765/400 kV substation may be implemented under ISTS as 765/400/220 kV substation in case KPTCL is not taking up the CN'Halli (KPTCL) 400/200 kV substation. Towards a query regarding status of implementation of the CN'Halli (KPTCL) substation, KPTCL informed that land acquisition is under process. CTU stated that the CN'Halli substation and associated transmission system was finalized in the 2015, however there has been substantial delay in the implementation of the transmission system. There have been several instance of network overloading particularly Mysore ICTs on account of such delays in implementation of STU transmission system. SRLDC stated that on account of above, SPS was implemented and has already been operated number of times. Accordingly, KPTCL is requested to expedite the implementation of approved STU schemes at the earliest. It was also suggested that KPTCL may explore options for implementation of the transmission scheme under ISTS through various routes. It was also informed that as per the studies Anantapur-II - Davangere 765kV D/c line and Anantapur-II - Cuddapah 765kV D/c line shall be sufficient for evacuation of about 4-4.5 GW of RE, a third outlet shall in any case be required for evacuation of entire power of 7.5 GW from Anantapur-II PS. Looking into the load proximity and based on optimal power flow, integration with CN'Halli has been proposed after exploring all the available alternatives.
- 19. After detailed deliberation, it was agreed that transmission system of Anantpur-II may be phased out with Anantapur-II Davangere 765kV D/c line and Anantapur-II Cuddapah 765kV D/c line in the first phase and balance transmission system in second phase. Further, based on communication received from KPTCL, shall communicate regarding the decision of implementation CN'Halli substation may be implemented as 765/400/220 KV or may be integrated with CN'Halli (KPTCL) through CN'Halli CN'Halli (KPTCL) 400 kV (quad) D/c line. It was also agreed that the transmission system may taken-up for further approval in the upcoming CMETS meeting of SR and subsequently with SRPC and NCT.



20. After detailed deliberations, following transmission system was finalized for integration of RE generation projects at Kurnool-IV and Anantapur-II in Andhra Pradesh:

a. Transmission System for Integration of Kurnool-IV (Near Aspiri) REZ (for 7.5 GW)

- Establishment of 6x1500 MVA, 765/400 & 10x500 MVA, 400/220 kV Kurnool-IV Pooling Station near Kurnool, Andhra Pradesh along with 2x330 MVAr (765 kV) bus reactors at Kurnool-IV PS (4 GW injection at 220 kV level and 3.5 GW injection at 400 kV level)
- ± 300 MVAR STATCOM at Kurnool-IV, 2x125 MVAr MSR
- Establishment of 3x1500 MVA, 765/400 kV Veltoor-II Station with 2x330 MVAr (765 kV) bus reactors
- Kurnool-IV Veltoor-II 765kV D/c line (about 180 kms) with 330 MVAR SLR at Kurnool-IV on both circuits
- Veltoor-II

 Bidar 765kV D/c line (about 200 kms) with 330 MVAR SLR at Bidar end on both circuits
- Kurnool-IV Kurnool-III PS 765 kV D/c line (about 150 kms) with 240 MVAR SLR at Kurnool-IV end on both circuits
- Augmentation of 1x1500 MVA, 765/400 kV ICT at C'Peta
- Veltoor-II

 Veltoor TS 400 kV (quad) D/c line (about 60 kms)
- Veltoor-II
 Udandpur 400 kV (quad) D/c line (about 30 kms)
- LILO of Vijayawada-Nellore 400 kV D/c line at C'Peta (about 20 kms)

Phase-I (4.5 GW)

- Establishment of 4x1500 MVA, 765/400 & 4x500 MVA, 400/220 kV Kurnool-IV Pooling Station near Kurnool, Andhra Pradesh along with 2x330 MVAr (765 kV) bus reactors at Kurnool-IV PS (1.5 GW injection at 220 kV level and 3 GW injection at 400 kV level)
- ± 300 MVAR STATCOM at Kurnool-IV, 2x125 MVAr MSR
- Kurnool-IV Bidar 765kV D/c line (about 330 kms) with 330 MVAR SLR at both end on both circuits
- Kurnool-IV Kurnool-III PS 765 kV D/c line (about 150 kms) with 240 MVAR SLR at Kurnool-IV end on both circuits
- Augmentation of 1x1500 MVA, 765/400 kV ICT at C'Peta

Phase-II (3 GW)

- Augmentation of 2x1500 MVA, 765/400 & 6x500 MVA, 400/220 kV Kurnool-IV Pooling Station (2 GW injection at 220 kV level and 2 GW injection at 400 kV level)
- Establishment of 3x1500 MVA, 765/400 kV Veltoor-II Station with 2x330 MVAr (765 kV) bus reactors
- LILO of Kurnool-IV Bidar 765kV D/c line at Veltoor-II (about 60 kms)



- Veltoor-II

 Veltoor TS 400 kV D/c (quad) line (about 60 kms)
- Veltoor-II– Udandpur 400 kV D/c (quad) line (about 30 kms)
- LILO of Vijayawada-Nellore 400 kV D/c line at C'Peta (about 20 kms)

b. <u>Transmission System for Integration of Anantapur-II (Near Rayadurgam) REZs</u> (for 7.5 GW)

- Establishment of 6x1500 MVA, 765/400 kV & 10x500 MVA, 400/220 kV Anantapur-II Pooling Station near Kurnool, Andhra Pradesh along with 2x330 MVAr (765 kV) bus reactors at Anantapur-II PS (4 GW injection at 220 kV level and 3.5 GW injection at 400 kV level)
- ± 300 MVAR STATCOM at Ananthpur-II, 2x125 MVAr MSR
- Establishment of 3x1500 MVA, 765/400 kV CN'Halli Station 765/400 along with 2x330 MVAr (765 kV) bus reactors
- Anantapur-II Davangere 765kV D/c line (about 150km) with 240 MVAR SLR at Anatpur-II end on both circuits
- Anantapur-II Cuddapah 765kV D/c line (about 200km) with 330 MVAR SLR at Anatpur-II end on both circuits
- Anantapur-II CN'Halli 765kV D/c line (about 180km) with 330 MVAR SLR at Anatpur-II end on both circuits
- CN'Halli CN'Halli (KPTCL) 400 kV (quad) D/c line (about 10km)

Phase-I (4 GW)

- Establishment of 4x1500 MVA, 765/400 kV & 4x500 MVA, 400/220 kV Anantapur-II Pooling Station near Kurnool, Andhra Pradesh along with 2x330 MVAr (765 kV) bus reactors at Anantapur-II PS (1.5 GW injection at 220 kV level and 2.5 GW injection at 400 kV level)
- + 300 MVAR STATCOM at Ananthpur-II, 2x125 MVAr MSR
- Anantapur-II Davangere 765kV D/c line (about 150km) with 240 MVAR SLR at Anatpur-II end on both circuits
- Anantapur-II Cuddapah 765kV D/c line (about 200km) with 330 MVAR SLR at Anatpur-II end on both circuits

Phase-II (3.5 GW)

- Augmentation of 2x1500 MVA, 765/400 & 6x500 MVA, 400/220 kV Kurnool-IV Pooling Station (2.5 GW injection at 220 kV level and 2 GW injection at 400 kV level)
- Establishment of 3x1500 MVA, 765/400 kV CN'Halli Station along with 2x330 MVAr (765 kV) bus reactors
- Anantapur-II CN'Halli 765kV D/c line (about 180km) with 330 MVAR SLR at Anatpur-II end on both circuits



- CN'Halli CN'Halli (KPTCL) 400 kV (quad) D/c line (about 10km)
- 21. It was agreed that the above finalized transmission system for Integration of Kurnool-IV and Anantapur-II REZ (for 7.5 GW each) and shall be taken-up in the upcoming CMETS meeting and SRPC meeting for further approval and implementation.
- B. Transmission system strengthening at Kurnool-III PS for integration of additional RE generation projects.
- 1. CTU informed that "System strengthening at Kurnool-III PS for integration of additional RE generation projects" was discussed in the 28th CMETS-SR held on 29.02.2024 wherein following transmission system was agreed for integration of additional RE generation projects at Kurnool-III PS which is under implementation under the transmission scheme "Transmission scheme for evacuation of power from RE sources in Kurnool Wind Energy Zone (3000MW)/Solar Energy Zone (AP) (1500MW) Part-A and Part-B" by POWERGRID under RTM and is expected to be commissioned by Nov'24:
 - Augmentation of transformation capacity of 3x1500 MVA, 765/400kV ICTs at Kurnool-III PS
 - Kurnool-III PS Chilakaluripeta 765 kV D/c line (about 260 km) with 240 MVAr switchable line reactors at both ends
- CTU informed that vide letter dated 08.04.2024, scheme was forwarded for SRPC views.
 MS, SRPC vide email dated 17.04.2024 has requested to include the transmission scheme
 in the Joint Study meeting to look into the scheme in comprehensive manner for optimisation of
 the Transmission system requirements.
- 3. In view of the above, the transmission scheme was considered in the system studies for integration of RE generation projects at Kurnool-IV and Anantapur-II in Andhra Pradesh (as discussed above) wherein, it was observed that proposed transmission system strengthening at Kurnool-III PS is required for immediate integration & evacuation of power for grant of Connectivity to additional RE generation projects.
- 4. During the meeting, utilisation of the under implementation of 9x500 MVA 400/220kV ICTs were also deliberated wherein CTU informed that on receipt of large number of applications at 400kV level, matter was discussed with POWERGRID and it has been agreed to modify the SLD for optimum utilization of the ICTs. In this modification there is an additional requirement of bus sectionalization arrangement at 400 kV bus which may be included in the Transmission system strengthening at Kurnool-III PS.
- C. Inter-Regional links between NEW-Grid & SR-Grid and ISTS network strengthening in SR to facilitate import of power for meeting demand by 2029-30 time frame
- 1. CTU informed that present peak demand of SR as on March, 2024 is 68,094 MW and expected peak demand of SR as per the 20th EPS during 2029-30 timeframe is about 97.5



GW. The present TTC for import of power from NEW grid to SR Grid is about 24,500 MW and it is expected to be enhanced to 25,000 MW with the commissioning of Narendra-Pune 765kV D/c line. The present limiting constraint for import of power from ER to SR is Angul-Srikakulam 765kV D/c line and from WR to SR is Nizamabad 765/400kV, 1500MVA ICT under contingency. Southern Region has already imported about 22 GW from NEW grid during the peak demand period in March, 2024. Further, the import requirements is expected to increase further during 2029-30 timeframe.

Further, as per MNRE OM dated 01.11.2023, Green Hydrogen / Ammonia demand (by 2030) in Southern Region is about 23,450 MW. The demand for production of Green Hydrogen / Green Ammonia has not been considered under the CEA report on Transmission System for Integration of over 500 GW RE Capacity. This demand is expected to be over and above the peak demand projections of 97.5 GW as per 20th EPS in 2029-30 timeframe. Therefore, total demand is expected to be over 120 GW. The existing / under implementation Inter Regional links between NEW Grid and SR Grid shall not be adequate to meet the above demand. Therefore, the ISTS / STU transmission requirements need to be identified including additional Inter-regional links for meeting the demand including Green Hydrogen / Green Ammonia manufacturing alongwith additional RE potential sites in SR, if any.

2. CTU further informed that considering the drawl GNA (within and outside region) of the SR States, the existing IR links are adequate for meeting the drawl GNA and no additional Inter-Regional link(s) is required between NEW Grid & SR Grid. However, the present study is being conducted as per the decision during the 50th SRPC meeting held on 16.03.2024 to hold physical Joint Study meeting for Inter-Regional links between NEW-Grid & SR-Grid and ISTS network strengthening in SR to facilitate import of additional power for meeting demand by 2029-30 time frame.

In order to enhance the TTC/ATC under the 2029-30 timeframe, following probable Inter-Regional links between NEW Grid and SR Grid were studied/deliberated:

Scheme-1:

a) Gopalpur – Srikakulam 765 kV D/c line (about 100 km)

or

b) Angul – Srikakulam 765 kV D/c line (about 275 km) (in case bays are available at Angul)

Scheme-2:

a) Parli New – Bidar 765kV D/c line (about 150 km)

Scheme-3:



- a) Nagpur Adilabad 765kV D/c line (about 200 km)
- b) Establishment of 765/400kV Adilabad substation and its 400kV interconnections
- c) Adilabad Warangal New 765kV D/c line (about 200 km)
- d) Establishment of 765/400kV Khammam-II substation and its 400kV interconnections with existing Khammam
- e) Warangal New Khammam-II 765kV D/c line (about 110 km)
- f) Khammam-II Vemagiri 765kV D/c line (about 215 km)
- g) Establishment of 765/400kV Vizag-II substation and its 400kV interconnections with existing Vizag pool / Gazuwaka
- h) Srikakulam Vizag-II 765kV D/c line (about 230 km)
- i) Vizag-II Vemagiri 765kV D/c line (about 150 km)

or

- a) Establishment of 765/400kV Jagdalpur-II substation and its 400kV interconnections with existing Jagdalpur
- b) Raipur PS Jagdalpur-II 765kV D/c line (about 300 km)
- c) Jagdalpur-II Vizag-II 765kV D/c line (about 200 km)
- d) Establishment of 765/400kV Vizag-II substation and its 400kV interconnections with existing Vizag pool / Gazuwaka
- e) Srikakulam Vizag-II 765kV D/c line (about 230 km)
- f) Vizag-II Vemagiri 765kV D/c line (about 150 km)
- g) Establishment of 765/400kV Khammam-II substation and its 400kV interconnections with existing Khammam
- h) Warangal New Khammam-II 765kV D/c line (about 110 km)
- i) Khammam-II Vemagiri 765kV D/c line (about 215 km)
- 3. System studies were conducted in 2029-30 timeframe. Initially for system studies, Load Generation Balance was deliberated in detail and the modifications as suggested by the STU's (i.e., State peak demand, Generation, Intra-State network, Demand Factors etc.) were incorporated. The demand factors for the SR entities have been derived from actual demand factors met during FY 2023-24.
- 4. CTU informed that as per 20th EPS, the demand of SR for 2029-30 timeframe is 97.5 GW. Based on the observations received from STUs, demand of about 110 GW have been considered in Scenario-8 (February evening peak) and about 84 GW have been considered in Scenario-4 (June Solar max) for 2029-30 timeframe. The above demand also includes Green Hydrogen demand of about 9.75 GW in both the scenarios. As per the revised LGB, SR import of about 30 GW have been arrived in Scenario-8 and SR export of 14 GW have



been arrived in Scenario-4. The study results and assumptions considered are enclosed at **Annexure-III**.

5. To enhance the ER-SR import limit, a parallel corridor to existing IR link of Angul-Srikakulam 765kV D/c line has been identified as Gopalpur-Srikakulam 765kV D/c line (Scheme-1) from the under bidding Gopalpur GIS 765/400kV S/s. Gopalpur GIS S/s is planned to meet the Green Ammonia/Hydrogen demand with interconnection to Angul 765kV S/s through 765kV D/c line and ±800kV, 6000MW HVDC emanating from Bikaner, Rajasthan.

Further, additional inter-regional corridor between WR-SR as Bidar - Parli 765kV D/c line (Scheme-2) has been proposed to further enhance the import capability of SR region. Bidar S/s is further interconnected with Veltoor-II 765/400kV S/s (proposed under the Kurnool-IV REZ scheme)

Further, additional link from Nagpur-Adilabad-Warangal New 765kV D/c link (Scheme-3) was identified for further enhancement of import capabilities and to remove the limiting constraint on Wardha - Nizamabad 765kV D/c line. The distance between Nagpur and Warangal New is about 500 km and hence an intermediate S/s near Adilabad needs to be established for optimal utilization of the link. Under this alternative, establishment of Adilabad new 765/400kV S/s along with its 400kV interconnections with nearby STU network are required.

- 6. During the meeting, APTRANSCO also suggested an alternative to WR-SR link (Scheme-3) for consideration for studies for enhancement in import capabilities and drawal from Chhattisgarh area especially from Raipur 765/400kV PS to meet the growing demand of Visakhapatnam city. Distance between Raipur PS and Vizag new S/s is about 500km and hence an intermediate S/s near Jagdalpur needs to be established for optimal utilization of the link. Under this alternative, establishment of Jagdalpur new 765/400kV S/s along with its interconnection with existing Jagdalpur 400kV (STU) through 400kV D/c line was considered.
- 7. The last TTC declared on CTU website for import of power from NEW grid to SR Grid is about 25,000 MW with the commissioning of Narendra-Pune 765kV D/c line. Subsequently, significant augmentation in the ISTS network has been identified and under implementation viz Koppal-II Narendra New 765kV D/c line, Koppal-II Raichur New 765kV D/c line, LILO of Narendra New Madhugiri 765kV D/c line at Davanagere PS etc. due to which the SR import TTC is expected to be enhanced to about 26700 MW. It is also observed that SR export TTC has also been enhanced due to displacement of power flow and revised load generation balance. Further, considering the above proposed IR schemes, the overall TTC of SR is envisaged to be enhanced as below:

SI. No.	Case under study	SR TTC (MW)	Limiting Constraint (N-1 Contingency)
1	Base case	26700	Wardha - Nizamabad 765kV D/c Line



2	Base case + Scheme-1 (Gopalpur- Srikakulam 765kV D/c line)	27600	Wardha - Nizamabad 765kV D/c Line
3	Base Case + Scheme-2 (Parli - Bidar 765kV D/c line)	28770	Angul – Srikakulam 765kV D/c Line
4	Base Case + Scheme-1 + Scheme-2 (Parli - Bidar 765kV D/c line)	31200	Wardha - Nizamabad 765kV D/c Line
5	Base Case + Scheme-1 + Scheme-2 + Scheme-3_Alt-1 (Raipur PS Jagdalpur new- Vizag new 765kV D/c line)	35150	Wardha - Nizamabad 765kV D/c Line
6	Base Case + Scheme-1 + Scheme-2 + Scheme-3_Alt-2 (Nagpur – Adilabad	36150	Warangal New 765/400kV ICTs
	 Warangal New 765kV D/c line) 	36600	Wardha - Nizamabad 765kV D/c Line

From the above, it is observed that considering Gopalpur-Srikakulam 765kV D/c line (Scheme-1) alone the incremental TTC is about 900 MW and limiting constraint is Wardha – Nizamabad 765kV D/c line. With Parli - Bidar 765kV D/c line (Scheme-2) alone about 2000 MW increment in TTC is observed and the limiting constraint is Angul – Srikakulam 765kV D/c line. It was observed that with strengthening of ER-SR (Scheme-1) IR corridor alone, the limiting constraint is shifted to WR-SR link i.e. Wardha – Nizamabad 765kV D/c line and vis-à-vis with strengthening of WR-SR (Scheme-2) IR corridor alone, the limiting constraint is shifted to ER-SR link i.e. Angul – Srikakulam 765kV D/c line. Accordingly, to meet the anticipated import requirement of 30 GW by SR, Scheme-1 and Scheme-2 are required to be taken up for implementation simultaneously for effective increment in TTC of about 4500 MW between NEW grid and SR grid.

8. SRPC and STU's enquired about the enhancement of export limit of SR TTC with the proposed IR links. As per the study results, TTC export limit of SR is as below:

SI. No.	Case under study	SR TTC (MW)	Limiting Constraint (N-1 Contingency)
1	Base case	20700	Narendra – Pune-III 765kV D/c Line
2	Base case + Scheme-1 (Gopalpur- Srikakulam 765kV D/c line)	21100	Narendra – Pune-III 765kV D/c Line
3	Base Case + Scheme-1 + Scheme-2 (Parli - Bidar 765kV D/c line)	22450	Narendra – Pune-III 765kV D/c Line
4	Base Case + Scheme-1 + Scheme-2 + Scheme-3_Alt-1 (Raipur PS- Jagdalpur new- Vizag new 765kV D/c line)	22480	Narendra – Pune-III 765kV D/c Line
5	Base Case + Scheme-1 + Scheme-2 + Scheme-3_Alt-2 (Nagpur – Adilabad – Warangal New 765kV D/c line)	22830	Narendra – Pune-III 765kV D/c Line

From the above, it is observed that there is marginal enhancement in the SR export TTC limits with the above schemes.



9. It was pointed out that as per the LGB worked out for the study timeframe, import of about 30 GW is anticipated. In order to meet this import requirement, Scheme-1 and Scheme-2 as stated above may be taken up for further approval process. However, for Scheme-3, two nos. of alternatives were studied which requires further detailed study analysis and CTU may share the study case files for further analysis and deliberations. CTUIL suggested that after sharing case study files for the above schemes and suggestions / modifications, if any, in the scheme-3 may be submitted for further analysis or studies / deliberations. It was also suggested that if required, a separate joint study can be conducted through VC.

D. Augmentation of transformation capacity with 400/220kV, 1x500 MVA ICT (4th) at Nagarjunasagar 400/220kV substation

- 1. POWERGRID vide letter dated 16.10.2023 has informed that presently Nagarjunasagar 400/220kV substation is under operation with 3x315 MVA, 400/220 kV ICTs. These ICTs are catering to the loads of Andhra Pradesh and Telangana. CE/SLDC, TSTRANSCO vide letter dated 29.09.2023 expressed that the ICTs at Nagarjunasagar are getting loaded about 90% during the peak agriculture demand period and restricting the running of no. of units in pump mode during the morning hours. It was requested to study and address the issue so that Nagarjunasagar units can operate in pump mode as and when required for subsequent power generation during peak hours. It was also requested to explore the possibility of augmentation of 3x315 MVA ICTs to 2x500 MVA + 1x315 MVA capacity. POWERGRID also informed that one 315 ICT is being replaced with 500 MVA ICT as per the recommendations of 44th SRPC meeting.
- 2. TSTRANSCO vide letter dated 17.11.2023 has informed that when the Nagarjuna Sagar generation units (7x100.8 MW) are operated in pump mode, power is imported from 3x315 MVA ICTs through 3 nos. of 220kV Nagarjuna Sagar Tallapally lines. Further, during recent times due to scant rain fall, the 3x315 MVA ICTs are fully loaded due to simultaneous incidence of agricultural demand in Telangana and Andhra Pradesh. The maximum load on the 3x315 MVA ICTs recorded on 10.10.2023 at 12:00 hrs is 304 MW, 314 MW and 273 MW respectively. TSSLDC had requested SRLDC, PGCIL and SRPC to relieve the congestion on Nagarjuna Sagar ICTs at the earliest.
- 3. Accordingly, the proposal for augmentation of transformation capacity with 400/220kV, 1x500 MVA ICT (4th) at Nagarjunasagar 400/220kV substation was deliberated in the 25th CMETS-SR held on 28.11.2023 based on the inputs from TSTRANSCO and POWERGRID. During the meeting APTRANSCO informed that requirement of 4th ICT may also be studied and downstream 220kV loadings also needs to be checked as it is already highlighted in the operational feedback. After detailed deliberations it was decided that proposal for replacement of 315 MVA ICT-1 with 500 MVA ICT may be deliberated in the next CMETS based on the inputs from POWERGRID. It was also decided that the proposal for augmentation of 4th ICT at Nagarjunasagar along with system studies may be deliberated in the next CMETS.



Keeping above in view, the proposal for augmentation of 4th ICT at Nagarjunasagar is deliberated in the present joint study meeting.

4. During the Joint Study meeting, SRPC opined that as the high loadings are being observed during the real time operation and the studies may be carried out on the present time frame study files. It was requested to SRLDC to present the studies in the present timeframe case files with loading pattern of the ICTs.

SRLDC informed that at present 400/220kV, 3x315 MVA ICTs are installed at Nagarjunasagar S/s. During peak demand period and pump mode operation of Nagarjunasagar units, the ICTs loading is going beyond N-1 Limits. Under N-1 of one ICT, the loading on remaining ICTs is going up to 118% of the rated MVA. Further, it was informed that ICT-2(315 MVA) is being replaced with 500MVA. Even with the replacement under N-1 the other ICTs loading is 118%. Further, considering the 4th 500 MVA ICT, under N-1 of one ICT, the loading on remaining ICTs is going up to 80% of the rated MVA. Hence additional ICT of 500 MVA is required at Nagarjunasagar. The study results are attached at Annexure-IV.

5. APTRANSCO informed that with proposed augmentation of 4th ICT at Nagarjuna Sagar, loading on the downstream network may also be studied.

SRLDC informed that, presently there are 3 nos. of 220kV circuits emanating from Talapalli to Nagarjunasagar generating station. Out of three circuits, two circuits are twin moose and one circuit is Zebra conductor. When more than four units are operating in motoring mode at Nagarjunasagar generating station, under N-1 of any twin moose line, the loading on zebra conductor is crossing 213 MVA (thermal limit). Hence strengthening of the third circuit is also required for running more than four units in motoring mode at Nagarjunasagar generating station. Further, SRLDC informed that Talapalli – Rentachintali 220kV S/c line is also getting overloaded and suitable strengthening is required for addressing the same. APTRANSCO informed that Talapalli – VTPS 220kV 2nd circuit is proposed to be LILOed at Rentachintali and with this LILO arrangement, the loading issue shall be addressed. Further, APTRANSCO informed that space for 220kV ICT bay may be a constraint and therefore needs to be looked into.

TSTRANSCO informed that the strengthening of Talapalli – Nagarjunasagar 220kV third circuit is not required as only four units are operating in motoring mode at Nagarjunasagar generating station.

SRLDC informed that considering the future demand growth, the strengthening of the Talapalli – Nagarjunasagar 220kV third circuit may be taken up immediately, for which TSTRANSCO informed that in case of operation of more than 4 units in motoring mode at Nagarjunasagar generating station, suitable strengthening shall be carried out by TSTRANSCO and APTRANSCO for their own portions.



- 6. After detailed deliberations, augmentation of transformation capacity with 400/220kV, 1x500 MVA ICT (4th) at Nagarjunasagar 400/220kV substation was agreed by the SR constituents. It was also agreed that a joint site visit with participation from CTU, SRPC, POWERGRID, APTRANSCO and TSTRANSCO may be planned to explore the space availability for 220kV ICT bay.
- E. Utilization of Gazuwaka back-to-back HVDC to its rated capacity of 1000 MW during import / export modes with redressal of low voltage conditions in Gazuwaka ER bus.

SRLDC informed that presently, Gazuwaka back-to-back HVDC is being operated with power order of about 650 MW in both forward and reverse direction due to low voltage issues in Gazuwaka East bus.

CTU informed that with the commissioning of Jeypore – Jagdalpur 400kV twin HTLS D/c line which under implementation and expected to be available by March, 2025, the issue of low voltage in Gazuwaka East bus shall be addressed and Gazuwaka back-to-back HVDC may be operated with power order of 850 MW considering the thermal rating of Jeypore – Gazuwaka 400kV D/c line.

F. Possibility of operation of Talcher – Kolar HVDC in reverse mode

The SR constituents in various forums has requested to explore the possibility of operation of Talcher – Kolar HVDC in reverse mode during high RE scenario of SR for optimal utilization of the IR links.

Accordingly, the issue was deliberated in the joint study meeting wherein CTU informed that when the power order on Talcher – Kolar HVDC is reduced below 1150 MW in forward direction then there are constraints in evacuation of Talcher generation and generation unit(s) are required to be back down. Further, in reverse mode of operation, there shall be severe constraints in both ISTS as well as STU network of Karnataka apart from severe constraints at Talcher end for evacuation of power. For reverse operation of the HVDC, large number of augmentation is required under ISTS for supply of 4000 MW power at Kolar, as no source of power is available near to Kolar and large quantum of load (about 3000 MW) of Bangalore city is required to be met. It is also to be noted that under peak load conditions, Kolar & around substations observes low voltage conditions. Further for reversal of 2000 MW through Talcher-Kolar HVDC and 2000 MW of Talcher generation, transmission system for evacuation of 4000 MW shall required to be identified at Talcher end. Accordingly, the reversal of the HVDC shall require large investment towards augmentation of ISTS at Kolar & Talcher ends which may only be utilized for a very short period of time and that too is RE surplus scenario only.

In view of the above, CTU expressed that reverse mode operation of Talcher – Kolar HVDC may not be beneficial and feasible.



- G. Transmission system for supply of power to Green Hydrogen / Green Ammonia consumers.
- CTU informed that Ministry of Power has issued Hydrogen Policy vide notification dated 17.02.2022 to facilitate the energy transition from fossil fuel / fossil fuel-based feedstock to Green hydrogen / Green ammonia as energy carriers / chemical feedstock for different sectors.

In this regard, MNRE vide OM dated 01.11.2023 have forwarded the locations of Green Hydrogen/Ammonia capacities expected by 2030 upon discussions with the Green hydrogen / Green ammonia manufacturers and the electricity demand at these locations, the OM is enclosed at **Annexure-V**. As per MNRE OM dated 01.11.2023, Green Hydrogen / Ammonia demand (by 2030) in Southern Region is about 23,450 MW. Further, Tuticorin, Kakinada and Mangalore has been considered as prioritized zones for Green Hydrogen/ Green Ammonia production. The expected total demand from Green Hydrogen / Green Ammonia developers in Tuticorin area, Tamil Nadu, is of order of 7 GW. Year-wise expected demand from Green Hydrogen/ Green Ammonia developers is given below.

Year	Cumulative Electricity Demand at Tuticorin (MW)
by 2027	2900
by 2028	2900
by 2029	5645
by 2030	7015

2. It was also informed that M/s AM Green Ammonia (India) Pvt. Ltd., vide application dated 29.02.2024, has submitted application for GNA-RE, as Bulk Consumer, for 1660 MW (Within Region: 0 MW & Outside Region: 1660 MW) at Tuticorin, Tamil Nadu with start and end date as 01.12.2026 & 31.11.2051 respectively. Further, M/s AM Green Ammonia (India) Pvt. Ltd. has indicated that they are in the process of developing the Green Ammonia Plant in phased manner and total drawl requirements for the entire project capacity shall be 2260 MW. The details provided by M/s AM Green Ammonia (India) Pvt. Ltd. are as below:

Phase	Capacity (MW)
Phase-I	1660
Phase-II	600
Total	2660

3. The application was discussed in 29th CMETS-SR, held on 28.03.2024, wherein it was agreed that the subject agenda shall be deliberated in the joint study meeting. CTU further stated that all applications received for grant of Connectivity/ GNA under GNA Regulations 2022 are required to be processed in time bound manner, therefore transmission system required for grant of Connectivity/ GNA to Green Hydrogen / Green Ammonia developers in Tuticorin area is required to be finalized so that connectivity/ GNA applications may be processed in time bound manner.



- 4. CTU informed that in view of the upcoming demand of about 7 GW from Green Hydrogen/ Green Ammonia plants/ industries in Tuticorin area System studies have been carried out. As per study analysis, following transmission system is required for grant of Connectivity to Green Hydrogen/ Green Ammonia developers in Tuticorin area.
 - Upgradation of 765 kV Tuticorin PS (presently charged at 400 kV) to its rated voltage at 765 kV, for order of about 7 GW
 - Upgradation of 765 kV Dharmapuri (presently charged at 400 kV) to its rated voltage at 765 kV.
 - Upgradation of Tuticorin PS Dharmapuri 765 kV line (presently charged at 400 kV) to its rated voltage at 765 kV.
 - Upgradation of Dharmapuri Madhugiri 765 kV line (presently charged at 400 kV) to its rated voltage at 765 kV
 - Establishment of Tuticorin (GH) 765/400 kV, 3x1500 MVA S/s with 1x240 MVAR Bus Reactor.
 - Tuticorin PS Tuticorin (GH) 765 kV D/c line
- During the meeting, it was opined that possibility of granting connectivity to Green Hydrogen / Green Ammonia developers through 400 kV at Tuticorin PS may be explored instead of establishing a new 765/400 kV Tuticorin (GH) S/s.

In this regard, CTU informed that existing Tuticorin PS (presently charged at 400 kV) has limited space provision for implementation of 765/400 kV ICTs and termination of 400 kV lines, therefore, it shall not be possible to accommodate connectivity for identified potential corresponding to 7 GW. Accordingly, establishment of Tuticorin (GH) S/s has been envisaged for grant of Connectivity corresponding to identified potential of about 7 GW.

SE, SRPC suggested that CTU may further study requirements and may put-up the proposal for further deliberations. Further, possibility of acquisition of additional space contiguous to Tuticorin PS may be explored for grant of GNA/Connectivity to Green Hydrogen / Green Ammonia developers.

- **H.** The balance agenda points could not deliberated during the Joint study meeting due to paucity of time and the same may be taken up in the next Joint Study meeting.
 - Transmission System for integration of Kurnool-V REZ in Andhra Pradesh
 - Transmission System for integration of Kadapa-II REZ in Andhra Pradesh
 - Constraints in Transmission system of Southern Region as per the SRLDC operational feedback
 - Short Circuit analysis at different substations in Southern Region

Meeting ended with the vote of thanks.



Annexure-I

List of participants for Joint Study Meeting with SR constituents held from 2nd -4th May'2024 at SRTS-I RHQ, Hyderabad

Manager, SRLDC

SRPC

Shri Asit Singh
 Shri Meka Ramakrishna
 Ms. Anusha Das

EE

GRID-INDIA

Shri Vivek Pandey
 Shri Priyam Jain
 Shri Gaurab Dash
 Shri A Janardhan
 Sr.GM, NLDC
 Chief Manager, NLDC
 Dy. Manager, NLDC
 Chief Manager, SRLDC

5. Shri G Praveen Kumar

STU

Ms. Gayatri Kulkarni EE, KPTCL 2. Ms. Divya Prabha AEE, KPTCL Ms. Resmi S AEE, KSEBL Ms. Amritha Sasi 4. AEE, KSEBL Shir M. Sudarsan 5. SE/SS, TANTRANSCO Shri G Ramesh Kumar EE/ SS, TANTRANSCO Ms. J Kalai Selvi AEE/SS, TANTRANSCO Shir M. Sathuraman SE/ CERC, TANGEDCO Dr. R. Kathiravan EE/ CERC, TANGEDCO 10. Ms. K Bindu SE/SS, TSTRANSCO



11.	Dr. M. Sheshagiri	DE/ SS, TSTRANSCO
12.	Shri P. Srinivasa	ADE, TSTRANSCO
13.	Shri P. Sandeep Reddy	AE, TSTRANSCO
14.	Shri V. Mahender Reddy	AE, TSTRANSCO
15.	Shri S. Sreenivasalu	DEE, APTRANSCO
16.	Shri Ch. Sreenivasa Rao	EE/ SS-I, APTRANSCO
17.	Shri Ch. Anil Kumar	AEE, APTRANSCO
18.	Shri G Ramamohan Rao	AEE-I/ SS-I, APTRANSCO



CTUIL

1.	Shri V Thiagrajan	Sr.GM
2.	Shri Anil Kumar Meena	GM
3.	Shri Ajay Dahiya	DGM
4.	Shri Ankush Patel	Chief Manager
5.	Shri Venkatesh Gorli	Chief Manager
6.	Shri Mahendranath Malla	Chief Manager
7.	Shri Umesh Dhanuk	Engineer

3(3) Raigarh-Pugalur -Madakkathara (Trissur) **HVDC Transmission System**

Decision:

Chairperson, SRPC & MD, KPCL opined that further follow up (on the matter of funding from PSDF & NCEF) is required at MoP on the SRPC letter sent on 26.03.2024 and a reminder letter would be sent to MoP.

SRPC Chairperson, vide letter dated 03.06.2024 had taken up with Secretary. MoP.

Copy of the letter Annexure-ATR.3

4. ISTS NETWORK EXPAN-SION SCHEME FOR VIEWS OF SOUTHERN REGION POWER COMMITTEE (SRPC)

> Transmission system strengthening at Kurnool-III PS for integration of additional RE generation projects

Decision:

Chairperson, SRPC concluded that constituent members to furnish their observations, if any, in writing on the proposed transmission scheme by 20.05.2024 to SRPC secretariat. Otherwise, deliberations in the meeting would be submitted to CTUIL as SR constituent's views as the views of SRPC are to be submitted to CTUIL by 22.05.2024 as per the MoP Gazette for further taking up with NCT.

Member Secretary, SRPC vide letter dated 22.05.2024 had communicated the views as deliberated in the 51st SRPC meeting and views as furnished by SR constituent states to CTUIL for further taking up with NCT.

Copy of the letter Annexure-

ATR.4

✓ Forum noted that all actions required as per 51st SRPC Meeting had been complied.

4) INTER-REGIONAL TTC AND ISTS STRENGTHENING IN SR FOR 2029-30 TIME FRAME

a) In the 47th SRPC meeting held on 22.07.2023, it was concluded that the agenda in respect of transmission constraints at intra-state and inter-state transmission networks & recommendations of Joint Studies for planning of inter-regional and inter-state transmission system in order to enhance the transfer capability to SR and with SR states would be deliberated in detail SRPC meetings.

- b) In the 47th SRPC (22.07.2023), 48th SRPC (13.10.2023) & 49th SRPC (09.12.2023), all the states were requested to furnish the details/projections after thorough discussions internally to CTUIL & SRPC secretariat. CTUIL would convene a Joint Study with participation from Grid India, SRPC Secretariat and all SR constituent States/UT.
- c) In 50th SRPC meeting held on 16.03.2024, it had been concluded that all States/UT would furnish the required demand/generation data to CTUIL. Joint Studies along with all stake holders would be conducted in the month of April 2024 and the outcome along with the analysis under different scenarios would be put up in next SRPC meeting scheduled in July 2024.
- d) CTUIL had conducted the Joint Studies Meeting on Inter-Regional system strengthening for 2029-30 time frame during 02nd to 04th May 2024 at Hyderabad. CTUIL vide letter dated 28.05.2024 had issued the MoM, copy is at **Annexure-4A**.
- e) In the 51st SRPC Meeting held on 15.05.2024, the following were deliberated:
 - i. CTUIL had informed that as mandated by SRPC for Inter-regional system strengthening for SR import requirement by 2029-30, new Inter regional links have been identified and would be put up to SRPC in two parts. Shortest links being proposed are 765 kV Gopalpur(ER) Srikakulam D/C & 765 kV Parli (WR)—Bidar D/C. With these links, SR may be able to meet the immediate import requirement which can be implemented in a very quick time. For the third inter-regional link, two alternative links were proposed, one is proposed by APTRANSCO and another is proposed by CTUIL. They have analysed/studied both the links and requires further analysis and discussion. Either of one may be proposed after studies.
 - ii. It was concluded that CTUIL may circulate the Inter-regional system strengthening proposals (along-with study files) among all the SR constituents for feedback/comments and after considering the feedback/comments, the firm proposal may be presented in the next TCC & SRPC meetings for deliberations.

TCC Deliberations

- f) SRPC Secretariat pointed out regarding the mismatch in declaration of TTC by CTUIL and Grid-India. CTUIL & Grid-India were requested to reconcile the TTC quantum. Around 2000 MW variation has been observed.
- g) Chairperson, TCC suggested that CTUIL and Grid-India to discuss bilaterally and arrive one quantum. The same was agreed by CTUIL and Grid-India.
- h) SRPC Secretariat highlighted about the substantial growth in SR demand and the same had been emphasized during since 47th SRPC meeting and in the subsequent meetings. SR demand had already touched around 68~70 GW. By 2029-30, the SR states demand will be touching around 97 GW while expected Green Hydrogen demand during the timeline will be 23 GW. Hence, the total load will be 120 GW. Therefore, this necessitates to identify the interregional link to cater the SR load during the time frame 2029-30. The same has been discussed in the Joint study meeting held on 2nd to 4th May 2024

and the Studies were carried out for the period 2029-30 time frame. Following interregional links were identified:

- i. **765** kV Parli (WR)— Bidar (Karnataka) D/C-: Bidar is a RE Pooling station which pools the RE generation available at North Karnataka area and the same connected to Parli (WR) substation.
- ii. Second link has been proposed with two options:

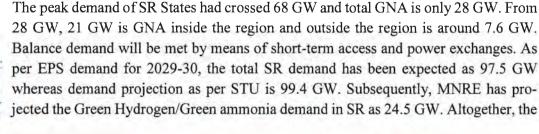
765 kV Gopalpur (ER) - Srikakulam D/C or 765 kV Angul (ER) - Srikakulam D/C

- iii. Third Scheme (765kV links) with two options was proposed:
 - I. Nagpur (Maharashtra) Adilabad (TG)- Warangal (New) (TG)-Khammam-II (TG) – Vemagiri (AP)- Vizag-II (AP)- Srikakulam (AP).
 - II. Raipur (Chattisgarh)- Jagdalpur (Chattisgarh)- Vizag-II(AP) -Sri-kakulam (AP)

It was noted that with the above three links, the SR import TTC will be increased to around 36 GW.

i) CTUIL informed that 765 kV Gopalpur substation will take another 4 to 5 years for commissioning. But IR links are required for SR import before those time lines and it was informed that since bays are available at Angul substation for another D/C line, second D/C line of Angul – Srikakulam can be considered. Therefore, the final proposed two links are 765 kV Angul (ER) - Srikakulam D/C & 765 kV Parli (WR) – Bidar D/C.

CTUIL presented the details regarding the identified Inter-Regional links. Copy of the presentation is at Annexure-4B. CTUIL updated the forum that the current TTC of 24500 MW will be enhanced to 25000 MW with the commissioning of Narendra-Pune 765 kV link. This link is mainly for exporting of power and it will not contribute too much for importing of power. SR Demand has increased enormously which in turn had resulted in substantial growth towards import of Power. Pattern of SR import vis-a-vis SR peak demand for past years has been presented and stated that the percentage increase of 22.7% in import requirement up to the year 2024. The demand of SR is increasing with a pace of about 6% year on year basis and no much internal generation addition will be added by 2029-30. Therefore, due to load growth and no adequate generation addition in SR, additional Interregional links are required in order to meet the demand.





total demand of SR by 2029-30 will be 124 GW. The IR links between NEW Grid and SR Grid shall not be adequate to meet the above demand.

Accordingly, Joint Study meeting was conducted from 2nd to 4th May, 2024 at Hyderabad with participation from all SR stakeholders. Number of scenarios have been studied during the meeting. Certain assumptions have been arrived while preparing the study file that out of 24.5 GW of Green Hydrogen /Green Ammonia load, only 10 GW has been considered in the study file. Therefore, total SR demand of 110 GW was modelled. As per the LGB in 2029-30 (with about 10GW of Green Hydrogen/Green Ammonia load), SR import of 30 GW have been assessed in scenario-8 and SR export of 14 GW have been assessed in Scenario-4. The limiting constraint for import of power from ER to SR is Angul-Srikakulam 765kV D/C line and from WR to SR is Nizamabad 765/400 kV, 1500 MVA ICT under contingency.

In order to enhance the TTC/ATC under the 2023-30 timeframe, following probable Inter-Regional links between NEW Grid and SR Grid were studied/deliberated during the Joint Study meeting.

- i. IR link-1: Angul / Gopalpur Srikakulam 765 kV 2nd D/c line (about 275 km/100 km)
- ii. IR link-2: Parli New Bidar 765kV D/c line (about 150 km)
- iii. IR link-3 (Scheme-III):

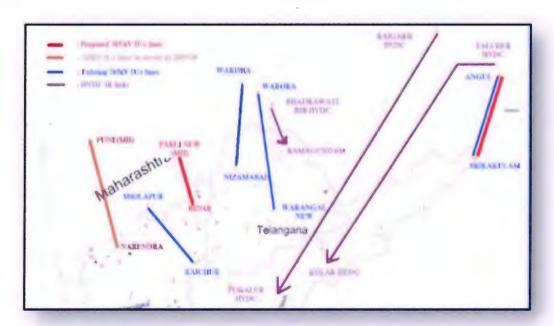
Raipur PS – Jagdalpur new – Vizag new 765kV D/c line Or Nagpur – Adilabad – Warangal New 765kV D/c line

CTUIL elaborated about the enhancement of TTC with above IR links as below:

Sl. No.	Case under study	SR TTC (MW)	Limiting Constraint (N-1 Contingency)
1	IR link-1 (Angul/ Gopalpur-	27600	Wardha - Nizamabad
	Srikakulam 765kV D/C line)		765kV D/c Line
2	IR link-2 (Parli - Bidar 765kV D/C	28770	Angul – Srikakulam
	line)		765kV D/c Line
3	IR link-1 + IR link-2	31200	Wardha - Nizamabad
			765kV D/c Line
4	IR link-1 +IR link-2 +IR link-3	35150	Wardha - Nizamabad
	_Alt-1 (Raipur PS – Jagdalpur		765kV D/c Line
1	new- Vizag new 765kV D/C line)		
5	Base Case + IR link-1 +IR link-2	36600	Wardha - Nizamabad
	+IR link-3 _Alt-2 (Nagpur –		765kV D/c Line
	Adilabad – Warangal New 765kV		
	D/C line)		



CTUIL further informed that with two IR links, Angul -Srikakulam 765kV D/C line and Parli - Bidar 765kV D/C line, the TTC import of 31.2 GW can be met. With the surge in Green Hydrogen/Green ammonia loads (i.e. more than 10 GW), third link will also be vital to meet the demand. Limiting constraints have been studied and analyzed with both IR link-1 & IR link-2 discretely and for combined scenarios. IR Link-1 and IR Link-2 will provide the desired TTC import capability. Due to time constraints the third link were not studied and concluded. The same may be taken up in next Joint study meeting. Upon concurrence of SRPC Forum, the proposal of two IR links may be put up before NCT meeting along with views of SR beneficiaries. It was also informed that after getting the approval from NCT meeting, the minimum timeline will be 36 months. CTUIL underlined that by next year itself, based on the load growth trend, SR may hit the import TTC limits. Therefore, it is high time, without any further delay the proposal should be processed. Two proposed IR links are highlighted in red color as shown below:



- j) APTRANSCO concurred with the study proposal put forth by CTUIL. In the Joint study meeting, APTRANSCO had proposed the third link Raipur-Jagdalpur-Vizag. Huge thermal potential is available at Raipur station (cheaper power) and the same can be imported to SR via Jagdalpur station.
- k) KPTCL & KSEBL agreed for the proposal.
- On query from TANGEDCO regarding for opting the Angul instead of Goplapur, CTUIL explained that the commissioning time of HVDC link of Bikaner-Gopalpur and 765/400 kV Gopalpur SS will take around 5 to 6 years. It has been linked with Bikaner (RE pooling station). RE power will be pooled to Gopalpur station to cater the Green Hydrogen/Green Ammonia loads at Gopalpur. It was also informed that due to bay lim-



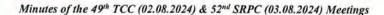
itation in Angul substation, Gopalpur substation had been proposed earlier. It was confirmed that 765 kV bays are available at Angul SS, therefore, in order to meet the immediate requirement, second D/C of Angul-Srikakulam 765 kV line can be considered.

m) TANGEDCO stated that Joint Studies to be carried out based on the Andhra Pradesh's proposal to meet the Green Hydrogen/ Green Ammonia loads from the RE power pooled in SR. By the addition of lump sum Green Hydrogen/Green Ammonia loads in SR and if these loads are to be met by the huge RE power available within Southern region, the proposed links may be reworked to optimize the transmission system.

TANGEDCO pointed out that CTUIL has stated that only 500 MW increase in TTC import can be achieved with the commissioning of 765kV Narendra-Pune link. The same needs to be studied properly. The limiting constraints on this 765kV link needs to be explored and identify the cause for the restriction in TTC import. Addition of Interregional links should not be the corrective action to mitigate the TTC constraints instead the existing Interregional links need to be utilized till its maximum capability for import as well as export scenario.

CTUIL replied that SRLDC had stated that the current limiting constraints is Angul-Srikakulam 765 kV D/C line. With the addition of SR-WR links, the constraints in ER-SR will not be corrected. Pune station is predominately load centre and Narendra station is a Generation hub, mainly RE pooling station such as Koppal-I, Koppal-II Gadag-I, Gadag-II Pooling station etc. At any time, Narendra-Pune link cannot be utilized for the import scenario because wind generation will be available to evacuate to Pune station. For peak RE scenario, 55-65% export of power will occur through this link and during off peak scenario, around 10-15% export of power will take place. The Flow Gate itself will not allow in import state.

- n) TGTRANSCO agreed for the proposed two links and requested to carry out system studies to finalize the third link. Enquired the reason for not considering the Nagpur Adilabad Warangal New 765 kV D/C line instead of Parli-Bidar 765kV D/C line.
 - SRPC Secretariat stated that third link will be finalized after studies only and in order to meet the immediate requirement, two Interregional links have been proposed by CTUIL. Parli-Bidar 765 kV D/C line is the shortest link & with minimal investment, TTC import limit can be enhanced. With the simultaneous implementation of the above two 765kV D/C links, SR TTC import 31.2 GW can be achieved. Third link (Scheme-III) is required to meet the import requirement of 36 GW
- o) Puducherry ED stated that with the availability of Interregional links, the TTC will be improved. It was also informed that the demand of PED is also increasing tremendously. Therefore, the two links were agreeable to them.
- p) SRLDC/Grid-India stated that the constraints faced by SR are for import are Angul-Srikakulam and ICT at Nizamabad. Maximum drawl against import TTC limit of 21300 MW had already been met. All corridors have been touched its limit and there is need for the enhancement of the connectivity among the corridors. Even if other links come



- up, the existing constraints will be the limiting one. Therefore, the constraint points needs to be addressed and solved at the earliest in order to enhance the TTC import limit.
- q) Chairperson, TCC suggested that the commissioning of these links may take more than 36 months' time. In order to meet the growing SR import condition, the two links are very much vital and it can be proceeded for the next step. Regarding third link (Scheme-III), another study may be carried out to finalize the scheme.
- r) Regarding cost estimation, CTUIL stated that both the ends the substations are available, for the 765 kV lines, the rough estimate is around Rs 7 crores/kM. 765 kV Angul (ER)
 Srikakulam D/c is around 275 kM and 765 kV Parli (WR)- Bidar D/C is of 150 kM. The tentative estimated cost of both the IR links is approximately Rs 3000 Crores.
- s) Regarding the timeline for commissioning of these links, CTUIL informed that after getting SRPC concurrence, the official proposal will be put forth in NCT meeting to be held in September 2024. It will take 36 months for commissioning after NCT approval.
 - CTUIL added that too many RE applications have been received from Bidar substation and predominantly, it is from Wind Developers. An interconnection exists between Bidar to Maheshwaram substation. Therefore, 765 kV Parli (WR) Bidar D/C line can be accounted under the transmission scheme of Bidar PS (National Component).

Regarding 765 kV Angul (ER) - Srikakulam D/C line, it is purely for the removal of limiting constraints for the import of the power. Additionally, Angul substation is also a conventional generation hub and it will be difficult to consider under National Component.

SRPC Secretariat suggested to consider the Green Hydrogen loads at Vizag & Kakinada areas. CTUIL replied that since Green Hydrogen/Green Ammonia loads have been identified near Kakinada substation. Additional justification can be provided for 765 kV Angul (ER) - Srikakulam D/C line but it is difficult to create a link to RE projects.

- t) SRPC Secretariat requested CTUIL to furnish the proposals along with PSSE cases, LGBR, assumptions etc. in advance (with sufficient time) to all stakeholders. All stake holders are also requested to participate in the Joint Study meeting and furnish the comments during the meeting. It was observed that the views/observations have been received after the meeting which may not be able to include in the study file. Therefore, all States were requested to furnish the comments regarding LGBR considered in the study file etc. for fruitful discussion in the meeting.
- u) TCC concluded the following:
 - CTUIL proposed two inter-regional links viz. 765 kV Angul (ER) Srikakulam D/C & 765 kV Parli (WR) Bidar D/C were recommended. If approved by SRPC, CTUIL would furnish the formal proposal to SRPC Secretariat and comments would be collected through mail and separate SRPC meeting may not be required.
 - ➤ In respect of Third IR link, Joint Study meeting may be conducted by CTUIL and the link may be proposed in the next SRPC meeting.



SRPC deliberations

- v) SRPC Secretariat informed that it had been noted in the 50th SRPC Meeting, SR import ATC limits are hitting and additional links for import of power to SR are required. Hence SRPC had recommended that CTUIL to carry out joint studies for additional IR links in consultation with stake holders and the outcome to be put up to SRPC. After deliberation on the proposed IR links by CTUIL as finalized in the Joint Studies meeting held on 2nd to 4th May 2024, TCC has recommended two IR links viz. 765 kV Angul (ER) -Srikakulam D/C & 765 kV Parli (WR) – Bidar D/C. If they are approved, CTUIL would furnish the formal proposal to SRPC Secretariat and comments would be collected through mail. The SR import ATC with the above proposed links would be enhanced to 31.6 GW (ATC increment of around 7000 MW). In the TCC meeting, CTUIL has informed that the SR demand of around 125 GW would be expected considering the Green Hydrogen/Green Ammonia Loads of around 25 GW as projected by MNRE by 2028, hence third IR link would be very much required. For third IR link, two links have been proposed, one was proposed by APTRANSCO (Raipur-Jagadalpur-Vizag with associated transmission system) and other by CTUIL (Nagpur-Adilabad link with associated transmission system) in the Joint Study meeting. In this regard, TCC has recommended that Joint Studies may be conducted by CTUIL for finalizing the third link and same may be proposed in the next SRPC meeting.
- w) On a query from TANGEDCO regarding the sharing of transmission charges of the above proposed links, CTUIL informed that Bidar- Parli link can be considered under the National Component as the link will be used for evacuation of RE power at Bidar complex and they would put up for the formal approval to NCT/CERC accordingly.

With respect to Angul-Srikakulam link, CTUIL stated that it is qualified for Regional Component and to be shared by ER & SR but they will try to link it with Green Hydrogen (GH)/Green Ammonia (GA) to consider it under National Component as the link would be used for drawl of the GH/GA loads at Vishakhapatnam/Kakinada areas. Around 10 GW of GH&GA loads are envisaged in the Vishakhapatnam (4 GW) & Kakinada (6 GW). REGs are located in different regions and the RE power to be imported to meet the demand of GH & GA from WR & ER through HVDC links or through high capacity AC links. 765 kV Angul-Srikakulam link is one of the critical link to import the RE power to the GH/GA load centres.

CTUIL further informed that the transmission system identified at the moment for GH/GA, there are no provisions in the CERC Sharing Regulations to be shared under National Component. However, Hon'ble Minister of Power had taken a meeting wherein it was recommended that the transmission schemes identified for supply to GH/GA loads may be considered under National Component. CTUIL has already received 2000 MW of GNA connectivity for GH/GA loads at Kakinada area which would be supplied with the 765 kV Angul-Srikakulam link. The Phase-1 transmission scheme for supplying to Kakinada GH/GA is also proposed as agenda to this meeting, in which establishment of 765/400 kV Kakinada SS and LILO of 765kV Vemagiri-Srikakulam line are envisaged in order to meet the GH/GA loads from 765 kV Srikakulam.



- x) Chairperson, SRPC enquired CTUIL how the transmission charges are shared for the transmission systems for evacuation of RE power from RE pooling stations/complexes at Koppal, Gadag etc. in Karnataka. CTUIL informed that the charges for those ISTS are shared under National Component.
- y) TANGEDCO stated that because of the European Union decision, one shift operation for GH shall be with renewable energy. Hence GH/GA plants will try to import RE power from Rajasthan(for Solar), wind energy from other places, Hydro from ER & NER etc. as solar generation itself is not sufficient to run the GH/GA loads 24/7 time frame. Hence 765 kV Angul-Srikakulam line would be helpful in import of hydro from Eastern & North Eastern Regions.
- z) CTUIL stated that for the third IR link, Joint Studies would be carried by end of August/September 2024 and would be proposed in the next SRPC meeting. With the third link, ATC of another 6000 MW would be enhanced.
- aa) TANGEDCO stated that while finalizing the third Inter Regional link all the assumptions shall be discussed in the technical Joint Studies meeting.
 - CTUIL informed that as decided in the TCC meeting, before the Joint Studies meeting, the proposals along with the assumptions, case files etc. will be circulated in advance to all SR stakeholders to have fruitful deliberations in the meeting. CTUIL opined that it is a high time to build new transmission lines keeping in view of Right of Way (RoW) issues.
- bb) Chairperson, SRPC noted that these additional IR links being approved are in addition to the already being commissioned and the links already in execution. He opined that SR need to have much more strengthening with other regions as number of instances have been seen in the last two months in which SR has excess power and not able to export to other regions. Such constraints have to be progressively addressed and sorted out.
 - CTUIL stated the few constraints are observed are the seasonal issues and once the system is strengthened such issues will be resolved.
- cc) TANGEDCO stated that renewable generation is only growing in SR as there is huge PSP potential in AP, Karnataka, Tamil Nadu & Telangana. When the generation capacity grows in the states/region, the capacity of the existing lines/links will be redundant. Hence these factors are required to be considered while planning the transmission system. It was informed that AP has MoU with PSPs with M/s Greenko, TN has come out with policy on MoU etc. Without factoring all, all the constituents would be stuck on the cost implications for 25-40 years.
- dd) KPTCL while endorsing the views of TANGEDCO stated that Pumped Storage and Battery Storage which is going to come, needs to be taken into account while planning the transmission network. It may not be seasonal factor and would be there throughout the year.

CTUIL stated that Southern Region has got very good advantage as it has clusters of both RE generation and load centres. This advantage is not there for Northern Region as they don't have loads in the RE potential area. Hence the expenditure on ISTS is minimum in Southern Region for maximum RE injection whereas in WR & NR, it is huge and they have to depend on HVDC links.

CTUIL further stated that the export issues faced recently would be resolved with Narendra-Pune link which is expected by December 2024.

- ee) APTRANSCO & TGTRANSCO while agreeing for proposed Inter Regional links, stated that it needs to be ensured that the transmission charges for these two links shall be shared under National Component.
- ff) SRPC concluded with following:
 - ✓ SRPC approved the two inter regional links 765 kV Parli-Bidar D/C & 765 kV Angul-Srikakulam D/C. SRPC recommended that both the links shall be considered under National Component as 765 kV Parli-Bidar link would be used for RE evacuation and 765 kV Angul-Srikakulam link would be used to meet the GH&GA loads.
 - ✓ CTUIL would furnish the formal proposal to SRPC Secretariat and comments
 would be collected through mail and separate SRPC meeting may not be required.
 - ✓ In respect of third IR link, CTU would conduct a Joint Study meeting with all SR stake holders and the outcome of the meeting may be proposed in the next SRPC meeting.

5) INTRA-REGIONAL TRANSMISSION CONSTRAINTS

- a) The Intra-Regional Transmission constraints have been under discussion in the SRPC & TCC meetings and being followed up in Sub Committee Meetings.
- b) The Intra-Regional Transmission constraints have been under discussion in the SRPC & TCC meetings and being followed up in Sub Committee Meetings.
- c) In the 50th SRPC Meeting held on 16.03.2024, it was recommended that SRLDC to segregate the Transmission Constraints in to two parts, one which have impact only on the respective state (which will be discussed among the specific state and its stake holders) and the other part which have impact on regional basis (which will be discussed in TCC/SRPC meetings). Actionable points also to be identified as actions initiated and actions to be initiated and prioritisation of the actionable points also may be looked into to the extent possible.
- d) In the OCC Meetings, SRLDC had presented the transmission constraints (Annexure-5A).

G-91ux9nnA



34th Consultation Meeting for Evolving Transmission Scheme in SR 24.09.2024

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ISTS Network expansion scheme in Southern Region

ग्रिड-इंडिया GRID-INDIA

B.3 Inter-Regional links between NEW-Grid & SR-Grid

Scheme-1: Inter-Regional Strengthening between SR Grid and ER Grid

765kV Angul – Srikakulam D/c line (about 275 km)

Scheme-2: Inter-Regional Strengthening between SR Grid and WR Grid

765kV Parli New - Bidar D/c line (about 150 km)



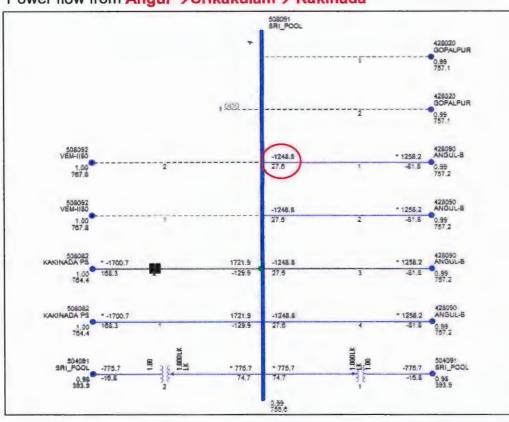
1. 765kV Angul - Srikakulam D/c line (about 275 km)

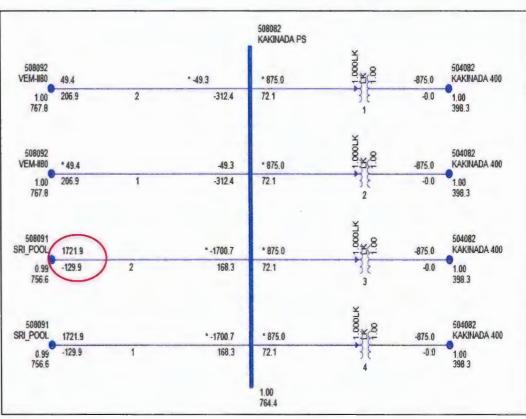
A. Scenario: SR Import

Power flow from Angul → Srikakulam → Kakinada







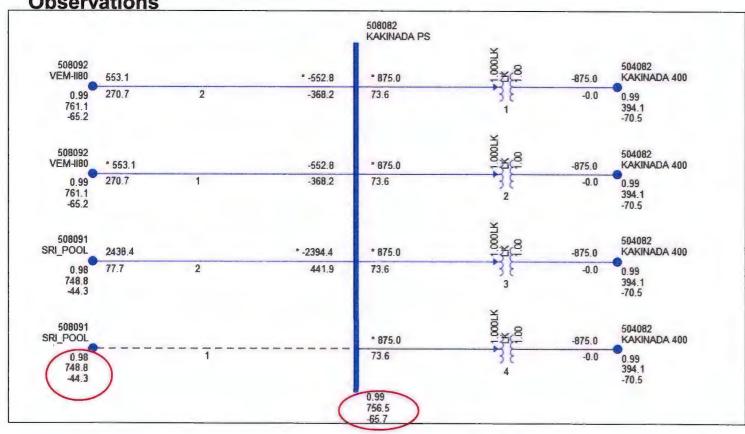


- > ~6000 MW demand in Kakinada envisaged for the Green Hydrogen/ Green Ammonia projects. (3000 MW under Ph-1)
- Unity load Pf at Kakinada considered in the base case

1. 765kV Angul – Srikakulam D/c line (about 275 km)

A. Scenario: SR Import

Observations



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SR Load	SR Gen
106239 MW	82039 MW

- ➤ LILO of 765 KV Srikakulam Vemagiri-D/C at Kakinada PS is being planned.
- > Angular separation between 765 KV Kakinada and Srikakulam bus under N-1 contingency exceeding 20 deg.

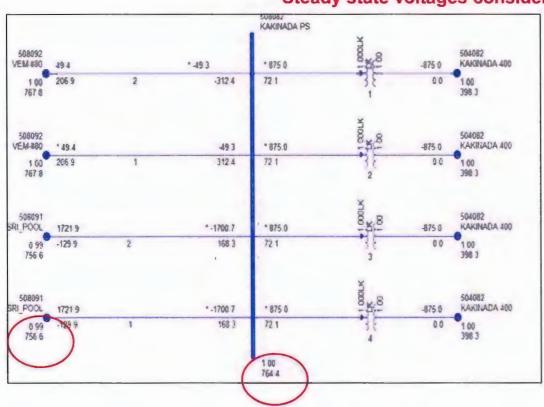
1. 765kV Angul – Srikakulam D/c line (about 275 km)

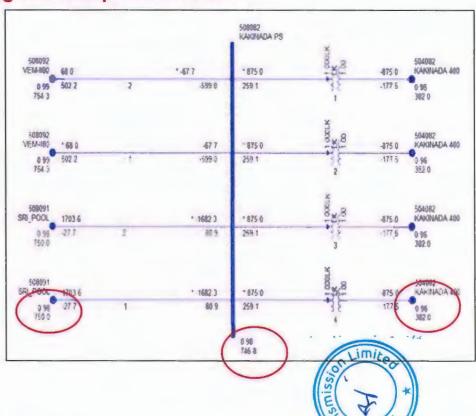
A. Scenario : SR Import

Observations



Steady state voltages considering 0.98 load pf at Kakinada





Voltage at 400 KV Kakinada station is 382 KV at 0.98 load pf



235

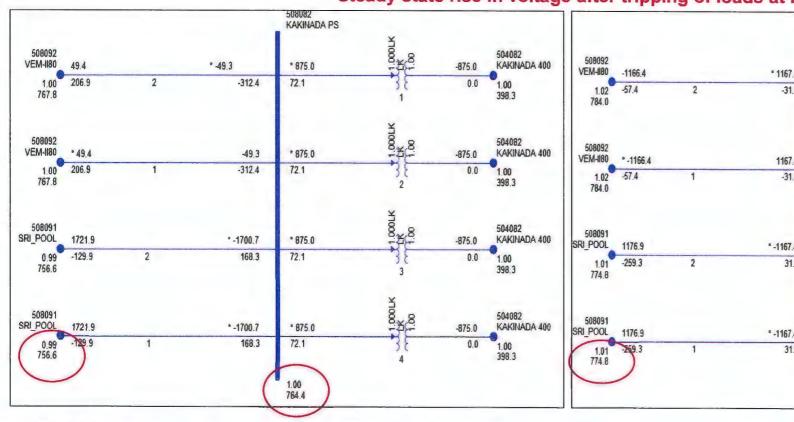


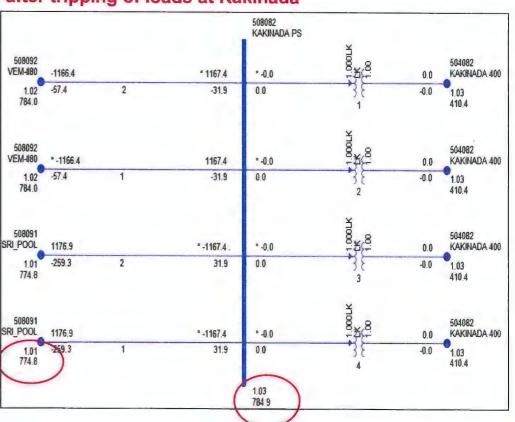
1. 765kV Angul – Srikakulam D/c line (about 275 km)

A. Scenario: SR Import

Observations

Steady state rise in voltage after tripping of loads at Kakinada





~20 KV rise in voltage observed at 765 KV Kakinada station

Columited *

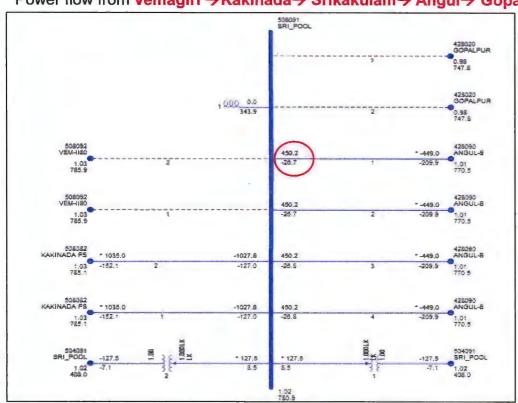
236

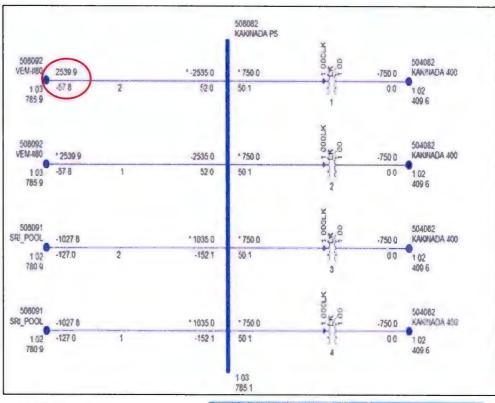


1. 765kV Angul - Srikakulam D/c line (about 275 km)

B. Scenario: SR Export

Power flow from Vemagiri → Kakinada → Srikakulam → Angul → Gopalpur



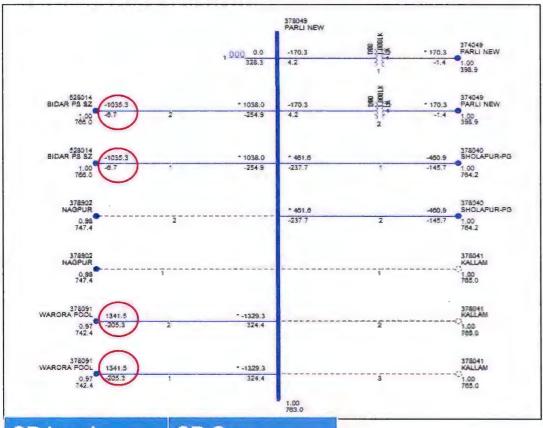


- > ~6000 MW demand in Kakinada envisaged for the Green Hydrogen/ Green Ammonia projects. (3000 MW under Ph-1)
- Unity load Pf at Kakinada considered in the base case

SR Load	SR Gen
79281 MW	114252 MW

A. Scenario: SR Import

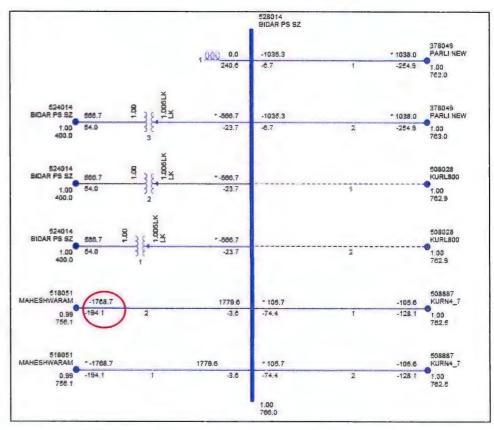
Power flow from Warora → New Parli → Bidar PS → Maheshwaram





237





 SR Load
 SR Gen

 106239 MW
 82039 MW

A. Scenario-: SR Import

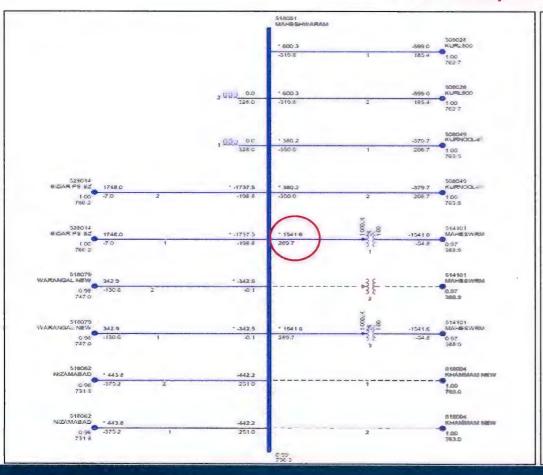
Observation

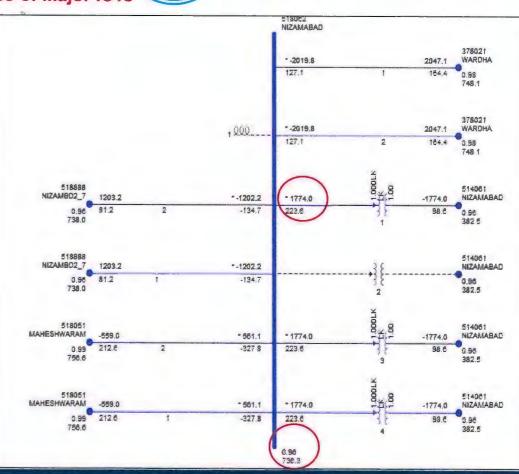


238



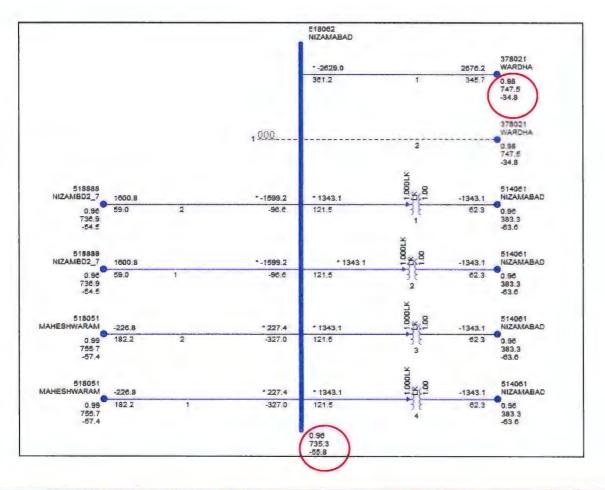
N-1 non compliance of Major ICTs





A. Scenario: SR Import

Observation



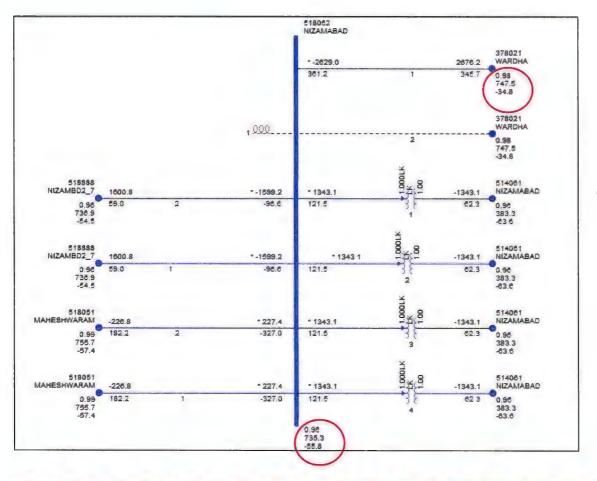


 Angular separation between 765 KV Wardha and Nizamabad bus under N-1 contingency exceeding 20 deg



A. Scenario: SR Import

Observation



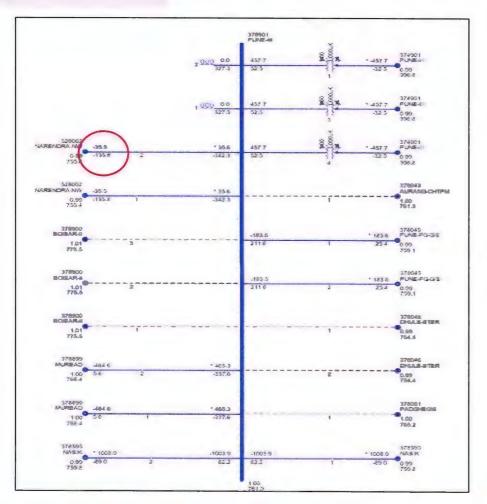


 Angular separation between 765 KV Wardha and Nizamabad bus under N-1 contingency exceeding 20 deg



A. Scenario: SR Import

Observation





Loading on 765 KV Narendra-Pune-III observed to be floating during SR Import scenario.



Limited *

242

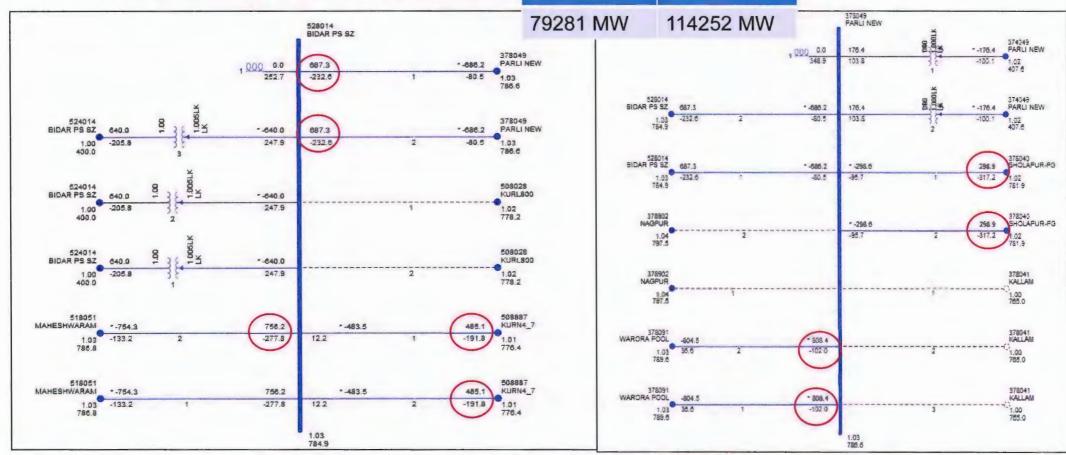


2. 765kV Parli New - Bidar D/c line (about 150 km)

B. Scenario: SR Export

Power flow from Bidar PS → New Parli → Warora PS → Rajnandgaon

SR Load SR Gen



> Total connectivity quantum granted / agreed / under process at Bidar PS ~ 3350 MW

Simsue *

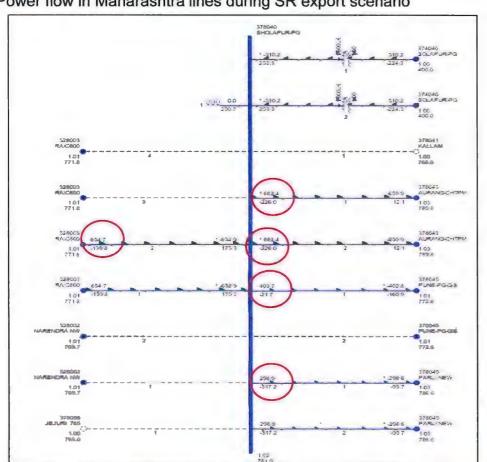
243

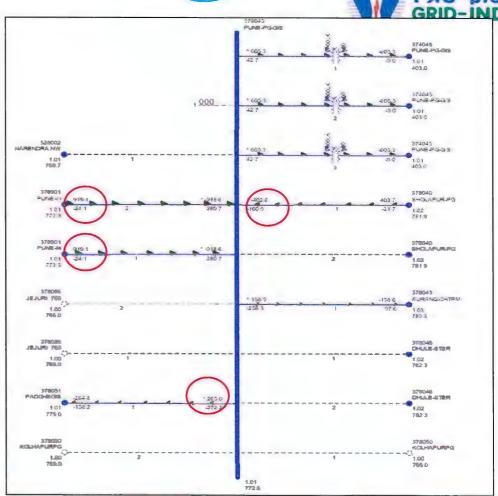
श्रिड-इंडिया GRID-INDIA

2. 765kV Parli New – Bidar D/c line (about 150 km)

B. Scenario: SR Export

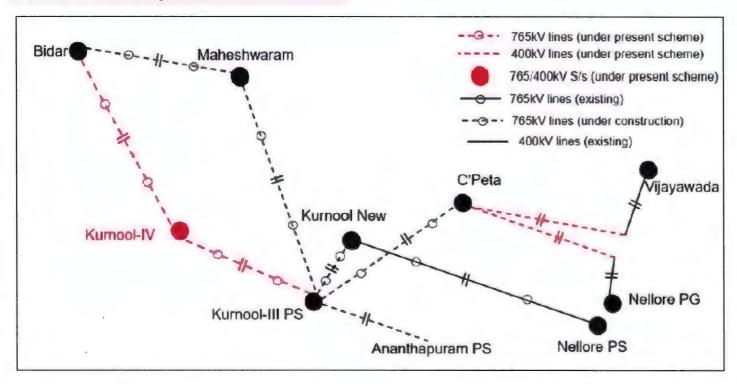
Power flow in Maharashtra lines during SR export scenario





> Total connectivity quantum granted / agreed / under process at Bidar PS ~ 3350 MW

B. Scenario: SR Export







- ➢ Bidar PS in Karnataka is proposed to be connected to Kurnool-IV through Kurnool-IV Bidar 765kV D/c line for evacuation of RE potential in Kurnool area of Andhra Pradesh.
- > Towards this, Bidar Parli New 765kV D/c link shall facilitate evacuation of RE generation in Bidar / Kurnool RE complexes.



सेंद्रल ट्रांसिमशन यटिलिटी ऑफ इंडिया लिमिटेड

(पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड के स्वामित्व में) (भारत सरकार का उद्यम)

CENTRAL TRANSMISSION UTILITY OF INDIA LTD.

(A wholly owned subsidiary of Power Grid Corporation of India Limited)
(A Government of India Enterprise)

Ref. No.: C/CTU/AI/00/21st CCTP

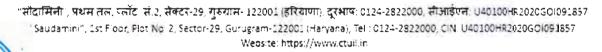
23rd October 2024

OFFICE MEMORANDUM

Sub: Inter-State Transmission Schemes (costing up to Rs.100 Cr.) to be taken up for implementation under Regulated Tariff Mechanism (RTM).

The undersigned is directed to inform that CTU has approved the implementation of the following ISTS costing less than or equal to Rs.100 Cr. in line with the MoP office order dated 28.10.2021 under the Regulated Tariff Mechanism (RTM) mode by the implementing agencies as indicated in the table below:

SI. No.	Name of Transmission Scheme	Implementing Agency
Nort	hern Region	
1.	Implementation of 1 no. 220kV line bay for interconnection of 300MW REGS of M/s Deshraj Solar Energy Pvt. Ltd. (DSEPL) and 3 nos. 400kV line bays for interconnection of 1400MW RPPD of M/s Sunbreeze Renewables Nine Pvt. Ltd. (SR9PL) (2 nos. bays) & 1000MW RPPD of M/s MRS Buildvision Pvt. Ltd. (MBPL) (1 no. bay) at 765/400/220kV Bikaner-III PS	POWERGRID Bikaner Neemrana Transmission Ltd. (a subsidiary of Power Grid Corporation of India Ltd.)
2.	Augmentation of transformation capacity at 400/220kV Samba (PG) S/s in Jammu & Kashmir by 1x500 MVA, 400/220kV ICT (4 th)	Power Grid Corporation of India Ltd.
West	tern Region	
3.	Implementation of 2 nos. 400kV line bays at Mandsaur S/s for Interconnection of 3x504MW PSP of Greenko MP01 IREP Pvt. Ltd.	Rajasthan IV C Power Transmission Ltd. (subsidiary of Power Grid Corporation of India Ltd.)
Sout	hern Region	
4.	Augmentation of Transformation Capacity at 400/220kV Yelahanka (GIS) S/s in Karnataka by 400/220kV, 1x500MVA ICT (3rd)	
5.	Implementation of 1 no. of 230kV line bay at Karur 400/230kV PS for interconection of REGS of M/s Nannai Solar Park Pvt. Ltd.	Karur Transmission Ltd. (a subsidiary of Adani Energy Solutions Ltd.)
6.	Augmentation of Transformation Capacity at 400/220kV Bidadi GIS S/s in Karnataka by 400/220kV, 1x500MVA ICT (3rd)	Power Grid Corporation of India Ltd.
North	n Eastern Region	
7.	North Eastern Region Expansion Scheme-29, Part-A (NERES-29, Part-A)	Ltd.
8.	North Eastern Region Expansion Scheme-29, Part-B (NERES-29, Part-B)	Power Grid Corporation of India Ltd.



The detailed scope of works for the above transmission schemes is given at Annexure-I.

The above transmission schemes are awarded to the Implementing Agency for its implementation under RTM mode. The implementing agency shall enter into a concession agreement with CTU for the implementation of the above-mentioned transmission schemes through the Regulated Tariff Mechanism (RTM).

This issues with the approval of Competent Authority.

(Partha Sarathi Das) Sr. General Manager

Encl: as stated.



To:

1. The Chairman & Managing Director Power Grid Corporation of India Ltd., Saudamini, Plot No. 2, Sector-29, Gurgaon- 122 001	2. POWERGRID Bikaner Neemrana Transmission Ltd. (a subsidiary of Power Grid Corporation of India Ltd.) Saudamini, Plot No. 2, Sector-29, Gurgaon – 122009
 Rajasthan IV C Power Transmission Ltd. (a subsidiary of Power Grid Corporation of India Ltd.) Saudamini, Plot No. 2, Sector-29, Gurgaon – 122009 	4. Karur Transmission Ltd. (a subsidiary of Adani Energy Solutions Ltd.) Saudamini, Plot No. 2, Sector-29, Gurgaon – 122009

Copy to:

1. Shri B.S. Bairwa Chief Engineer (I/c) & Member Secretary (NCT) Central Electricity Authority Sewa Bhawan, R. K. Puram, New Delhi-110 066.	2. Shri Om Kant Shukla Director (Trans) Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110 001
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CC:

1. Development Commissioner (Power) Power Development Department, Grid Substation Complex, Janipur, Jammu dcpikpdd@yahoo.com; mdjkptcl1@gmail.com; pmupddjk@gmail.com; mdjkptcl1@gmail.com	For kind information, please.
2. Director (Transmission) Karnataka State Power Transmission Corp. Ltd., Cauvery Bhawan Bangalore – 560 009 dt@kptcl.com; eeeplgkptcl@gmail.com; divyajaikrishna@gmail.com; eepss1kptcl@gmail.com seeplgkptcl@gmail.com	For kind information, please.



Northern Region

 Implementation of 1 no. 220kV line bay for interconnection of 300MW REGS of M/s Deshraj Solar Energy Pvt. Ltd. (DSEPL) and 3 nos. 400kV line bays for interconnection of 1400MW RPPD of M/s Sunbreeze Renewables Nine Pvt. Ltd. (SR9PL) (2 nos. bays) & 1000MW RPPD of M/s MRS Buildvision Pvt. Ltd. (MBPL) (1 no. bay) at 765/400/220kV Bikaner-III PS

SI. No.	Scope of the Transmission Scheme	Item Description	Implementation Timeframe
1.	1 no. 220kV line bays at 765/400/220kV Bikaner-III PS for interconnection of 300MW REGS of M/s Deshraj Solar Energy Pvt. Ltd. (DSEPL)	● 220 kV line bay – 1 no.	31.03.2026
2.	3 nos. of 400 kV line bays at 765/400/220 kV Bikaner-III PS for interconnection of 1400MW RPPD of M/s Sunbreeze Renewables Nine Pvt. Ltd. (SR9PL) (2 nos. bays) & 1000MW RPPD of M/s MRS Buildvision Pvt. Ltd. (MBPL) (1 no. bay)		22.08.2026
		Total Estimated Cost:	₹50.09 Crore

2. Augmentation of transformation capacity at 400/220kV Samba (PG) S/s in Jammu & Kashmir by 1x500 MVA, 400/220kV ICT (4th)

SI. No.	Scope of the Transmission Scheme	Item Description	Implementation Timeframe
1.	Augmentation of transformation capacity at 400/220kV Samba (PG) S/s by 1x500 MVA, 400/220kV ICT (4 th) along with associated bays	1 no	18 months from the date of issuance of OM by CTUIL i.e. 23/04/2026
		Total Estimated Cost:	₹ 42.18 Crore



Western Region

3. Implementation of 2 nos. 400kV line bays at Mandsaur S/s for Interconnection of 3x504MW PSP of Greenko MP01 IREP Pvt. Ltd.

SI. No.	Scope of the Transmission Scheme	Item Description	Implementation Timeframe
1.	Implementation of 2 nos. 400kV line bays at Mandsaur S/s for Interconnection of 3x504MW PSP of Greenko MP01 IREP Pvt. Ltd. through Greenko MP01 – Mandsaur PS 400kV D/c (quad ACSR/AAAC/AL59 moose equivalent) line	 400kV line bays (including associated tie bay): 2 Nos. 	19.08.2026
	Тс	otal Estimated Cost:	₹ 30.46 Crore

Southern Region

4. Augmentation of Transformation Capacity at 400/220kV Yelahanka (GIS) S/s in Karnataka by 400/220kV, 1x500MVA ICT (3rd)

SI. No.	Scope of the Transmission Scheme	Item Description	Implementation Timeframe
1.	transformation capacity at 400/220kV Yelahanka	 500MVA, 400/220kV ICT – 1no. 400kV ICT bay–1 No. (GIS) 220kV ICT bay–1 No. 400kV GIS Bus duct (1 Ph.)– approx. 100 meters 	21 months from the date of issuance of OM by CTUIL i.e. 23/07/2026
		₹ 51.96 Crore	

5. Implementation of 1 no. of 230kV line bay at Karur 400/230kV PS for interconnection of REGS of M/s Nannai Solar Park Pvt. Ltd.

SI. No.	Scope of the Transmission Scheme	Item Description	Implementation Timeframe
1.	1 no. of 230kV line bay at Karur 400/230kV PS for interconnection of REGS of M/s Nannai Solar Park Pvt. Ltd.		15 months from the date of issuance of OM by CTUIL i.e. 23/01/2026
		Total Estimated Cost:	₹ 5.57 Crore



6. Augmentation of transformation capacity at 400/220kV Bidadi (GIS) S/s in Karnataka by 1x500 MVA, 400/220kV ICT (3rd)

SI. No.	Scope of the Transmission Scheme	Item Description	Implementation Timeframe
1.	transformation capacity at 400/220kV Bidadi (GIS) S/s in Karnataka by 1x500 MVA, 400/220kV ICT (3rd)	 500MVA, 400/220kV ICT – 1no. 400kV ICT bay–1 No. (GIS) 220kV ICT bay–1 No. (GIS) 220kV GIS Bus duct (1ph) – approx. 120 meters 400kV GIS Bus duct (1 Ph.)– approx. 80 meters 220kV GIS hall to be extended for installation of 220kV GIS bay module under present scope 	21 months from the date of issuance of OM by CTUIL i.e. 23/07/2026
		Total Estimated Cost:	₹ 55.81 Crore

North Eastern Region

7. North Eastern Region Expansion Scheme – 29, Part–A (NERES–29, Part–A)

SI. No.	Scope of the Transmission Scheme	Item Description	Implementation Timeframe
1.	Installation of new 1x50MVA, 132/33kV (3 rd) ICT at Namsai (POWERGRID) S/s along with associated bays.	no	18 months from the date of issuance of OM by CTUIL i.e. 23/04/2026
		Total Estimated Cost:	₹ 16.30 Crore

8. North Eastern Region Expansion Scheme-29, Part-B (NERES-29, Part-B)

SI. No.	Scope of the Transmission Scheme	Item Description	Implementation Timeframe	
1.	Installation of new 420kV, 125MVAr Bus Reactor at Biswanath Chariali (POWERGRID) S/s along with associated bays.	Reactor: 1 no.	18 months from the date of issuance of OM by CTUIL i.e. 23/04/2026	
		Total Estimated Cost:	₹ 32.39 Crore	



Annexure 8

Form-I

Application Form for Grant of Transmission licence

1. Particulars of the Applicant

SN	Particulars	Details		
i.	Name of the Applicant	Karur Transmission Limited (KTL)		
ii.	Status	Public Limited Company		
iii.	Address	C 105, Anand Niketan, New Delhi, India,110021		
iv.	Name, Designation & Address of the Contact Person	Shri Bhavesh Kundalia, Karur Transmission Limited, 4 th Floor, South Wing K P Epitome, Makarba, Ahmedabad 380051		
V.	Contact Telephone No	9810866555		
vi.	Fax No	079-25556601		
vii.	Email ID	bhavesh.kundalia@adani.com		
viii.	Place of Incorporation/ Registration	New Delhi		
ix.	Year of Incorporation/ Registration	2019		
Χ.	Following documents are to be enclosed			
	a) Certificate of Registration	Annexure 9		
	b) Copy of Board resolution	Annexure 11		

2. Particulars of the Project for which licence is being sought:

KTL has been granted licence no. 72/Transmission/2022/CERC by Hon'ble Commission. However, Central Transmission Utility of India Limited (CTUIL) has approved Augmentation of 2x500 MVA, 400/230kV transformation capacity (3^{rd} & 4^{th} ICTs) at Karur PS and Implementation of 1 no. of 230kV line bay at Karur 400/230kV PS for interconnection of REGS of M/s Nannai Solar Park Pvt. Ltd. on Regulated Tariff Mechanism (RTM) route. Hence, KTL has sought Grant of licence for the following:

a) Transmission Lines:

S No	Name (end-points Location)	Voltage Class (kV)	Length (km)	Type (S/C or D/C)
-	-	-	-	-

b) Sub-stations:



Sr No	Name (Location)	Voltage Level (s) (kV)	Transforme r (Nos. and MVA capacity)	Reactive/ Capacitive compensati on (device with MVAR Capacity)		No. of bays
1	Installation of 2x500 MVA, 400/230 kV ICTs (3 rd & 4 th) at Karur PS along with associated ICT bays	400/230 kV	1x500MVA ICT – 2 No.	-	•	400kV bay – 2 No. 230kV bay – 2 No.
2	1 no. of 230kV line bay at Karur 400/230kV PS for interconnection of REGS of M/s Nannai Solar Park Pvt. Ltd.	230kV	-	-	•	230kV line bay – 1 No.

- c) Commissioning Schedule:
 - o SCOD for Sr. No. 1 is 12.09.2025
 - o SCOD for Sr. No. 2 is 23.01.2026
- d) Identified Long-Term transmission customers of the Project:
 - 1. JSW Renew Energy Limited
 - 2. PFC Consulting Limited
 - 3. POWERGRID Corporation of India Limited
- e) Any other relevant information: Nil
- 3. Levelised transmission charges in case of project selected through the transparent process of competitive bidding and estimated completion cost of the project in other cases: This project is Awarded by CTU through RTM route and estimated Capital Cost will be determined through Competitive Bidding.
- 4. In case applicant has been selected in accordance with the guidelines for competitive bidding, enclose:
 - (a) Recommendation of selection by the Empowered Committee: Not Applicable
 - (b) Evaluation report made public by the Bid Process Coordinator: Not Applicable
- 5. List of documents enclosed:

Name of the Document

a) Certificate of Registration: Annexure 9



b) MoA & AoA: Annexure 10

c) Copy of Board Resolution: Annexure 11

Dated: 05.11.2024 Place: Ahmedabad



(Signature of the Applicant)



GOVERNMENT OF INDIA MINISTRY OF CORPORATE AFFAIRS

Central Registration Centre

Certificate of Incorporation

[Pursuant to sub-section (2) of section 7 and sub-section (1) of section 8 of the Companies Act, 2013 (18 of 2013) and rule 18 of the Companies (Incorporation) Rules, 2014]

I hereby certify that KARUR TRANSMISSION LIMITED is incorporated on this Twentieth day of November Two thousand nineteen under the Companies Act, 2013 (18 of 2013) and that the company is limited by shares.

The Corporate Identity Number of the company is U40106DL2019GOI357791.

The Permanent Account Number (PAN) of the company is AAHCK8886A

The Tax Deduction and Collection Account Number (TAN) of the company is DELK20842D

Given under my hand at Manesar this Twentieth day of November Two thousand nineteen .



Digital Signature Certificate
Mr MANGAL RAM MEENA
Deputy Registrar Of Companies
For and on behalf of the Jurisdictional Registrar of Companies
Registrar of Companies

Central Registration Centre

Disclaimer: This certificate only evidences incorporation of the company on the basis of documents and declarations of the applicant(s). This certificate is neither a license nor permission to conduct business or solicit deposits or funds from public. Permission of sector regulator is necessary wherever required. Registration status and other details of the company can be verified on www.mca.gov.in

Mailing Address as per record available in Registrar of Companies office:

KARUR TRANSMISSION LIMITED

Urjanidhi, First Floor, 1, Barakhamba Lane, Connaught Place, NEW DELHI, Central Delhi, Delhi, India, 110001



* as issued by the Income Tax Department



[Pursuant to Schedule I (see Sections 4 and 5) to the Companies Act, 2013)] FORM NO. INC-33

SPICe MOA

(e-Memorandum of Association)

MOA language: English	(Hindi
SRN of RUN	Pre-fill
* Table applicable to company a	s notified under schedule I of the companies Act, 2013
Table A- MEMORANDUM OF ASS	OCIATION OF A COMPANY LIMITED BY SHARES
1. The Name of the Company is	KARUR TRANSMISSION LIMITED
2.The Registered office of the cor	mpany will be situated in the state of Delhi-DL
3.(a)The objects to be pursued by the	he company on its incorporation are
investigation, research, design and engi and maintenance of transmission lines, coordination of integrated operation of s and wheeling of power in accordance w 2. To study, investigate, collect informat To study, investigate, collect information	ated and efficient power transmission system network in all its aspects including planning, ineering, preparation of preliminary, feasibility and definite project reports, construction, operation sub-stations, load dispatch stations and communication facilities and appurtenant works, state, regional and national grid system, execution of turn-key jobs for other utilities/organizations ith the policies, guidelines and objectives laid down by the Central Government from time to time. ion and data and data, review operation, plan, research, design and prepare Report, diagnose operational on the remedial measures to improve, undertake development of new and innovative product
connected with business of the Compar 3.To act as Consultants/ Technical Advi	sers of public/ private sector enterprises etc. s, surveyors and providers of technical and other services to Public or Private Sector enterprises

1. To obtain authority etc. to carry out its objects

power generating stations and projects, transmission, distribution and sale of power.

3.(b)Matters which are necessary for furtherance of the objects specified in clause 3(a) are

To obtain license, approvals and authorization from Governmental Statutory and Regulatory Authorities, as may be necessary to carry out and achieve the Objects of the Company and connected matters which may seem expedient to develop the business interests of the Company in India and abroad.

engaged in the planning, investigation, research, design and preparations of preliminary, feasibility and definite project reports, manufacture of power plant and equipment, construction, generation, operation and maintenance of power transmission system from

- 2. To obtain charters, concession etc.
- To enter into any arrangement with the Government of India or with any State Government or with other authorities/ commissions, local bodies or public sector or private sector undertakings, Power Utilities, Financial Institutions, Banks, International Funding Agencies and obtain such charters, subsidies, loans, advances or other money, grants, contracts, rights, sanctions, privileges, licenses or concessions whatsoever (whether statutory or otherwise) which the Company may think it desirable to obtain for carrying its activities in furthering the interests of the Company or its members.
- 3.To enter into Implementation/ Construction Agreement
- To enter into any agreement, contract or any arrangement for the implementation of the power generation, evacuation, transmission and distribution system and network with Power/Transmission Utilities, State Electricity Boards, Vidyut Boards, Transmission Companies, Generation Companies, Licensees, Statutory bodies, other organizations (whether in Private, Public or Joint Sector Undertaking) and bulk consumers of power etc.

4. To carry on the business or purchasing, importing, exporting and trading power

To carry on the business or purchasing, importing, exporting and trading of power subject to the provisions of Electricity Act, 2003 and to supply electric power generated by other plants to distribution companies, trading companies, other generation companies and other Persons, and in this regard execute agreements with Central and State generating authorities, departments or companies, Independent Power Producers and other Persons.

5. To enter into Agreements; etc.

To secure the payments of money, receivables on transmission and distribution of electricity and sale of fuel, as the case may be, to the State Electricity Boards, Vidyut Boards, Transmission Utilities, Generating Companies, Transmission Companies, Distribution Companies, State Governments, Licensees, statutory bodies, other organizations (whether in Private, Public or Joint Sector Undertaking) and bulk consumers of power etc. through Letter of Credits/ESCROW and other security documents.

6. To execute Agreements

To execute Transmission Service Agreements or other agreements for transmission of power to distribution, trading, and other companies, State Electricity Boards, State Utilities and any other organization and Persons.

7.To co-ordinate with Central Electricity Authority /Central Transmission Utility/State Transmission Utility

To coordinate with the Central Electricity Authority /Central Transmission Utility/State Transmission utility for transmission of electricity under the provisions of Electricity Act 2003.

8. To borrow money

Subject to provisions of Sections 73, 179, 180 and other applicable provisions of the Companies Act, 2013 and subject to other laws or directives, if any, of SEBI/RBI, to borrow money in Indian rupees or foreign currencies and obtain foreign lines of credits/ grants/aids etc. or to receive money or deposits from public for the purpose of the Company's business in such manner and on such terms and with such rights, privileges and obligations as the Company may think fit. The Company may issue bonds/ debentures whether secured or unsecured; bills of exchange, promissory notes or other securities, mortgage or charge on all or any of the immovable and movable properties, present or future and all or any of the uncalled capital for the time being of the Company as the Company may deem fit and to repay, redeem or pay off any such securities or charges.

9. To lend money

To lend money on property or on mortgage of immovable properties or against Bank guarantee and to make advances of money against future supply of goods and services on such terms as the Directors may consider necessary and to invest money of the Company in such manner as the Directors may think fit and to sell, transfer or to deal with the same.

10. To acquire, own, lease or dispose off the property

To own, possess, acquire by purchase, lease or otherwise rights, title and interests in and to, exchange or hire real estate, equipment, Transmission lines, lands, buildings, apartments, plants, equipment, machinery, fuel blocks and hereditaments of any tenure or descriptions situated in India or abroad or any estate or interest therein and any right over or connected with land so situated and turn the same to account in any manner as may seem necessary or convenient for the purpose of business of the Company and to hold, improve, exploit, re-organize, manage, lease, sell, exchange or otherwise dispose of the whole or any part thereof.

11. To deal in Scrips/Govt. Securities

Subject to applicable provisions of law, to subscribe for, underwrite, or otherwise acquire, hold, dispose of and deal with the shares, stocks, debentures or other securities and titles of indebtedness or the right to participate in profits or other similar documents issued by any Government authority, Corporation or body or by any company or body of persons and any option or right in respect thereof.

12. To create funds and appropriate profits

To create any depreciation fund, reserve fund, sinking fund, insurance fund, gratuity, provident fund or any other fund, for depreciation or for repairing, improving extending or maintaining any of the properties of the Company or for any other purposes whatsoever conducive to the interests of the Company.

13. To purchase or otherwise acquire companies

To acquire shares, stocks, debentures or securities of any company carrying on any business which this Company is entitled to carry on or acquisition of undertaking itself which may seem likely or calculated to promote or advance the interests of the Company and to sell or dispose of or transfer any such shares, stocks or securities and the acquired undertaking.

14. To enter into partnership Agreement or Merge /amalgamate

To enter into partnership or into any agreement for joint working, sharing or pooling profits, joint venture, amalgamation, union of interests, co-operation, reciprocal concessions or otherwise or amalgamate with any person or company carrying on or engaged in or about to carry on or engaged in any business or transaction in India or abroad which the Company is authorized to carry on or engage in any business undertaking having objects identical or similar to, as are being carried on by this Company.

15. To have agencies and branch offices in India and abroad

To establish and maintain agencies, branch offices and local agencies, to procure business in any part of India and world and to take such steps as may be necessary to give the Company such rights and privileges in any part of the world as deemed proper in the interest of the Company.

16. To promote institutions or other companies

To promote and undertake the formation of any institution or Company or subsidiary company or for any aforesaid objects intended to benefit the Company directly or indirectly and to coordinate, control and guide their activities.

17(a). To acquire know how and import-export of machinery and tools etc.

To negotiate and enter into agreements and contracts with domestic and foreign companies, persons or other organizations, banks and

financial institutions, in relation to the business of the Company including that of technical know-how, import, export, purchase or sale of plant, machinery, equipment, tools, accessories and consumables, financial assistance and for carrying out all or any of the objects of the Company.

17(b). To negotiate and enter into agreements etc.

To negotiate and enter into agreements and contracts for execution of turnkey jobs, works, supplies and export of plant, machinery, tools and accessories etc.

18. To enter into contracts/arrangements in connection with issue of shares/securities.

Upon and for the purpose of any issue of shares, debentures or any other securities of the Company, to enter into agreement with intermediaries including brokers, managers of issue/commission agents and underwriters and to provide for the remuneration of such persons for their services by way of payment in cash or issue of shares, debentures or other securities of the Company or by granting options to take the same or in any other manner as permissible under the law.

19. To enter into contracts of indemnity and/or guarantee

To enter into contracts of indemnity and get guarantee and allocations for the business of the Company.

20. To arrange for Training and Development

To make arrangements for training of all categories of employees and to employ or otherwise engage experts, advisors, consultants etc. in the interest of achieving the Company's objects.

21. To promote conservation, protect environment, theft etc.

To promote conservation and protection of electricity from theft, safety of life and to protect environments including air, land and water etc.

22. To provide for welfare of employees

To pay and provide for the remuneration, amelioration and welfare of persons employed or formerly employed by the Company and their families providing for pension, allowances, bonuses, other payments or by creating for the purpose from time to time the Provident Fund, Gratuity and other Funds or Trusts. Further to undertake building or contributing to the building or houses, dwellings or chawls by grants of money, or by helping persons employed by the Company to effect or maintain insurance on their lives by contributing to the payment of premium or otherwise and by providing or subscribing or contributing towards educational institutions, recreation, hospitals and dispensaries, medical and other assistance as the Company may deem fit.

23. To take Insurance

To ensure any rights, properties, undertakings, contracts, guarantees or obligations or profits of the Company of every nature and kind in any manner with any person, firm, association, institution or company.

24. To share the profits pay, dividends and provide bonus etc.

To distribute among members of the Company dividend including bonus shares out of profits, accumulated profits or funds and resources of the Company in any manner permissible under law.

25. To institute and defend the legal proceedings

To institute, conduct, defend, compound or abandon any legal proceedings by or against the Company or its officers or otherwise concerning the affairs of the Company and also to compound and to allow time for payment or satisfaction of any debts or recovery due, claims or demands by or against the Company and to refer any claims or demands by or against the Company or any differences arising in execution of contracts to conciliation and arbitration and to observe, comply with and/or challenge any awards preliminary, interim or final made in any such arbitration.

26. To pay and subsequently write off preliminary expenses

To pay out of the funds of the Company all costs, charges, expenses and preliminary and incidental to the promotion, formation, establishment and registration of the Company or other expenses incurred in this regard.

To contribute and make donations

Subject to provisions of Companies Act, 2013 to contribute money or otherwise assist to charitable, benevolent, religious, scientific national, defense, public or other institutions or objects or purposes.

28. To open accounts in Banks

To open an account or accounts with any individual, firm or company or with any bank bankers or shrofs and to pay into and withdraw money from such account or accounts.

29. To accept gifts, donations etc.

To accept gifts, bequests, devises and donations from members and others and to make gifts to members and others of money, assets and properties of any kind.

30. To pursue the objects of the Company as principal, agents, trustee or in any other capacity

To carry out all or any of the objects of the company and do all or any of the above things in any part of the world and either as principal, agent, contractor or trustee or otherwise and either alone or in conjunction with others.

31. To enter into Contracts

To negotiate and/or enter into agreement and contract with individuals, companies, corporations, foreign or Indian, for obtaining or providing technical, financial or any other assistance for carrying on all or any of the objects of the Company and also for the purpose of activating, research, development of projects on the basis of know-how and/or financial participation and for technical collaboration, and to acquire or provide necessary formulate and patent rights for furthering the objects of the company.

		s promotion c	

To aid pecuniary or otherwise, any association, body or movement having for its object the solution, settlement or surmounting of industrial or labour problems or trouble or the promotion of industry or trade.

33. To take all necessary steps for winding up of the company

Subject to the provisions of Companies Act, 2013 or any amendment or re-enactment thereof in the event of winding up to distribute among the members in specie any property of the Company or any proceeds of sale on disposal of any property in accordance with the provisions of the Act.

34. To do and perform all coincidental and ancillary acts for the attainment of its objects

To do all such other things as may be deemed incidental or conducive to the attainment of the above Objects or any of them and to carry on any business which may seem to the Company capable of being conveniently carried in connection with any of the Company's Objects or calculated directly or indirectly to enhance the value of or render profitable any of the Company's property or rights.

35. To take up studies and research experiments.

To establish, provide, maintain and conduct or otherwise subsidies research laboratories and experimental workshops for scientific, technical or researches, experiments and to undertake and carry on directly or in collaboration with other agencies scientific and technical research experiments and tests of all kinds and to process, improve and invent new products and their techniques of manufacture and to promote, encourage, reward in every manner studies and research, scientific and technical investigations and inventions of any kind that may be considered likely to assist, encourage and promote rapid advances in technology, economies, import substitution or any business which the Company is authorized to carry on.

36. To evolve scheme for restructuring or arrangement.

Subject to provisions of the Companies Act,2013, to evolve scheme for restructuring or arrangement, to amalgamate or merge or to enter into partnership or into any consortium or arrangement for sharing of profits, union of interests, co-operation, joint venture with any Person or Persons, partnership firm/firms, or company or companies carrying on or engaged in any operation capable of being conducted so conveniently in co-operation with the business of the Company or to benefit the Company or to the activities for which the Company has been established.

37. To apply for purchase, or otherwise acquire.

To apply for purchase, or otherwise acquire any trademarks, patents, brevets, inventions, licenses, concessions and the like, conferring any exclusive or nonexclusive or limited rights to use, or any secret or other information as to any invention which may be capable of being used for any of the purposes of the Company, or the acquisition of which may benefit the Company and to use, exercise, develop or grant licenses in respect of or otherwise turn to account the property, rights or information so acquired.

38. To sell, dispose or hive off an undertaking of the Company

To sell, dispose or hive off an undertaking of the Company or any part thereof for such consideration as the Company may think fit and in particular for shares, debentures or securities of any other association, corporation or company.

39. To sell, improve, manage, develop

To sell, improve, manage, develop, exchange, loan, lease or let, under-lease, sub - let, mortgage, dispose of, deal with in any manner, turn to account or otherwise deal with any rights or property of the Company.

40. To outsource parts of its activities

To outsource parts of its activities to achieve higher efficiencies and throughputs in the achievement of its business goals.

4. The liability of the member(s) is limited and this liability is limited to the amount unpaid, if any, on the shares held by them.

5.The share capita	of the company is	e company is 100,000.00		rupees, divided into	
10,000.00	Equity	shares of	10.00	rupees each	

We, the several persons, whose names and addresses are subscribed, are desirous of being formed into a company in pursuance of this memorandum of association, and we respectively agree to take the number of shares in the capital of the company set against our respective names:



					
Name, Address, Description and Occupation	Address, Description and Occupation DIN/PAN/Passport No. of shares Number taken		DSC	Dated	
PFC Consulting Limited, having its Registered office at First Floor, Urjanidhi, 1, Barakhamba Lane, Conaught Place, New Delhi 11000 through Sh. Manish Kumar Agarwal, S/o Sh. Narend Agarwal, R/o 41, 2nd floor, Gyan Khand- Ill, Indirapuram, Shipra Sun City, Ghaziabad, Uttar Pradesh- 201014 Occupation: Service		9400	Equity	MANISH KUMAR AGARWAL AGARWAL 20°91120	20/11/19
(as Authorised Signatory of PFC Consulting Limited) Yogesh Juneja S/o Sh. H.L. Juneja R/o Flat No. E-21, Seema CGHS, Plot No. 7, Sector 11, Dwarka, New Delhi - 110075 Occupation: Service (as Nominee of PEC Consulting Limited)	02913155	100	Equity	YOGE Gradly ended by SH VCGESH JUNEJ Date 11,16,00 40530'	20/11/19
(as Nominee of PFC Consulting Limited) Purna Chandra Hembram S/o. Sh. Shyam Sundar Hembram R/o Flat No.: 241, SRI Vinayak Apartment, Plot No.: 5 (Sector 22, Dwarka, New Delhi-110077 Occupation: Service (as Nominee of PFC Consulting Limited)	02750881 C,	100	Equity	PURNA Digitally signed CHAND The PURNA CHANDA CHAND	20/11/19
Neeraj Singh S/o. Sh. Dayashankar Singh R/o H.N. C-703, Crescent Appt, Sector-50, Noida, Gautam Budh Nagar, Noida- 201307 Occupation: Service	08613892	100	Equity	NEER agend by Agend Barrier Barr	20/11/19
(as Nominee of PFC Consulting Limited) Dharuman Manavalan S/o. Sh. Pamandi Chinnian Dharuman R/o A-703 Saheta Apartment, Plot No-30 Dwarka Sector-4, South West Delhi, Delhi 110078 Occupation: Service (as Nominee of PFC Consulting Limited)	08102722	100	Equity	D signed by D MANA MALAN Dete: VALAN 1119.00 +05'30'	20/11/19
SACHIN SHUKLA S/o. Sh. Raj Kumar Shukla R/o C5/804, PWO HOUSING COMPLEX Gautam Budh SECTOR-43, GURGAON-122002 Occupation: Service (as Nominee of PFC Consulting Limited)	08613963	100	Equity	SACHI Signed by Signed by N SHUKLA SH	20/11/19
Sanjay Nayak S/o. Sh. Jagabandhu Nayak R/o K 713, Jalvayu Tower, Sector 56, Gurgaon, Haryan 122011 Occupation: Service (as Nominee of PFC Consulting Limited)	08197193 na	100	Equity	SANJA Dignate solved y Sakuriv KUMAR Cumar bayan KUMAR Cumar bayan NAYAK	20/11/19
Total Shares taken	1	10,000. 0	OEquity		
	Signed before Me	•	<u> </u>	·	

Name		Address, Description and Occupation	Number/ Membership Number	DSC	Dated	260
ACS	Anuradha Jain	D-427, 2nd Floor, Ramphal Chowk, Palam Extn, Sector 7, Dwarka, New Delhi-110075 Occupation: Practicing Company Secretary	36639	Ahur alphed by Alumdha adha on the control of the c	20/11/19	

Modify

Check Form



[Pursuant to Schedule I (see Sections 4 and 5) to the Companies Act, 2013)] FORM NO. INC-34



(e-Articles of Association)

AOA	lang	uage	€ English ← Hindi				
SRM	of R	บก	Prefill				
*Tab	le F	as	notified under schedule I of the companies Act, 2013 is applicable to the company				
			KARUR TRANSMISSION LIMITED				
	A COMPANY LIMITED BY SHARES						
		Articl e No	Description				
			Interpretation				
	\square		(1) In the interpretation of these Articles, unless repugnant to the subject or context:-				
	\boxtimes		The Act means "The Companies Act, 2013 as amended from time to time and includes any statutory modification or re-enactment thereof for the time being in force.				
			"Articles" means the articles of association of a company as originally framed or as altered from time to time or applied in pursuance of any previous company law or of this Act.				
			"Auditor(s") mean and include persons appointed as such for the time being by the Comptroller & Auditor General of India.				
			"Board" or "Board of Directors", in relation to a company, means the collective body of the directors of the company.				
			"Books of account" includes records maintained in respect of— (i) all sums of money received and expended by a company and matters in relation to which the receipts and expenditure take place; (ii) all sales and purchases of goods and services by the company; (iii) the assets and liabilities of the company; and (iv) the items of cost as may be prescribed under section 148 in the case of a company which belongs to any class of companies specified under that section.				
			""Capital" means the share capital for the time being raised or authorized to be raised for the purpose of the Company.				
	i		"Company" Shall means "Karur Transmission Limited"				
			"Debenture" includes debenture stock, bonds or any other instrument of a company evidencing a debt, whether constituting a charge on the assets of the company or not.				
			"Director" means a director appointed to the Board of a company under Section 2(34) of the Act.				
			"Dividend" includes any interim dividend.				
			"Financial Institution" includes a scheduled bank, and any other financial institution defined or notified under the Reserve Bank of India Act, 1934.				
			"Gender" Words importing the masculine gender also include the feminine gender.				
			Generation Company shall mean any entity engaged in the business of generation of electricity.				
			"In writing" and "Written" include printing, lithography and other modes of representing or reproducing words in a visible form.				
			"key managerial personnel", in relation to a company, means—				

(i) the Chief Executive Officer or the managing director or the manager;

(ii) the company secretary;

- (iii) the whole-time director;
- (iv) the Chief Financial Officer; and
- (v) such other officer as may be prescribed.

"Meeting" means "Annual General Meeting" or "Extraordinary General Meeting" of Members duly called and constituted including an adjourned meeting. In the context of Board of Directors, it shall mean the meeting of the Directors including an adjourned meeting.

"Member", in relation to a company, means—

(i) the subscriber to the memorandum of the company who shall be deemed to have agreed to become member of the company, and on its registration, shall be entered as member in its register of members;

(ii) every other person who agrees in writing to become a member of the company and whose name is entered in the register of members of the company;

(iii) every person holding shares of the company and whose name is entered as a beneficial owner in the records of a depository.

"Month" means a calendar month.

"Office" means the Registered Office of the company for the time being.

"paid-up share capital" or "share capital paid-up" means such aggregate amount of money credited as paid-up as is equivalent to the amount received as paid up in respect of shares issued and also includes any amount credited as paid-up in respect of shares of the company, but does not include any other amount received in respect of such shares, by whatever name called;

"Persons" include Corporations and firms as well as individuals.

Power / Transmission Utility shall mean any entity engaged in the business of power / transmission.

"Proxy" includes Attorney duly constituted under a valid Power of Attorney.

A Director of the Company designated as Project In-charge for administrating day to day activities of the Company.

"Public Company" means a company which—

- a. is not a private company and
- b. has a minimum paid-up share capital as may be prescribed

Provided that a company which is a subsidiary of a company, not being a private company, shall be deemed to be public company for the purposes of this Act even where such subsidiary company continues to be a private company in its articles

""Registrar" means a Registrar, an Additional Registrar, a Joint Registrar, a Deputy Registrar or an Assistant Registrar, having the duty of registering companies and discharging various functions under this Act.

"Register of Members" means the Register of Members to be kept pursuant to the Act.

Section 2(76) of the Act describes "related party", with reference to a company, which means—

- (i) a director or his relative;
- (ii) a key managerial personnel or his relative;
- (iii) a firm, in which a director, manager or his relative is a partner;
- (iv) a private company in which a director or manager is a member or director;
- (v) a public company in which a director or manager is a director or holds along with his relatives, more than two per cent. of its paid-up share capital;
- (vi) any body corporate whose Board of Directors, managing director or manager is accustomed to act in accordance with the advice, directions or instructions of a director or manager;
- (vii) any person on whose advice, directions or instructions a director or manager is accustomed to act: Provided that nothing in sub-clauses (vi) and (vii) shall apply to the advice, directions or instructions given in a professional capacity;
- (viii) any company which is-
- (A) a holding, subsidiary or an associate company of such company; or
- (B) a subsidiary of a holding company to which it is also a subsidiary;
- (ix) such other person as may be prescribed.



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			"Seal" Means the common seal of the company for the time being.	263
			"Securities and Exchange Board" means the Securities and Exchange Board of India establishments and Securities & Exchange Board of India Act, 1992.	shed under
			"Securities" means the securities as defined in clause (h) of section 2 of the Securities Contract, 1956.	acts (Regulation)
			"Share" Means a share in the share capital of a company and includes stock.	
			"Share Capital" means the total equity share capital of the Company agreed to be issued and "Authorized Capital" of the Company, as mentioned in the Memorandum of Association of the	d called the e Company.
			"Singular Number" Words importing the singular number include, where the context admits the and vice-versa	ne plural number
			"State Electricity Board" means the Electricity Board or Vidyut Board or any other body by what called, set up by the State Governments under Electricity (Supply) Act 1948, as amended, which include its successors, administrators, authorized representatives and permitted assign	hich expression
			Transmission Company shall mean any entity engaged in the business of transmission of ele	ectricity.
			"Year" means English calendar year and "Financial Year" shall have the meaning assigned t 2(41) of the Act.	hereto by Section
			Unless the context otherwise requires, words or expressions contained in these regulations same meaning as in the Act or any statutory modification thereof in force at the date at which become binding on the company.	shall bear the n these regulations
			Marginal Notes are for ease of reference only and shall not affect the construction and interparticles	retation of these
			Other words or expressions contained in these Articles shall bear the same meaning as are in the Act or any statutory modifications thereof.	assigned to them
			(2) The regulations contained in Table F in the First Schedule to the Companies Act, 2013, sexcept to the extent that the same are repeated or contained or expressly made applicable by the Act but the regulations for the management of the Company and for the observance of thereof and their representatives shall, subject to any exercise of the statutory powers of the reference to the repeal or alteration of, or addition to its regulations by Special Resolution, as said Companies Act, 2013 be such as contained in these Articles.	by these Articles or of the members Company with
			(3) Business Purpose	
			The Company shall be engaged in the business of Transmission of Electricity, including conceptration, maintenance and other related activities.	struction,
			Share capital and variation of rights	
	\boxtimes		1.1. Share Capital / Increase of capital by the Company and how carried into	
_			The Authorized Share Capital of the Company is as mentioned in clause V of the Memorand of the Company. The Company in General Meeting may from time to time, by resolution, inclauthorized share capital by creation of new shares, such increase to be of such aggregate a divided into shares of such respective amounts as may be determined by the General Meetin provisions of the Act.	rease its mount and to be
			1.2 New Capital same as existing capital	
		П 1	Any capital raised by the creation of new shares shall be considered as part of the original casubject to the same provisions herein contained, with reference to the payment of calls and if forfeiture, lien, surrender, transfer and transmission, voting and otherwise.	apital, and shall be nstallments,
			1.3 Reduction of Capital	
			The Company may, from time to time, by special resolution reduce its capital, which may be or without extinguishing or reducing liability on shares, which is in excess of the wants of the canceling such share capital which has been lost or is unrepresented by available assets	paid off either with e company or
			smiss;	Page 3 of 3

		1.4 Subdivision and consolidation of shares
		The Company in general meeting may, from time to time, sub-divide or consolidate its shares or any of them and exercise any of the other powers conferred by Section 61 of the Act and shall file with the Registrar such notice of exercise of any such powers as may be required by the Act.
\boxtimes		2.1 Register and Index of Members/Beneficial owners
		The Company shall cause to be kept a Register and also an Index of Members and Debenture-holders in accordance with Sections 88 of the Act. Further, as permissible under Section 88 of the Act, the register and Index of beneficial owners maintained by a "Depository" shall be deemed to be the corresponding Register and Index for the purpose of this Act.
		2.2 Foreign Register of members
	2	The Company shall be entitled to keep in any country outside India a Foreign Register of members resident in that country, subject to compliance with the provisions of Section 88 of the Act.
		2.3 Shares to be numbered distinctively
		The shares in the capital held otherwise than in the depository mode shall be numbered progressively in sequence and given distinctive number, Except and in the manner herein mentioned, no share shall be forfeited or surrendered and shall continue to bear the number which it had originally borne.
		2.4 Share Application Money
	·	The Company shall ensure that the share application money paid is held by it in an account with a Scheduled Commercial Bank (in the name of the Company). Further Issue of Capital
\boxtimes		
	3	(a)Where at any time the Company wishes to raise its subscribed share capital by issue of further shares, it shall first offer such shares to its existing shareholders in proportion to their existing shareholdings on the date of such issue. Such offer to the existing shareholders shall be in accordance with the provisions of Section 62 of the Act.
		(b) The Company shall subject to applicable provisions of the Act and Articles of Association, make uniform calls from time to time upon all the Shareholders in respect of the moneys remaining unpaid on the issued share capital within 30 days or such time, as the Board may deem fit and appropriate.
		Shares under control of Directors
	4	Subject to the provisions of these Articles and of the Act, the shares including any shares forming part of any increased capital of the Company shall be under the control of the Directors, who may allot or otherwise dispose off the shares to such persons in such proportion, on such terms and conditions and at such times as the Directors may think fit and subject to the sanction of the Company in General Meeting, subject to the provisions of Sections 52 and section 54 of the Act at a premium or par and such option being exercisable for such time and for such consideration as the Directors think fit. The Board shall cause to be filed the returns as to allotment provided for in Section 39(4) of the Act.
		5.1 Issue of shares for consideration other than cash
		Subject to these Articles and the provisions of the Act, if any, the Board may issue and allot shares in the capital of the Company as payment or in consideration or as part payment or in part consideration of the purchase or acquisition of any property or for services, rendered to the Company in the conduct of its business and shares which may be so issued or allotted shall be credited or deemed to be credited as fully paid up or partly paid up shares.
	5	5.2 Power of Company to Issue Shares
	J	The Company in General Meeting may subject to the provisions of Section 42 & 62 of the Act provide that any shares (whether forming part of the original capital or of any increased capital of the Company) shall be offered to such persons (whether a Member or not), in such proportion and on such terms and conditions of the Act) at a premium or at par or at a discount, as such General Meeting shall determine and with full power to give any person (whether a Member or not) the option to call for or be allotted shares of any class of the Company either subject to compliance with the provisions of Sections 52 and 54 of the Act at a premium or at par or at discount, such option being exercisable at such times and for such consideration as may be directed by such General Meeting or the Company in General Meeting may make any other provisions whatsoever for the issue, allotment or disposal of any shares
		Anna and an an and an an an and an

			6.1 Acceptance of shares 265
			Any person applying for shares in the Company followed by an allotment of any shares and subscribers to the Memorandum, shall be a shareholder within the meaning of these Articles, and every person whose name is on the Register of Members shall, for the purposes of these Articles, be a Member of the Company.
			6.2 Deposit & call to be a debt payable Immediately
		6	The Money, (if any), which the Board shall, on the application for allotment of any shares being made by them, require or direct to be paid by way of deposit, call or otherwise, in respect of any shares allotted by them, shall immediately on the insertion of the name of the allottee in the Register of Members as the name of the holder of such shares, become a debt due to and recoverable by the Company from the allottee thereof, and shall be paid by him accordingly.
			6.3 Liability of Members
			Every Member, or his heirs, executors or administrators, shall pay to the Company the portion of the capital and premium, if any, represented by or payable on, his share or shares which may, for the time being, remain unpaid thereon, in such amounts, at such time or times and in such manner as the Board shall, from time to time, in accordance with the Company's regulations, require or fix for the payment thereof.
	\boxtimes		7.1 Share Certificates
			A certificate, issued under the common seal of the company, specifying the shares held by any person, shall be prima facie evidence of the title of the person to such shares.
			(a) Every Member or allottee of shares who is holding such shares in the physical form shall be entitled, without payment, to receive certificate specifying the name of the person in whose favour it is issued, the shares to which it relates and the amount paid-up thereof. Such certificates shall be issued only in pursuance of a resolution passed by the Board and on surrender to the Company of the letter of allotment or the fractional coupons of requisite value, save in case of issues against letters of acceptance or of renunciation or in cases of issue of bonus shares. Every such certificate shall be issued under the seal of the Company, which shall be affixed in the presence of two Directors and the Secretary or some other person appointed by the Board for the purpose, and the two directors and the Secretary or other persons as authorized by the Board shall sign the share certificate. Provided, if the composition of the Board permits of it, at least one of the aforesaid two directors shall be a person other than a Managing or a Whole Time Director. Particulars of every share certificate issued shall be entered in the Register of Members against the name of the person, to whom it has been issued, indicating the date of issue. For issue of any further duplicate certificate, the Board shall be entitled to charge such amount which shall not exceed fifty Rupees per Certificate.
			(b) A Director may sign a share certificate by affixing his signature thereon by means of any machine, equipment or other mechanical means such as engraving in metal or lithography, but not by means of a rubber stamp. PROVIDED that the Director shall be personally responsible for the safe custody of such machine equipment or other material used for the purpose.
			7.2 Renewal of Share Certificates
			(a) No certificate of any share or shares shall be issued either in exchange for those which are sub-divided or consolidated or in replacement of those which are defaced, mutilated, torn or old, decrepit, destroyed or where the pages on the reverse for recording transfers have been duly utilized, unless the certificate in lieu of which it is issued is surrendered to the Company and for issuing such share certificate the company may charge such fee as the Board thinks fit, not exceeding twenty rupees per certificate.
			(b) When a new share certificate has been issued in pursuance of clause (a) of this Article, it shall state on the face of it and against the stub or counterfoil to the effect that it is "Issued in lieu of share certificate No sub-divided/replaced/on consolidation."
			(c) If a share certificate is lost or destroyed a new certificate in lieu thereof shall be issued only with the prior consent of the Board and on such reasonable terms, such as furnishing supporting evidence and indemnity and the payment of out-of-pocket expenses incurred by the Company in investigating evidence produced, as the Board thinks fit.
Ur Trans	smis.	ion Limit	(d) When a new share certificate has been issued in pursuance of clause (c) of this Article, it shall state on the face of it and against the stub or counterfoil to the effect that it is "duplicate issued in lieu of share certificate No" and the word "duplicate" shall be stamped or printed prominently on the face of the share certificate.

		7	(e) Where a new share certificate has been issued in pursuance of clause (a) and/ or clause (c) of this Article, particulars of every such share certificate shall be entered in a Register of Renewed and Duplicate Share Certificates indicating against the name(s) of the person(s) to whom the certificate is issued, the number and date of issue of the share certificate in lieu of which the new certificate is issued and the necessary changes indicated in the Register of Members by suitable cross reference in the "Remarks" column.
			(f) All blank forms to be used for issue of share certificates shall be printed and the printing shall be done only on the authority of a resolution of the Board and the blank forms shall be consecutively machine-numbered and the forms and the blocks, engravings, facsimiles relating to the printing of such forms shall be kept in the custody of the Secretary or of such other person as the Board may appoint for the purpose; and the Secretary or the other person aforesaid shall be responsible for rendering an account of these forms to the Board.
			(g) The Committee of the Board, Company Secretary of the Company or a Director specifically authorized by the Board for such purpose shall be responsible for the maintenance, preservation and safe custody of all books and documents relating to the issue of share certificates including the blank forms of share certificates referred to in clause (f).
			(h) All books referred to in clause (g) shall be preserved in good order for not less than thirty years and in disputed cases shall be preserved permanently.
			7.3 Joint holders
			(a) Where two or more persons are registered as the holders of any share, they shall be treated as a single shareholder and shall be deemed to hold the same as joint holders with benefits of survivorship subject to the following and other provisions contained in these Articles.
			(b) The Company shall be entitled to decline to register more than four persons as the holders of any share.
			(c) The Joint holders of any share shall be liable, severally as well as jointly, for and in respect of all calls and other payments which ought to be made in respect of such shares.
			(d) On the death of any such joint holder, the survivor or survivors shall be the only person or persons recognized by the Company as having any title to the share, but the Directors may require such evidence of death as they may deem fit and nothing herein contained shall be taken to release the estate of the deceased joint holder from any liability on shares held by him jointly with any other person.
			(e) Delivery of share certificate to any one of such joint holders shall be deemed to be delivery to all of them and any one of such joint holders may give effectual discharge and receipts for any dividends or other moneys payable in respect of such shares and/or in respect of any other obligation of the Company towards them.
			(f) Only the person whose name stands in the Register of Members as the first of the joint holders of any shares shall be entitled to delivery of the certificate relating to such share or to receive notices from the Company, and any notice given to such person shall be deemed proper notice to all joint holders.
			(g) Any one of two or more joint holders may vote at any meeting either personally or by proxy in respect of such share as if he were solely entitled thereto, and if more than one of such joint holders be present at any meeting personally or by proxy, the holder whose name stands first or higher (as the case may be) on the Register of Members in respect of such share shall alone be entitled to vote in respect thereof.
			PROVIDED always that a member present at any meeting personally shall be entitled to vote in preference to a person present by proxy although the name of such person present by proxy stands first on the Register of Members in respect of such shares
		8	Subject to the provisions of section 55, any preference shares may, with the sanction of an ordinary resolution, be issued on the terms that they are to be redeemed on such terms and in such manner as the company before the issue of the shares may, by special resolution, determine.
_			Lien
	\boxtimes		Company to have lien on shares
]	٧	9	The Company shall have a first and paramount lien upon all shares (other than fully paid up shares) registered in the name of each member (whether solely or jointly with others) and upon the sale proceeds thereof, for all moneys (whether presently payable or not) called or payable at a fixed time in respect of all such shares (not being fully paid up) for all moneys presently payable by him or his estate to the Company. Any such lien shall extend to all dividends payable and bonuses declared from time to time declared in respect of such shares.



			Enforcing lien by sale 267
		10	For the purpose of enforcing such lien, the Board may sell the shares subject thereto in such manner as they shall think fit, and for that purpose it may cause to be issued a duplicate certificate in respect of such shares and may authorize one of their Directors to execute a transfer thereof on behalf of and in the name of the Board. No sale shall be made until notice period for making call as aforesaid have expired and until notice in writing of the intention to sell shall have been made known to the shareholder for default in payment and default has been made by him in the payment of money called in respect of such shares for thirty days after the date of such notice. Upon issue of a duplicate certificate or certificates in lieu of the original share, the certificate or certificates originally issued shall stand cancelled and become null and void and the same shall have no effect
			Application of proceeds of sale
		12	The net proceeds of any such sale shall be received by the Company and applied in or towards payment of such part of the amount as is presently payable and the residue, if any, shall (subject to a like lien for sums not presently payable as existed upon the shares before sale) be paid to the person entitled to the shares, at the date of the sale.
			Calls on shares
			13.1 Directors may make calls
			The Board may, from time to time, subject to the terms on which any shares may have been issued and subject to the conditions of allotment, by a resolution passed at a meeting of the Board (and not by resolution by circulation) make such call as it thinks fit upon the Members in respect of all moneys unpaid on the shares held by them respectively and each member shall pay the amount of every call so made on him to the person or persons and at the times and places appointed by the board. A call may be made payable by installments.
			13.2 Notice of calls
		13	Not less than thirty days' notice in writing of any call shall be given by the Company specifying the time and place of payment, and the person or persons to whom such call shall be paid.
			13.3 When call made
			A call shall be deemed to have been made at the time when the resolution of the Board authorizing such call was passed at a meeting of the Board and demand notice is issued.
			13.4 Calls may be revoked or postponed
			A call may be revoked or postponed at the discretion of the Board.
			Directors may extend time
		14	The Board may, from time to time at its discretion, extend the time fixed for the payment of any call, and may extend such time as to all or any of the Members for reasons which the Board may consider satisfactory, but no Member shall be entitled to such extension save as a matter of grace.
	\boxtimes		Calls to carry interest
		16	If any Member fails to pay any call due from him on the day appointed for payment thereof, or any such extension thereof as aforesaid, he shall be liable to pay interest on the same from the day appointed for the payment thereof to the time of actual payment at rate not exceeding 10 per cent per annum as maybe decided by the Board, but the Board may in its absolute discretion and in special circumstances waive or reduce the levy of interest as deemed appropriate.
			Sums deemed to be call
]	K Z	17	Any sum, which by the terms of issue of a share becomes payable on allotment or at any fixed date, whether on account of the nominal value of the share or by way of premium, shall, for the purposes of these Articles be deemed to be a call duly made and payable on the date on which by the terms of issue the same becomes payable, and in case of non-payment all the relevant provisions of these Articles as to payment of interest and expenses, forfeiture or otherwise shall apply as if such sum had become payable by virtue of a call duly made and notified.
			18.1 Partial payment not to preclude Forfeiture
	misc		Neither the receipt by the Company of a portion of any money which shall from time to time be due from any Member to the Company in respect of his shares, either by way of principal or interest nor any indulgence granted by the Company in respect of the payment of any such money, shall preclude the Company from
1100		11.0	

			thereafter proceeding to enforce a forfeiture of such shares as hereinafter provided.
			18.2 Payment in anticipation of calls may carry interest
		18	The Board may, if it thinks fit, agree to and in anticipation receive from any Member willing to advance the same, all of calls money or any part of the amounts of his respective shares beyond the sums actually called up, and upon the moneys so paid in advance, or upon so much thereof, from time to time, and at any time thereafter as exceeds the amount of the calls then made upon and due in respect of the shares on account of which such advances are made, the Board may pay or allow interest, at such rate as the Member paying the sum in advance and the Board agree upon. The Board may agree to repay at any time any amount so advanced or may at any time repay the same upon giving to the Member three months' notice in writing.
			PROVIDED that moneys paid in advance of calls on any shares may carry interest but shall not confer a right to dividend or to participate in profits.
			(b) No Member paying any such sum in advance shall be entitled to voting rights in respect of the moneys so paid by him until the same would but for such payment become presently payable.
			Transfer of shares
			19.1 Register of Transfers
			The Company shall maintain a Register of Transfers and therein shall be fairly and distinctively enter the particulars of every transfer or transmission of any share in the physical form.
			19.2 Form of transfer
			The instrument of transfer shall be in writing and in such form as prescribed under the Act. All the provisions of Section 56 of the Act shall be duly complied with in respect of all transfers and of the registration thereof. The Company shall not charge any fee for registration of a transfer of shares or debentures.
			19.3 Instrument of Transfer to be completed and presented to the Company
		19	The Instrument of Transfer duly stamped and executed by the transferor and the transferee shall be delivered to the Company in accordance with the provisions of the Act. The instrument of transfer shall be accompanied by the Share Certificate or such evidences the Board may require to prove the title of transferor and his right to transfer the shares and every registered Instrument of Transfer shall remain in the custody of the Company until destroyed by order of the Board. Any instrument of transfer which the Directors may decline to register shall be returned to the person depositing the same.
			19.4 Transferor deemed to be holder
			The transferor shall be deemed to be the holder of such shares until the name of the transferee shall have entered in the Register of Members in respect thereof. Before the registration of a transfer, the certificate or certificates of the shares must be delivered to the Company along with Transfer Deed.
			19.5 No transfer to insolvent etc.
			No transfer shall be made to a person of unsound mind or to an insolvent.
	\boxtimes		Closure of Register of Members/Debenture holders
		20	The Directors shall have power, on giving not less than seven days' previous notice as required by Section 91 of the Act, to close the Register of Transfer, Register of Members or Register of Debenture holders or the register of other security holders of the Company for any period or periods not exceeding in the aggregate forty-five days in each year (but not exceeding thirty days at any one time) as they may determine.
			Nomination by shareholder
		21	Every share-holder or debenture holder may at any time, nominate in the prescribed manner, a person to whom his shares or debenture shall vest in the event of his death, as provided in Section 72 of the Act.
	\boxtimes		Title to shares of deceased holder
			In the event there is no nomination, the executors or administrators of a deceased Member or the holder of a Succession Certificate in respect of the shares of a deceased Member (not being one of two or more joint includers) shall be the only persons whom the Company will be bound to recognize as having any title to the shares registered in the name of such Member, and the Company shall not be bound to recognize such
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		22	obtained probate or Letters of Administration or Succession Certificate as the case may be, from a duly constituted Court in India.
			PROVIDED that the Directors may, at their absolute discretion dispense with production of Probate, Letters of Administration or Succession Certificate upon such terms as to indemnity or otherwise as they think fit and may enter the name of the person who claims to be absolutely entitled to the shares standing in the name of a deceased Member, as a Member.
			Transmission of shares
			23.1 Transmission of Shares
		23	Subject to the provisions of the Act, any person becoming entitled to any share in consequence of the death, lunacy or insolvency of any Member or by any lawful means other than by a transfer in accordance with these Articles, may, with the consent of the Directors (which they shall be under no obligation to give) and upon producing such evidence that he sustains the character in respect of which he proposes to act under this. Article or of his title as the Directors may require, and upon such indemnity as the Directors may require, either be registered as a Member in respect of such shares or elect to have some person nominated by him and approved by the Directors registered as a Member in respect of such shares. PROVIDED that if such persons shall elect to have his nominee registered, he shall testify his election by executing in favor of his nominee an instrument of transfer in accordance with these Articles, and until he does so he shall not be freed from any liability in respect of such shares.
			23.2 Right of Board to decline or suspend registration
			 (i) Any person becoming entitled to a share in consequence of the death or insolvency of a member may, upon such evidence being produced as may from time to time properly be required by the Board and subject as hereinafter provided, elect, either (a) to be registered himself as holder of the share; or (b) to make such transfer of the share as the deceased or insolvent member could have made.
			(ii) The Board shall, in either case, have the same right to decline or suspend registration as it would have had, if the deceased or insolvent member had transferred the share before his death or insolvency.
П	\boxtimes		The Company not liable for disregard of notice prohibiting registration of transfer
		25	The Company shall incur no liability or responsibility whatever in consequence of its registering or giving effect to any transfer of shares made or purported to be made by any apparent legal owner thereof (as shown or appearing in register of Members) to the prejudice of persons having or claiming any equitable right, title or interest to or in the same shares, notwithstanding that the Company may have had notice of such equitable right, title or interest or notice prohibiting registration of such transfer, and may have entered such notice or referred to it in any book, or attended or given effect to any notice which may have been given to it of any equitable right, title or interest or be under any liability whatsoever for refusing or neglecting so to do though it may have been entered or referred to in some book of the Company, but the Company shall nevertheless be at liberty to regard and attend to any such notice and give effect thereto, if the Directors shall so think fit.
			Rights of successors
		20	A person becoming entitled to a share by reason of the death or insolvency of the holder shall be entitled to the same dividends and other advantages to which he would have been entitled if he were the registered holder of the shares, except that he shall not, before being registered as a Member in respect of the shares, be entitled to exercise any right conferred by membership in relation to meetings of the Company. PROVIDED that the Directors shall, at any time, give notice requiring any such person to elect to be registered himself or to transfer the shares, and if the notice is not complied within ninety days from the date of issue of the notice, the Directors may thereafter withhold payment of all dividends, bonuses or other moneys payable in respect of the shares until the requirements of the notice have been complied with.
			Forfeiture of shares
			27.1 If money payable on shares not paid notice to be given to members
			If any Member fails to pay any call, or installment of a call, on or before the day appointed for the payment of the same or any such extension thereof as aforesaid, the Board may, at any time thereafter, during such time as any part of the call or installment remains unpaid, serve a notice on him requiring him to pay the same together with any interest which may have accrued and all expenses that may have been incurred by the Company by reason of such non-payment.
		27	27.2 Contents of Notice

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			The notice shall name a further day (not being less than fourteen days from the date of the service of notice) and a place or places on and at which such call or installment and such interest thereon at such rate as the Directors shall determine from the day on which such call or installment ought to have been paid and expenses as aforesaid are to be paid. The notice shall also state that in the event of the non-payment on or before the day, at or before the time and at the place appointed, the shares in respect of which the call was made or installment is payable, shall be liable to be forfeited.
	\boxtimes	28	In default of payment, shares to be Forfeited If the requirement of any such notice as aforesaid are not complied with, every or any share in respect of which such notice has been given may, at any time thereafter, but before payment of all calls or installments, interest and expenses due in respect thereof, be forfeited by a resolution of the Board to that effect. Such forfeiture
			shall include all dividends declared or any other moneys payable in respect of the aforesaid share and not actually paid before the forfeiture. In default of payment, shares to be Forfeited. Notice of forfeiture to a Member
		29	When any share shall have been so forfeited, notice of the forfeiture shall be given to the Member in whose name it stood immediately prior to the forfeiture, and an entry of the forfeiture, with the date thereof, shall forthwith be made in the Register of Members, but no forfeiture shall be in any manner invalid by any omission or neglect to make any such entry as aforesaid in the Register.
			Forfeited share to be property of the Company and may be sold etc.
		30	Any share so forfeited shall be deemed to be the property of the Company, and may be sold, re-allotted, or otherwise disposed of, either to the original holder thereof or to any person, upon such terms and in such manner as the Board shall think fit.
	\boxtimes		Member still liable to pay calls owing at the time of forfeiture and interest
		31	Any members whose shares have been forfeited shall notwithstanding the forfeiture be liable to pay and shall forthwith pay to the Company, on demand, all calls, installment, interest and expenses owing upon or in respect of such shares at the time of the forfeiture together with interest accrued thereon at the time of the forfeiture at such rate as the Board may determine, and the Board may enforce the payment thereof, if it thinks fit.
	\boxtimes		32.1 Effect of forfeiture
			The forfeiture of a share shall involve extinction, at the time of the forfeiture, of all interest in and all claims and demands against the Company, in respect of the share and all other rights incidental to the share, except only such of those rights as by these Articles are expressly saved.
			32.2 Evidence of forfeiture
			A declaration in writing by Chairman or Managing Director of the Company or by any person duly authorised in this regard that certain shares in the Company have been duly forfeited on a date stated in the declaration, shall be conclusive evidence of the facts therein stated as against all persons claiming to be entitled to the shares and such declaration, and the receipt of the Company for the consideration, if any, given for the shares on the sale or disposition thereof shall constitute a good title to such shares and the person to whom the shares are sold shall be registered as the holder of such shares and shall not be bound to see as to the application of the purchase money nor shall his title to such shares be affected by any irregularity or invalidity in the proceedings in reference to such forfeiture, sale or disposition.
		32	32.3 Validity of sale under Articles of forfeited shares
			Upon any sale after forfeiture or for enforcing a lien in purported exercise of the powers herein before given, the board may appoint some person to execute an instrument of transfer of the shares sold and cause the purchaser's name to be entered in the Register of Members in respect of the shares sold, and the purchaser shall not be bound to see the regularity of the proceedings, or to the application of the purchase money, and after his name has been entered in the Register in respect of such shares the validity of the sale shall not be impeached by any person and the remedy of any person aggrieved by the sale shall be in damages only and against the Company exclusively.
			32.4 Cancellation of Share Certificates in respect of forfeited shares
6	smis.	Sio	Upon any sale, re-allotment or other disposal under the provisions of the preceding Articles, the certificate or certificates originally issued in respect of the relative shares shall (unless the same shall on demand by the Company have been (previously) surrendered to it by the defaulting member) stand cancelled and become null and void and of no effect, and the Directors shall be entitled to issue a duplicate certificate or certificates in
13/		13/	respect of the said shares to the person or persons entitled thereto.

		<u> </u>	Power to annul forfeiture 271
		33	The Board may at any time before any share so forfeited, shall have been sold, re-allotted or otherwise disposed of, annul the forfeiture thereof upon such terms and conditions as it thinks fit.
			Alteration of capital
	\boxtimes		The company may, from time to time, by ordinary resolution increase the share capital by such sum, to be divided into shares of such amount, as may be specified in the resolution.
			Subject to the provisions of section 61, the company may, by ordinary resolution, the Company may from time to time:
			(a) consolidate and divide all or any of its share capital into shares of larger amount than its existing shares;
			(b) convert all or any of its fully paid-up shares into stock, and reconvert that stock into fully paid-up shares of any denomination;
			(c) Sub-divide its shares, or any of them into shares of smaller amount than is fixed by the memorandum, so, however, that in the sub-division the proportion between the amount paid and the amount, if any, unpaid on each reduced share shall be the same as it was in the case of the share from which the reduced share is derived.;
		35	(d) Cancel any shares which as the date of the passing of the resolution, have not been taken or agreed to be taken by any person and diminish the amount of its share capital by the amount of the shares so cancelled.
			The resolution whereby any share is sub-divided may determine that, as between the holders of the shares resulting from such sub-division, one or more of such shares shall have some preference or special advantage as regards dividend, capital, voting or otherwise over or as compared with the others or other, subject, to the provisions of the Act.
			Subject to the provisions of Sections 66 of the Act, the Board may accept from any member the surrender on such terms and conditions as shall be agreed of all or any of his shares.
			The company may, by special resolution, reduce in any manner and with, and subject to, any incident authorised and consent required by law, (a) its share capital; (b) any capital redemption reserve account; or (c) any share premium account
			Capitalisation of profits
	\boxtimes		(1) Any General Meeting of the Company may resolve that any amounts standing to the credit of the Free Reserve or Share Premium Account or the Capital Redemption Reserve Account or any moneys, investment or other assets forming part of the undivided profits including profits or surplus moneys arising from the realization and (when permitted by the law) from the appreciation in value of any capital assets of the Company standing to the credit of the General Reserve or any other Reserve or Reserve Fund or any other Fund of the Company or in the hands of the Company and available for dividend be capitalized:-
			(a) by the issue and distribution of shares, as fully paid-up, and to the extent permitted by the Act, debentures, debenture stock, bonds or other obligations of the Company ; or
			(b) by crediting share of the Company, which may have been issued and are not fully paid-up, with the whole or any part of the sum remaining unpaid thereon;
			PROVIDED that any amounts standing to the credit of the Share Premium Account or the Capital Redemption Reserve Account shall be applied only in crediting the payment of capital on shares to be issued to Members as fully paid bonus shares (Further capitalization of reserve created by the revaluation of assets are not to be used for issuance of Bonus Shares as per section 63 of the Act).
		38	(2) Such issue and distribution under sub-clause (1) (a) of this Article and payment to the credit of unpaid share capital under sub-clause (1) (b) of this Article shall be made among and in favour of the Members or any class of them or any of them entitled thereto and in accordance with their respective rights and interests and in proportion to the amount of capital paid-up on the shares held by them respectively in respect of which such distribution or payment shall be made, on the footing that such Members become entitled thereto as capital.
25	niss	30	(3) The Directors shall give effect to any such resolution and for the said purpose the Board may settle any difficulty which may arise in regard to distribution as it thinks expedient including in regard to fractional

		entitlements, and shall apply such profits, General Reserve, other Reserve or any other Fund or account as aforesaid as may be required for the purpose of making payment in full on the shares, or other obligations of the Company so distributed under sub clause (1) (a) of this Article or (as the case may be) for the purpose of paying, in whole or in part, the amount remaining unpaid on the shares which may have been issued and are not fully paid-up under sub-clause (1)(b) above. PROVIDED that no such distribution or payment shall be made unless recommended by the Directors, and, if
		so recommended, such distribution and payment shall be accepted by such Members as aforesaid in full satisfaction of their interest in the said capitalized fund.
		(4) For the purpose of giving effect to any such resolution, the Directors may settle any difficulty which may arise in regard to the distribution or payment as aforesaid as they think expedient, and, in particular, they may issue fractional certificates and may fix the value for distribution of any specific asset and may determine that any cash payment be made to any Members on the footing of the value so fixed and may vest any such cash, shares, debentures stock, bonds or other obligations in trustees upon such trusts for the persons entitled thereto as may seem expedient to the directors, and generally may make arrangement for the acceptance, allotment and sale of such shares, debentures, debentures stock, bonds or other obligations and fractional certificates or otherwise as they may think fit.
		(5) When deemed requisite, a proper contract shall be filed in accordance with the Act and the Board may appoint any person to sign such contract on behalf of the Members entitled as aforesaid
\boxtimes	39	Subject to the provisions of the Act and these Articles, in cases where some of the shares of the Company are fully paid and others are partly paid, such capitalization may be effected by the distribution of further shares in respect of the fully paid shares and by crediting the partly paid shares with the whole or part of the unpaid liability thereon, but so that as between the holders of the fully paid shares and the partly paid shares, the sums so applied in the payment of such further shares and in the extinguishment or diminution of the liability on the partly paid shares shall be applied pro rata in proportion to the amount then already paid or credited as paid on the existing fully paid and partly paid shares respectively.
		Buy-back of shares
	40	Notwithstanding anything contained in these articles but subject to the provisions of sections 68 to 70 and any other applicable provision of the Act or any other law for the time being in force, the company may purchase its own shares or other specified securities.
		General meetings
\boxtimes	41	The Company shall in each year hold a General Meeting as its Annual General Meeting in addition to any other meeting in that year. All General Meetings other than Annual General Meetings shall be called Extraordinary General Meetings. If for any reason beyond the control of the Board, the general meeting (including an Annual General meeting) cannot be held on the appointed day, the Board shall have power to postpone the General meeting of which a notice should be given to the members. Every member of the Company shall be entitled to attend either in person or by proxy and the Auditor of the Company shall have the right to attend and to be heard at any General Meeting which he attends on any part of the business which concerns him as Auditor. 41.2 Extraordinary General Meeting
		The Board may, whenever it thinks fit, call an Extraordinary General Meeting of the Company. The Board shall at the requisition in writing by a Member or Members holding in the aggregate not less than one-tenth of such of the paid-up capital of the company on that date and carries the right of voting in regard to the matter in respect of which the requisition has been made.
\boxtimes		42.1 Requisition of Members to state object of Meeting Any valid requisition so made by Members must state the object or objects of the meeting proposed to be called, and must be signed by the requisitionists and deposited at the registered office of the company. PROVIDED that such requisition may consist of several documents in like form, each signed by one or more requisitionists.
		42.2 On receipt of requisition Directors to call meeting and in default requisitionists may do so

share capital held by all of them or one-tenth of such of the paid-up share capital of the Company as is referre to in Section 100(2) of the Act, whichever is less, may themselves call the meeting, but in either case, any meeting so called shall be held within three months from the date of the deposit of the requisition, as aforesaid. 42.3 Meeting called by requisitionists Any meeting called under the foregoing Articles by the requisitionists shall be called in the same manner, as nearly as possible, as that in which meetings are to be called by the Board. 42.4 Twenty-one days' notice of meeting to be given 42 A general meeting of a Company may be called by giving not less than clear twenty-one days' notice either in writing or through electronic mode in such a manner as may be prescribed. Every notice of a meeting shall specify the place, date, day and the hour of meeting, and shall contain statement of the business to be transacted at such meeting. And, The notice of every meeting shall be given to every member of the Company, Legal Representative of any deceased member or the assignee of an insolvent member, auditor or auditors of the Company and every director of the Company and all such persons as are under these Articles entitled to receive notice from the Company. Provided that a general meeting may be called after giving shorter notice than that specified in this subsection if consent, in writing or by electronic mode, is accorded thereto -(i) in the case of an annual general meeting, by not less than ninty-five per cent, of the members entitled to vote thereat; and (ii) in the case of any other general meeting, by members of the company— (a) holding, if the company has a share capital, majority in number of members entitled to vote and who represent not less than ninety-five per cent. of such part of the paid-up share capital of the company as gives a right to vote at the meeting; or (b) having, if the company has no share capital, not less than ninty-five per cent. of the total voting power exercisable at that meeting: Provided further that where any member of a company is entitled to vote only on some resolution or resolutions to be moved at a meeting and not on the others, those members shall be taken into account for the purposes of this sub-section in respect of the former resolution or resolutions and not in respect of the latter.". Proceedings at general meetings 43.1 Business to be transacted at the General Meeting and nature thereof \boxtimes In the case of an Annual General Meeting, all business to be transacted thereat shall be deemed special, other than (i) the consideration of the financial statements and the reports of the Board of Directors and Auditors; (ii) the declaration of any dividend; (iii) the appointment of Directors in place of those retiring; (iv) the appointment of, and the fixing of the remuneration of, the Auditors, and in the case of any other meeting, all business shall be deemed to be Special Business, and there shall be annexed to the notice of the Meeting an Explanatory statement setting out all material facts concerning each such item of special business, including in particular the nature of the concern or interest, financial or otherwise, if any, therein of (i) every Director, and the Manager (if any); (ii) every other key managerial personnel; and relatives of the persons mentioned in sub clauses (i) and (ii). Where any such item of Special Business relates to, or affects any other company, the extent of shareholding interest in such other company of every promoter, director and the manager, if any, and of every other key managerial personnel of the Company shall also be set out in the statement if the extent of such shareholding interest is not less than two per cent of the paid-up share capital of that other company and where any item of business consists of the according of approval to any documents by the meeting, the time and place where the document can be inspected shall be specified in the statement aforesaid. The annual general meeting shall be called during business hours on any day that is not a National Holiday and it is to be held either at the registered office of the company or at some other place within the city in which the registered office of the company is situate. 43.2 Omission to give notice not to invalidate a resolution passed The accidental omission to give any such notice as aforesaid to any of the Members, or the non-receipt thereof, shall not invalidate any resolution passed at any such meeting. 43.3 Meeting not to transact business not mentioned in notice 43

No General Meeting, Annual or Extraordinary, shall be competent to enter upon, discuss or transact any

business which has not been mentioned in the notice or notices, upon which it was convened.

		43.4 Body Corporate deemed to be personally present	274
		A body corporate being a Member shall be deemed to be personally present if it is represe with Section 113 of the Act.	nted in accordance
		43.5 Quorum at General Meeting	
		No business shall be transacted at any general meeting unless a quorum of members is prwhen the meeting proceeds to business.	esent at the time
		Save as otherwise provided herein, the quorum for the general meetings shall be as provide the Companies Act, 2013.	ed in section 103 of
		43.6 If quorum not present meeting to be dissolved or adjourned	
		If, at the expiration of half an hour from the time appointed for holding a general meeting of quorum is not present, the meeting, if convened by or upon the requisition of Members, sha but in any other case, the meeting shall stand adjourned to the same day in the next week public holiday, until the next succeeding day which is not a public holiday, at the same time such other day and at such other time & place as the Board may determine, and if at such a quorum is not present at the expiration of half an hour from the time appointed for holding Members present shall form the quorum, and may transact the business for which the mee	all stand dissolved, or, if that day is a and place, or to adjourned meeting the meeting, the
\boxtimes		44.1 Chairman of General Meeting	
		The Chairman of the Board shall be entitled to take the Chair at every General Meeting wh Extraordinary. If at any meeting the Chairman is not present within fifteen minutes of the tir holding such meeting or he has informed that he shall be unable or unwilling to take the Ch directors with mutual consent shall so preside at the meeting. If no Director be present or if present decline to take the Chair, then the Members present shall elect one of the member Chairman of the Meeting	ne appointed for nair then any one of all the Directors
		44.2 No Business whilst chair vacant	
		No business shall be discussed at any General Meeting except the election of a Chairman, vacant.	whilst the Chair is
		44.3 Chairman with consent may adjourn meeting	
	44	The Chairman, with the consent of the Members, may adjourn any meeting from time to tim place within the city, town or village in which the Registered Office of the Company is situal shall be transacted at any adjourned meeting other than the business left unfinished at the the adjournment took place. Notwithstanding, the provision as above in the event of disorder convened meeting the Chairman may adjourn the meeting provided that such an adjournm longer period than the Chairman considers necessary to being order at the meeting and Chairman considers necessary to being order at the meeting and Chairman considers necessary to being order at the meeting and Chairman considers necessary to being order at the meeting and Chairman considers necessary to be the communicates his decision to those present in so far as it is possible.	ted, but no business meeting from which er at a validly ent shall not be a
		44.4 Questions at General Meeting how Decided	
		Every question submitted to a meeting shall be decided in the first instance unless a poll is show of hands. Before or on the declaration of the result of the voting on any resolution on poll may be ordered to be taken by the Chairman of the meeting on his own motion and shataken by him on a demand made in that behalf by any member or members present in persholding shares in the Company, which confer a power to vote on the resolution not being let the total voting power in respect of the Resolution or on which an aggregate sum of not les rupees has been paid up. The demand for a poll may be withdrawn at any time by the persmaking the demand. Unless a poll is so demanded, a declaration by the Chairman that a reshow of hands, been carried through unanimously or by a particular majority or lost and an in the Minutes Book of the Company shall be conclusive evidence of the fact without proof proportion of the votes recorded in favour of or against the resolution.	a show of hands, a all be ordered to be son or by proxy, and ess than one-tenth of s than five lakh on or persons esolution has, on entry to that effect
		44.5 Chairman's Casting Vote	
		IIn the case of an equality of votes, the Chairman shall have a casting vote in addition to the which he may be entitled otherwise.	e vote or votes to



			45.1 Poll to be taken, if demanded 275
			If a poll is demanded as aforesaid, the same shall be taken at such time (not later than forty-eight hours from the time when the demand was made) and place in the city or town in which the Registered office of the Company is for the time being situated, as the Chairman shall direct, either at once or after an interval or adjournment and the result of the poll shall be deemed to be the resolution of the meeting.
		45	45.2 In which case poll taken without Adjournment
		45	Any poll duly demanded on the election of the Chairman of a meeting or on any question of adjournment shall be taken at the meeting forthwith.
			45.3 Demand for poll not to prevent transaction of other business
			The demand for a poll except on the questions of the election of the Chairman and of an adjournment shall not prevent the continuance of a meeting for the transaction of any business other than the question on which the poll has been demanded.
	\boxtimes		46.1 Minutes of General Meetings
			(a) The Company shall cause minutes of the proceedings of every General Meeting or every resolution passed by postal ballot to be kept by making within thirty days of the conclusion of every such meeting concerned, record thereof kept with Minute Book for that purpose with their pages consecutively numbered.
			(b) Each page of every such book shall be initialed or signed and the last page of the record of proceedings of each meeting in such book shall be dated and signed by the Chairman of the same meeting within the aforesaid period of thirty days or in the event of the death or inability of that Chairman within that period, by a Director duly authorised by the Board for the purpose.
			(c) In no case the minutes of proceedings of a meeting shall be attached to any such book as aforesaid by pasting or otherwise.
			(d) The minutes of each meeting shall contain a fair and correct summary of the proceedings thereat.
			(e) All decisions taken and appointments of officers made at any meeting aforesaid shall be included in the minutes of the meeting.
		46	(f) Nothing herein contained shall require or be deemed to require the inclusion in any such minutes of any matter which in the opinion of the Chairman of the meeting (a) is or could reasonably be regarded as defamatory of any person, or (b) is irrelevant or immaterial to the proceedings, or (c) is detrimental to the interests of the Company. The Chairman of the meeting shall exercise an absolute discretion in regard to the inclusion or non-inclusion of any matter in the minutes on the aforesaid grounds.
			(g) Any such minutes shall be evidence of the proceedings recorded therein. Where the minutes have been kept in accordance with section then, until the contrary is proved, the meeting shall be deemed to have been duly called and held, all appointments of directors, key managerial personnel, auditors or company secretary in practice, shall be deemed to be valid. No document purporting to be a report of the proceedings of any general meeting of a company shall be circulated or advertised at the expense of the company, unless it includes the matters required to be contained in the minutes of the proceedings of such meeting. The company shall observe secretarial standards with respect to general and Board meetings specified by the Institute of Company Secretaries of India constituted under section 3 of the Company Secretaries Act, 1980, and approved as such by the Central Government.
			(h) The book containing the minutes of the proceedings of any general meeting of the Company or of a resolution passed by postal ballot, shall be kept at the registered office of the Company and shall be open, during business hours, to the inspection by any member without any charge, for such period not being less than two hours in each business day are allowed for inspection.
			Adjournment of meeting
	\boxtimes		Adjournment of Meeting
			(i) The Chairperson may, with the consent of any meeting at which a quorum is present, and shall, if so directed by the meeting, adjourn the meeting from time to time and from place to place.
		47	(ii) No business shall be transacted at any adjourned meeting other than the business left unfinished at the meeting from which the adjournment took place.
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			(iii) When a meeting is adjourned for thirty days or more, notice of the adjourned meeting shall be given as in the case of an original meeting.
			(iv) Save as aforesaid, and as provided in section 103 of the Act, it shall not be necessary to give any notice of an adjournment or of the business to be transacted at an adjourned meeting
			Voting rights
	\boxtimes		Members in arrears not to vote
		48	No member shall be entitled to vote either personally or by proxy at any General Meeting or Meeting of a class of shareholders either upon a show of hands or upon a poll in respect of any shares registered in his name on which any calls or other sums presently payable by him have not been paid or in regard to which the Company has exercised any right of lien.
			Number of votes to which Member Entitled
		49	Subject to the provisions of these Articles and without prejudice to any special privileges or restrictions as to voting for the time being attached to any class of shares for the time being forming part of the capital of the Company, every Member shall be entitled to be present, and to speak and vote at such meeting by show of hand for which the Member present in person shall have one vote. On a poll taken at a meeting of a company, a member entitled to more than one vote, or his proxy, need not to use all his votes or cast in the same way all the votes he uses.
	\boxtimes		Votes by a Member entitled to more than one vote
		50	On a poll taken at a meeting of the Company, a Member entitled to more than one vote by virtue of his shareholding or his proxy or other person entitled to vote for him, as the case may be, need not, if he votes, use all his votes or cast in the same way all the votes he uses and he may vote in different manner as he deems fit.
	\boxtimes	5 4	Vote of Member who is a minor
		51	If any shareholder be a minor, the vote in respect of his share or shares shall be by his guardian, or any one of his guardians, if more than one, to be selected in case of dispute by the Chairman of the meeting.
	\boxtimes		Votes of Joint Members
		52	If there be joint registered holders of any shares, the vote of the senior who tenders a vote, whether in person or by proxy, shall be accepted to the exclusion of the votes of the other joint holders. For this purpose, seniority shall be determined by the order in which the names stand in the register of members.
	\boxtimes		Voting in person or by proxy or Representative
		53	Subject to the provisions of these Articles, votes may be given either personally or by proxy. A body corporate being a Member may vote either by proxy or by a representative duly authorised in accordance with Section 113 of the Act and such representative shall be entitled to exercise the same rights and powers (including the right to vote by proxy) and by postal ballot, on behalf of the body corporate which he represents as that body could exercise if it were an individual Member of the Company.
	\boxtimes		54.1 Votes in respect of shares of Deceased
			Any person entitled under the Transmission Clause to transfer any shares may vote at any General Meeting in respect thereof in the same manner as if he were the registered holder of such shares.
			PROVIDED that fortyeight hours at least before the time of holding the meeting or adjourned meeting, as the case may be, at which he proposes to vote he shall satisfy the Chairman of his right to transfer such shares and give such indemnity (if any) as the Chairman may require or the Chairman shall have previously admitted his right to vote at such meeting in respect thereof.
		54	54.2 Time for objection to vote
			No objection shall be made to the validity of any vote, except at the meeting or poll at which such vote was tendered, and every vote whether given personally or by proxy, not disallowed at such meeting or poll, shall be deemed valid for purposes of such meeting or poll whatsoever.
			54.3 Chairman of the meeting to be the judge of the validity of any Vote
25	miss		The Chairman of any meeting shall be the sole judge of the validity of every vote tendered at such meeting. The Chairman present at the taking of a poll shall be the sole judge of the validity of every vote tendered at such poll.

	T		Proxy 277
			55.1 Appointment of proxy
			A person can act as proxy on behalf of members not exceeding fifty and holding in the aggregate not more than ten percent of the total share capital of the company carrying voting rights:
			Provided that a member holding more than ten percent of the total share capital of the Company carrying voting rights may appoint a single person as proxy and such person shall not act as proxy for any other person or shareholder.
		55	Every proxy shall be appointed in writing under the hand of the Member or if such Member is a body corporate under the common seal of such corporation, or be signed by an appointer or his attorney duly authorised in writing. The proxy so appointed shall not have any right to speak at the meetings.
			55.2 Deposit of instrument of Proxy etc.
			The instrument appointing a proxy and the power of attorney or other authority (if any), under which it is signed or a notarized copy of that power or authority, shall be deposited at the Registered Office of the Company not later than forty-eight hours before the time for holding the meeting at which the person named in the instrument proposes to vote, and in default, the instrument of proxy shall not be treated as valid. No instrument appointing a proxy shall be valid after the expiration of twelve months from the date of its execution.
			Form of proxy
		56	An instrument appointing a proxy shall be in the form No. MGT-11 as prescribed in the rules made under section 105 of the Companies Act, 2013
			57.1 Proxy either for specified meeting or for a period
			An instrument of proxy may appoint a proxy either for the purpose of a particular meeting specified in the instrument and any adjournment thereof or it may appoint for the purpose of every meeting of the Company, or of every meeting to be held before a date specified in the instrument and every adjournment of any such meeting.
		57	57.2 Validity of votes given by proxy notwithstanding death of Member
			A vote given in accordance with the terms of an instrument of proxy shall be valid, notwithstanding the previous death or insanity of the principal or the revocation of the proxy or of the authority under which the proxy was executed, or the transfer of the shares in respect of which the proxy is given.
			Provided that no intimation in writing of such death, insanity, revocation or transfer shall have been received by the company at its office before the commencement of the meeting or adjourned meeting at which the proxy is used.
			Board of Directors
			58.1 Management of Affairs
		58	The day to day management of the business and affairs of the Company shall be vested with Project-in-charge under the supervision, direction & control of the Board. The Board, may exercise all such powers of the Company and do all such acts, deeds and things as are not prohibited by the Act or any other statute or by the Memorandum of Association of the Company and without prejudice to the foregoing, shall be responsible for all policy matters and the supervision, direction and control of the conduct of the business, affairs & operations of the Company.
			58.2 First Directors
			Shri Neeraj Singh, Shri Sachin Shukla and Shri Sanjay Nayak shall be the First Directors of the Company.
			59.1 Number and appointment of Directors
			The Board of Directors of the Company shall consist of not less than 3 but not more than 15 Directors. A Director shall not be required to hold any qualification shares in the Company.
100	niss	93	Notwithstanding anything to the contrary contained in these Articles, so long as any moneys remain owing by the Company to a Financial Institution or any other person by the Company or the Company has entered into any agreement or undertaking or arrangement (hereinafter refer as "agreement") with Bodies (like State Electricity Board/Nigam) or the Board of Directors have decided to seek nomination on the Board from the
-1	N	151	

beneficiary state or any Financial Institution or PFC Consulting Limited or person holds Debentures in the Company by direct subscription or private placement, the Company may agree to grant to such Financial Institution, PFC Consulting Limited, person or other Bodies as a condition of such loan or subscription to Debenture or any other agreement or to a Debenture Trustee, the right to appoint from time to time any person or persons as Director or Directors of the Company, (which director or directors is /are hereinafter referred to as "Nominee Director/s"), retiring or non-retiring, subject to and on such terms and conditions as the Company may agree with such Financial Institutions, PFC Consulting Limited, Person, other Bodies and/or Debenture Trustee. The Company shall have a right to remove from office Nominee Director(s) at the option of the Company in consultation with Financial Institutions, PFC Consulting Limited, Bodies, persons or Debenture Trustee.

Such Nominee Director(s) shall not be required to hold any Share qualification in the Company. Also at the option of the Company such Nominee Director(s) shall not be liable to retirement by rotation of the Directors. Subject as aforesaid, the Nominee Director(s) shall be entitled to the same rights and privileges and be subject to the same obligations as any other Director of the Company.

The Nominee Director(s) so appointed shall hold the said office only so long as moneys remain owing by the Company to the Financial Institution or so long as the Debenture Trustee hold debenture in the Company or operation of agreement and the Nominee Director/s so appointed in the exercise of the said person shall ipso facto vacate such office immediately the money owing by the Company to the Financial Institution, or on the Debenture Trustee ceasing to hold Debentures/ Shares on the satisfaction of liability of the Company arising out of any Guarantee furnished by the Financial Institutions or satisfactory completion of term of agreement with Bodies.

The Nominee Director(s) appointed under this article shall be entitled to receive all notice of and attend all General meeting, Board Meeting and of the meetings of the Committee of which the Nominee Director(s) is/are member(s) as also the minutes of meetings. The financial institutions/Debenture Trustee/persons/bodies shall also be entitled to receive all such notice and minutes.

The Company shall pay to the Nominee Director(s) sitting fees and expenses which other Director of the Company are entitled, but if any other fees, commission, remuneration in any form is payable to the Director of the Company the fees, commission, money and remuneration in relation to such Nominee Director(s) shall accrued to Debenture Trustee and same shall accordingly be paid by the Company directly to the debenture trustee. Any expenses that may incurred by the financial institution or such Nominee Director(s) in connection with their appointment or Directorship shall also be paid or reimbursed by the Company to the financial Institution or as the case may be to such Nominee Director(s).

Provided that if any such Nominee Director(s) is/are an officer of the Financial Institution, the sitting fees in relation to such Nominee Director(s) shall also accrue to the Financial Institute and the same shall accordingly be paid by the Company directly to that Financial Institution.

Provided further that if such Nominee Director(s) is/are an official of any of the Reserve Bank of India, the sitting fees in relation to such Nominee Director(s) shall also accrue to Financial Institution to whom he represents as Nominee Director from Reserve Bank of India and the same shall accordingly be paid by the Company directly to that Financial Institution.

Provided also that in the event of the Nominee Director(s) being appointed as Whole Time Director(s) such Nominee Director(s) shall exercise such powers and duties as may be approved by the Lenders or Bodies in consultation with Board and have such rights as are usually exercised or available to a Whole Time Director, in management of the Borrower or Bodies and such Nominee Director(s) shall be entitled to receive such remuneration fees commission and moneys as may be approved by the Lenders or Bodies in consultation with Board.

59.2 Company may increase the number of Directors

Subject to Section 149 of the Act, the Company may subject to special resolution in General Meeting increase the maximum number of Directors.

Further the Company may, subject to the provisions of Section 169 of the Act, by passing the ordinary resolution in the General Meeting of the members, may remove any Director before the expiration of his period of office and appoint another person in the place of director so removed.

59.3 Appointment of Alternate Directors

In accordance with Section 161 and other applicable provisions (if any) of the Act, the Board shall have power at any time and from time to time, to, appoint a person, not being a person holding any alternate directorship

for any other Director in the Company, to act as an alternate director for a director (hereinafter called "the original Director") during his absence for a period of not less than three months from India. 59.4 Directors' power to fill up casual Vacancies Casual vacancies among Directors may be filled by the Board of Directors at their meeting and any person so appointed shall hold the office as per the provision of section 161. 59.5 Appointment of Additional Director Subject to the provisions of Section 161 and other applicable provisions (if any) of the Act, the Board shall have power at any time and from time to time, to appoint a person as an Additional Director but so that the total number of Directors shall not at any time exceed the maximum number fixed by these Articles. The Additional Director so appointed shall retire from Office at next following Annual General Meeting but shall be eligible for election by the company at that meeting as a Director. 59.6 Directors may act notwithstanding any vacancy The continuing Directors may act notwithstanding any vacancy in their body, but if, and so long as their number is reduced below the minimum number fixed by Article 100 thereof, the continuing Directors may act for the purpose of increasing the number of Directors to that number, or of summoning a General Meeting for that purpose. 60.1 Remuneration of Directors \boxtimes Subject to the provisions of the Act, the Chairman or Managing Director or any other functional Directors who is/are in the whole-time employment of the Company may be paid remuneration either by way of a monthly payment or at a specified percentage of the net profit of the Company or partly by one way and partly by the other, keeping in view the limiting provisions governing the Managerial remuneration under the provisions of the Act. Subject to the provisions of the Act, a Director, who is neither in the whole-time employment nor a Chairman cum Managing Director of the Company may be paid remuneration either:-(a) by way of monthly, quarterly or annual payment with the approval of the Central Government, or (b) by way of commission if the Company by a special resolution authorizes such payment; and 60 The sitting fee payable to a Director (excluding Whole-time Director) for attending a meeting of the Board or Committee thereof shall be such sum as may be fixed by the Board provided that the same shall not exceed Rs. 1,00,000/- or such other sum as prescribed in the Act as amended from time to time. 60.2 Travelling expenses incurred by Director going out on Company's Business The Board may allow and pay to any Director who is not a bona-fide resident of the place where the Registered Office of the Company or where the meetings of the Board are actually held and who has to come to such place for the purpose of attending any meeting, such sum as the Board may consider fair compensation for travelling, boarding, lodging and other actual incidental expenses, in addition to his fee for attending such meeting as specified above. If any Director be called upon to go or reside out of the bonafide place of his residence on the Company's business, he shall be entitled to be paid and reimbursed any travelling or other actual expenses incurred by him in connection with the business of the Company. When office of Directors to become Vacant \boxtimes Subject to Section 167 of the Act, the office of a Director shall become vacant if:-(a) he incurs any of the disqualifications specified in section 164 under the act; (b) he absents himself from all the meetings of the Board of Directors held during a period of twelve months with or without seeking leave of absence of the Board; (c) he acts in contravention of the provisions of entering into contracts or arrangements in which he is directly or indirectly interested; (d) he fails to disclose his interest in any contract or arrangement in which he isdirectly or indirectly interested; (e) he becomes disqualified by an order of a court or the Tribunal; (f) he is convicted by a court of any offence, whether involving moral turpitude or otherwise and sentenced in respect thereof to imprisonment for not less than six months: Provided that the office shall be vacated by the director even if he has filed an appeal against the order of such (g) he is removed in pursuance of the provisions of this Act; (h) he, having been appointed a director by virtue of his holding any office or other employment in the holding, subsidiary or associate company, ceases to hold such office or other employment in that company.

			Directors may contract with Company	280
			Except with the consent of the Board of Directors given by a resolution at a meeting of the to such conditions, the company shall not enter into any contract or arrangement with a respect to—	Board and subject
		60	(a) sale, purchase or supply of any goods or materials; (b) selling or otherwise disposing of, or buying, property of any kind; (c) leasing of property of any kind;	
		62	(d) availing or rendering of any services; (e) appointment of any agent for purchase or sale of goods, materials, services or propert (f) such related party's appointment to any office or place of profit in the company, its subs	
			associate company; (g) underwriting the subscription of any securities or derivatives thereof, of the company.	
			Every contract or arrangement entered as related party transaction shall be referred in the the shareholders along with the justification for entering into such contract or arrangement 63.1 Disclosure of interest by Directors	
	\boxtimes			
			1) Every Director of the Company, who is in any way, whether directly or indirectly, concer a contract or arrangement, or proposed by Directors interested in a contract or arrangement contract or arrangement entered into or to be entered into, by or on behalf of the Company nature of his concern or interest at every financial year or whenever there is change in the interest.	nt, or proposed y, shall disclose the
			(2) Nothing in sub-clause (1) of this Article shall apply to any contract or arrangement entered into between the Company and any other company, where any of the Directors of or more of the Directors together holds or hold not more than two per cent of the paid-up so other company	the Company or two
		63	63.2 Interested Directors not to participate or vote in Board's proceedings	
			An interested director, who is in any way, whether by himself or through any of his relative corporate or other association of individuals in which he or any of his relatives is a partner member, interested in a contract or arrangement, or proposed contract or arrangement, en entered into by or on behalf of a company, shall, take any part in the discussion of, or vote arrangement entered into, or to be entered into, by or on behalf of the Company, if he is in directly or indirectly, concerned or interested in such contract or arrangement, nor shall his the purpose of forming a quorum at the time of any such discussion or vote, and if he does be void.	director or a ntered into or to be on any contract or any way, whether presence count for
			A contract or arrangement entered into by the company without disclosure or with participal who is concerned or interested in any way, directly or indirectly, in the contract or arranged voidable at the option of the company.	ation by a director ment, shall be
	\boxtimes		64.1 Register of Contracts in which Directors are interested	
			The company shall keep registers in accordance with Section 189(1) giving separately the contracts or arrangements to which to matter of disclosure of interest by directors and rela applies, in such manner and containing such particulars as may be prescribed and after eleparticulars, such registers shall be placed before the next meeting of the Board and signed present at the meeting and shall within thirty days of appointment make such disclosure as the purpose of same.	ted party transaction ntering the d by all the directors
		64	The Register shall be kept at the Registered office of the Company and shall be open to in office shall be open for inspection at such office during business hours and extracts may be and copies thereof as may be required by any member of the company shall be furnished such extent, in such manner, and on payment of same fee as in the case of the Register of Company.	e taken there from, by the company to
			64.2 Director may be Director of companies promoted by the Company	
	1		A Director may become a Director of any other company promoted by the Company, or in interested as a vendor, shareholder, or otherwise and no such Director shall be accountable received as Director or shareholder of such a company except in so far as Section 188 of	le for any benefits
1	nsm.	ission	applicable.	
1/4	1	1	64.3 Register of Directors and key managerial personnel and their Shareholding	

			The Company shall keep at its registered office a Register containing such particulars of its Directors and key managerial personnel, Manager as may be prescribed under Section 170 of the Act and shall comply with the provisions of the said Section in all respects. The register shall include the details of securities held by each of them in the company or its holding, subsidiary, subsidiary of company's holding company or associate companies.
			Proceedings of the Board
			65.1 Meetings of Directors
		65	The Directors may meet together as a Board for the dispatch of business from time to time, so that at least four such meetings shall be held in every year in such a manner that not more than one hundred and twenty days shall intervene between two consecutive meetings of the Board. The Directors may adjourn and regulate their meetings as they think fit.
			65.2 Board may appoint Chairman
			All meetings of the Directors shall be presided over by the Chairman, if present, but if at any meeting of the Directors, the Chairman is not present at the time appointed for holding the same then in that case the Directors shall choose one of the Directors present to preside over the meeting.
	\boxtimes		Certain persons not to be appointed Chairman & Managing Directors & Functional Director
		66	The Company shall not appoint a person as its Chairman, Managing Director or Whole-time Director who: (a) is an undischarged insolvent, or had at any time been adjudged an insolvent; (b) is or has at any time been, convicted by a Court of an offence involving moral turpitude.
	\boxtimes		67.1 Notice of Director's Meeting
			A meeting of the Board shall be called by giving not less than seven days' notice in writing to every director at his address registered with the company and such notice shall be sent by hand delivery or by post or by electronic means. Board may be called at shorter notice to transact urgent business where at least one independent director, if any, shall be present.
			Every notice convening a meeting of the Board of Directors shall set out the agenda of the business to be transacted thereat in sufficient detail provided however that the meeting may consider any other business with the permission of the chair.
		67	67.2 When meeting to be convened
		07	The Company Secretary or any director of the Company may, as and when directed by the Chairman to do so, convene a meeting of the Board by giving a notice in writing to every Director.
			67.3 Quorum at Board Meeting
			No business shall be transacted at any Board meeting unless a quorum of Board of Director is present at the time when the meeting proceeds to business.
			67.4 Questions at Board meetings how to be decided
			All questions arising at a Meeting of the Board or any committee thereof shall be decided by majority of votes of directors present and in case of equality of votes, the Chairperson shall have a second and casting vote.
			68.1 Committee of Board
			Subject to the restrictions contained in Section 179, 180 and other applicable provisions of the Act and preceding Articles, the Board may delegate any of its powers to Committees of the Board consisting of such member or members of its body as it may think fit.
		68	PROVIDED that the Board may, from time to time, revoke, modify and discharge any such Committee of the Board either wholly or in part. Every Committee of the Board so formed shall in the exercise of the powers so delegated conform to any Policy/regulations that may, from time to time, be laid down by the Board. All acts done by any such Committee of the Board in conformity with such regulations and in fulfillment of the purposes of their appointment shall have the like force and effect as if done by the Board.
			68.2 Meeting of Committee how to be Governed
500	miss	(3)	The meetings and proceedings of any such Committee of the Board consisting of two or more members shall

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\boxtimes		Defects in appointment of Directors not to invalidate actions taken
	70	All acts done by any meeting of the Board, or by a Committee of the Board, or by any person acting as a Director shall notwithstanding that it was subsequently noticed that there was some defect in the appointment of such Director or persons acting as aforesaid, or that they, or any of them, were disqualified or had vacated office or that the appointment of any of them had been terminated by virtue of any provisions contained in the Act or these Articles, be as valid as if every such person had been duly appointed and was qualified to be a
		Director and had not vacated his office or his appointment had not been terminated.
		PROVIDED that nothing in this Article shall be deemed to give validity to acts done by a Director after his appointment had been noticed by the Company to be invalid or to have terminated.
\boxtimes		Minutes of proceedings of meetings of the Board
		(a) The Company shall cause minutes of all proceedings of every meeting of the Board and committee thereof to be kept by making within thirty days of the conclusion of every such meeting record thereof in Minute Book kept for that purpose with their pages consecutively numbered.
		(b) Each page of every such book shall be initialed or signed and the last page of the record of proceedings of each meeting in such book shall be dated and signed by the Chairman of the said meeting or the Chairman of the next succeeding meeting.
		The minute books of the Board and committee meetings shall be preserved permanently and kept in the custody of the company secretary of the company or any director duly authorized by the Board for the purpose and shall be kept in the registered office or such place as Board may decide.
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	71	The minutes shall also contain:-
	71	(i) the names of the Directors present at the meeting;
	71	
	71	(i) the names of the Directors present at the meeting; And (ii) in the case of each resolution passed at the meeting, the names of the Directors, if any, dissenting from, or not concurring with the resolution. Nothing deemed to require the inclusion in any such minutes of any matter which, in the opinion of the
	71	(i) the names of the Directors present at the meeting; And (ii) in the case of each resolution passed at the meeting, the names of the Directors, if any, dissenting from, or not concurring with the resolution.
	71	(i) the names of the Directors present at the meeting; And (ii) in the case of each resolution passed at the meeting, the names of the Directors, if any, dissenting from, or not concurring with the resolution. Nothing deemed to require the inclusion in any such minutes of any matter which, in the opinion of the Chairman of the meeting – (i) is, or could reasonably be regarded as, defamatory of any person. (ii) is irrelevant or immaterial to the proceedings, or (iii) is detrimental to the interests of the Company. The Chairman shall exercise an absolute discretion in regard to the inclusion or non-inclusion of any matter in the minutes on the grounds specified in this subclause. (c) Minutes of meetings kept in accordance with the aforesaid provisions shall be evidence of the proceedings
\bowtie	71	(i) the names of the Directors present at the meeting; And (ii) in the case of each resolution passed at the meeting, the names of the Directors, if any, dissenting from, or not concurring with the resolution. Nothing deemed to require the inclusion in any such minutes of any matter which, in the opinion of the Chairman of the meeting – (i) is, or could reasonably be regarded as, defamatory of any person. (ii) is irrelevant or immaterial to the proceedings, or (iii) is detrimental to the interests of the Company. The Chairman shall exercise an absolute discretion in regard to the inclusion or non-inclusion of any matter in the minutes on the grounds specified in this subclause.
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General Body, it is hereby declared that the Directors shall have the following powers, that is to say, power:-

- (1) to pay and charge to the capital account of the Company any commission or interest lawfully payable there out under the provisions of Sections 40 of the Act;
- (2) Subject to Sections 179 and 180 of the Act, to purchase or otherwise acquire for the Company any property, rights or privileges which the Company is authorised to acquire, at or for such price or consideration and generally on such terms and conditions as they may think fit, and in any such purchase or other acquisition to accept such title as the Directors may believe or may be advised to be reasonably satisfactory;
- (3) At their discretion and subject to the provisions of the Act, to pay for any property, rights or privileges acquired by, or services rendered to, the Company either wholly or partially, in cash or in shares, bonds, debentures, mortgages, or other securities of the Company, and any such shares may be issued either as fully paid-up or with such amount credited as paid-up thereon as may be agreed upon, and any such bonds, debentures, mortgages or other securities may be either specially charged upon all or any part of the property of the Company and its uncalled capital or not so charged;
- (4) To secure the fulfillment of any contract or engagement entered into by the Company in the normal course of business, by mortgage or charge any of the property of the Company and its uncalled capital for the time being or in such manner as they may think fit;
- (5) To accept from any Member, as far as may be permissible by law, a surrender of his shares or any part thereof, on such terms and conditions as shall be agreed upon;
- (6) To appoint any person to accept and hold in trust for the Company any property belonging to the Company, in which it is interested, or for any other purposes and to execute and do all such deeds and things as may be required in relation to any such trust, and to provide for the remuneration of such trust or trustees;
- (7) To institute, conduct, defend, compound, or abandon any legal proceedings by or against the Company or its officers, or otherwise concerning the affairs of the Company, and also to compound and allow time for payment or satisfaction of any debts due and of any claim or demand by or against the Company and to refer any differences to arbitration, and observe and execute any awards made thereon;
- (8) To act on behalf of the Company in all matters relating to bankruptcy and insolvency;
- (9) To make and give receipts, releases, and other discharges for moneys payable to the Company and for the claims and demands of the Company;
- (10) Subject to applicable provisions of the Act, to invest and deal with any moneys of the Company not immediately required for the purposes thereof upon such security (not being shares of this Company), or without security and in such manner as they may think fit, and from time to time to vary or realise such investments. Save as provided in Section 187 of the Act, all investments shall be made and held in the Company's own name;
- (11) To execute, in the name and on behalf of the Company, in favour of any Director or other person who may incur or going to incur any personal liability whether as principal or surety, for the benefit of the Company, such mortgages of the Company's property (present and future) as they think fit, and any such mortgage may contain a power of sale and such other powers, provisions covenants as shall be agreed upon;
- (12) To open account with any bank or banks and to determine from time to time who shall be entitled to sign, on the Company's behalf bills, notes, receipts, acceptances, endorsements, cheques dividend warrants, releases, contracts and documents and to issue the necessary authority for such purpose;
- (13) To distribute by way of bonus or commission amongst the staff of the Company on the profits of any particular business or transaction, and to charge such bonus or commission as part of the working expense of the Company;
- (14) To provide for the welfare of employees or ex-employees of the Company and their families or connections of such persons, by building or contributing to the building of houses, dwellings or chawls, or by grants of money, pension, gratuities, allowances, bonus or other payments, or by creating, and from time to time subscribing or contributing to provident and other funds, associations, institutions or trusts and by providing or subscribing or contributing towards places of instrument and recreation, hospitals and dispensaries, medical and other attendance and other assistance as the Board shall think fit; and to subscribe or contribute or otherwise to assist or to guarantee money to charitable, benevolent, religious, scientific, national or other institutions or objects which shall have any moral or other claim to support or aid by the Company either by reason of locality of operation, or of public and general utility or otherwise;

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- (15) Before recommending any dividend, to set aside out of the profits of the Company such sums as they may think proper for depreciation or to a Depreciation Fund, or to an Insurance Fund, or as a Reserve Fund or Sinking Fund or any Special Fund to meet contingencies or to repay debentures or debenture stock; or for special dividends or for equalizing dividends or for repairing, improving, extending and maintaining any of the property of the Company and for such other purposes (including the purposes referred to in the preceding clause), as the Board may, in their absolute discretion, think conducive to the interest of the Company, and subject to Section 179 of the Act, to invest the several sums so set aside or so much thereof as required to be invested, upon such investments (other than shares of the Company) as they may think fit, and from time to time to deal with and vary such investments and dispose of and apply and expend all or any part thereof for the benefit of the Company, in such manner and for such purposes as the Board, in their absolute discretion, think conducive to the interest of the Company notwithstanding that the matters to which the Board apply or upon which they expend the same or any part thereof, may be matters to or upon which the capital moneys of the Company might rightly be applied or expended, and to divide the Reserve Fund or division or a reserve Fund to another Reserve Fund or division of a Reserve Fund and with full power to employ the assets constituting all or any of the above funds, including the Depreciation Fund, in the business of the Company or in the purchase or repayment of Debentures or debenture stock, and without being bound to keep the same separate from the other assets, and without being bound to pay interest on the same with power however to the Board at their discretion to pay or allow to the credit of such funds interest at such rate as the Board may think proper;
 - (16) To appoint and at their discretion remove or suspend such officers such as Executive Director, general managers, managers, secretaries, assistants, supervisors, clerks, agents and servants etc. for permanent, temporary or special services as they may from time to time think fit, and to determine their powers and duties and fix their salaries or emoluments or remunerations and to require security in such instances and to such amounts as they may think fit. And also from time to time to provide for the management and transaction of the affairs of the Company in any specified locality in India or abroad in such manner as they think fit, and the provisions contained in the following sub-clauses shall be without prejudice to the general powers conferred by this sub clause:
 - (17) From time to time and at any time to establish any number of offices and establishment for properly managing the affairs of the Company in any specified locality in India or elsewhere and to appoint staff for such offices and to fix their remuneration;
 - (18) Subject to the provisions of the Act, from time to time and at any time, to delegate to any such local Board, or any member or members thereof or any managers or agents so appointed or to any other person(s) any of the powers, authorities, and discretions for the time being vested in the Board, and to authorise the members for the time being of any such local Board, or any of them to fill up any vacancies, therein and to act notwithstanding vacancies and any such appointment or delegation under the preceding and this sub-clause may be made on such terms and subject to such conditions as the Board may think fit, and the Board may at any time remove any person so appointed, and may annul or vary any such delegation;
 - (19) At any time and from time to time by Power of Attorney under the Seal of the Company, to appoint any person or persons to be the Attorney or Attorneys of the Company for such purposes and with such powers, authorities and discretions (not exceeding those vested in or exercisable by the Board under these presents and excluding the power to make calls and excluding also those which are to be exercised by the Board, in its Meetings) and for such period and subject to such conditions as the Board may from time to time think fit, and any such appointment may (if the Board thinks fit) be made in favour of the members or any of the members of any local Board, established as aforesaid or in favour of any company, or the shareholders, directors, nominees, or managers or any company or firm or otherwise in favour of any persons whether appointed by name or designation by the Board and any such Power of Attorney may contain such powers for the protection or convenience of such Attorney as the Board may think fit, and Board may specifically bestow powers enabling any such delegate or attorneys to sub-delegate all or any of the powers, authorities and discretions for the time being vested in them;
- (20) Subject to Sections 188 of the Act, for or in relation to any of the matters aforesaid or otherwise for the purposes of the Company, to enter into such negotiations and contracts and rescind and vary such contracts, and execute and do all such acts deeds and things in the name and on behalf of the Company as they may consider expedient;
- (21) From time to time to make vary and repeal bye-laws for the regulations of the business of the Company regulate employment of its officers and servants by making service Rules and Regulations;
- (22) Maintain proper records at places as per provisions of the Act and where the Company has a branch office, whether in or outside India, the Company shall be deemed to have complied with this Article if proper Books of Account relating to the transactions effected at the branch office are kept at the branch office and

			proper summarized returns, made up-to-date at intervals of not more than three months, are sent by the branch office to the Company at its Office or other place in India, at which the Company's Books of Accounts are kept as aforesaid;
			(23) Ensure proper maintenance of the Books of Account which shall give a true and fair view of the state of the affairs of the Company or branch office, as the case may be, and explain its transactions. The Books of Account and other books and papers shall be open to inspection by any Director during business hours.
			Chief Executive Officer, Manager, Company Secretary or Chief Financial Officer
			Subject to the provisions of the Act,
		74	(i) A chief executive officer, manager, company secretary or chief financial officer may be appointed by the Board for such term, at such remuneration and upon such conditions as it may thinks fit; and any chief executive officer, manager, company secretary or chief financial officer so appointed may be removed by means of a resolution of the Board;
			(ii) A director may be appointed as chief executive officer, manager, company secretary or chief financial officer
		75	A provision of the Act or these regulations requiring or authorising a thing to be done by or to a director and chief executive officer, manager, company secretary or chief financial officer shall not be satisfied by its being done by or to the same person acting both as director and as, or in place of, chief executive officer, manager, company secretary or chief financial officer.
			The Seal
			76.1 The Seal its custody and use
			The Board shall provide a Common Seal for the purpose of the Company, and shall have power, from time to time, to destroy the same and substitute a new Seal in lieu thereof, and the Board shall provide for the safe custody of the Seal for the time being, and the seal shall never be used except on the authority of the Board or by Committee of the Board as authorised.'
		76	76.2 Deeds how executed
			Every deed or other instrument, to which the Seal of the Company is required to be affixed, shall unless the same is executed by a duly constituted attorney issued under the seal; be signed by two Directors or one Director and Secretary or some other person authorised by the Board for the purpose:
			PROVIDED that in respect of the Share Certificate, the Seal shall be affixed in accordance with Article as mentioned above.
			Dividends and Reserve
	\boxtimes		Division of profits and dividends in proportion to amount paid- up
		77	(a) The profits of the Company, subject to any special rights relating thereto created or authorised to be created by these Articles and subject to the provisions of these Articles, shall be divisible among the Members in proportion to the amount of capital paid-up or credited as paid-up on the shares held by them.
			(b) All dividends shall be apportioned and paid proportionately to the amounts paid or credited as paid on the shares held during any portion or portions of the period in respect of which the dividend is paid, but if any share is issued on terms providing that it shall rank for dividend from a particular date, such share shall rank for dividend accordingly.
			78.1 The Company in General Meeting may declare a dividend
			Company in General Meeting may declare dividends to be paid to Members according to their respective rights, but no dividends shall exceed the amount recommended by the Board, but the Company in General Meeting may declare a smaller dividend.
			78.2 Dividends only to be paid out of Profits
43	ur T,	78	a) No dividend shall be declared or paid by the Company for any financial year except out of its profits for that year arrived at in the manner set out in Section 123 of the Act. (b) Where, owing to inadequacy or absence of profits in any financial year, any Company proposes to declare dividend out of the accumulated profits earned by it in previous years and transferred by the company to reserves, such declaration of dividend shall not be made except in accordance with such rules as may be
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	.,		made in that behalf.
			(c) No dividend shall be declared or paid by a company from its reserves other than free reserves.
			78.3 Interim Dividend
			Subject to the provisions of Section 123, the Board may, from time to time, pay the Members such interim dividend as appear to it to be justified by the profits of the Company.
			Capital paid - up in advance to carry Interest
		79	Where capital is paid in advance of calls such capital may carry interest but shall not in respect thereof confer a right to dividend or participate in profits
			80.1 Retention of dividends until completion of transfer
			The Board may retain the dividends payable on shares in terms of Section 126 in respect of which any person is entitled to become a Member, or on completion any person under those Articles is entitled to transfer, or until such person shall become a Member in respect of such shares or shall duly transfer the same.
			80.2 Transfer of shares must be Registered
			A transfer of shares shall not pass the right to any dividend declared thereon before the registration of transfer.
		80	Provided that where any instrument of transfer of shares has been delivered to the Company for registration and the transfer of such shares has not been registered by the Company, it shall, notwithstanding anything contained in any other provision of this Act
			a) transfer the dividend in relation to such shares to the Unpaid Dividend Account referred to in Section 124 of the Act unless the Company is authorised by the registered holder of such shares in writing to pay such dividend to the transferee specified in such instrument of transfer ;and
			(b) keep in abeyance in relation to such shares, any offer of rights shares under clause (a) of sub-section (1) of section 62 of the Act and any issue of fully paid-up bonus shares in pursuance of first proviso to sub-section (5) of section 123 of the Act.
	\boxtimes		No Member to receive dividend whilst indebted to the Company & Company's right of reimbursement Thereon
]		81	No Member shall be entitled to receive payment as interest or dividend in respect of his shares, whilst any money may be due or owing from him to the Company in respect of such share or shares or otherwise howsoever, either alone or jointly with any person or persons, and the Board may deduct from the interest or dividend payable to any Member all sums of money so due from him to the Company.
	\boxtimes		Dividends how remitted
		82	(1) Unless otherwise directed any dividend payable in cash may be paid by cheque or warrant or in any electronic mode or by a pay slip or receipt or in any other manner having the force of a cheque or warrant sent through the post to the registered address of the Member or person entitled or in case of joint holders to that one of them first named in the Register in respect of the joint holdings. Every such cheque or warrant shall be made payable to the order of the person to whom it is sent the Company shall not be liable or responsible for any cheque or warrant or pay slip or receipt lost in transmission, or for any dividend lost to the Member or person entitled thereto by the forged endorsement of any cheque or warrant or the forged signature of any pay slip or receipt or the fraudulent recovery of the dividend by any other means.
			(2) Notwithstanding anything contained in these Articles any dividend declared, may be paid by Electronic Clearing System through any Sponsor Bank, after getting registration with the Reserve Bank of India for using this facility and collecting from the members necessary bank mandate in the prescribed format.
	\boxtimes	83	Dividends and call together Any General Meeting declaring a dividend, may, on the recommendation of the Board, make a call on the
			Members of such amount as the meeting may fix, but so that the call on each Member shall not exceed the dividend payable to him and so that the call be made payable at the same time as the dividend, and the dividend may, if so arranged between the Company and the Member, be set off against the calls.
	\boxtimes		Unclaimed dividend
	K_N	84	No unclaimed dividend shall be forfeited and all unclaimed dividends shall be dealt with in accordance with the provisions of Section 124 and other applicable provisions of the Act.
			No interest against Dividend
	\boxtimes	85	No dividend shall bear interest against the company.

			Accounts 28	7
	<u> </u>		86.1 Directors to keep true accounts	
			 (a) Every company shall prepare and keep at its registered office including its branch office or offisuch other place in India as the Board thinks fit, Books of Accounts and other relevant books and financial statement for every financial year which give a true and fair view of the state of the affair company in accordance with Section 128 of the Act with respect to- (i) all sums of money received and expended by the Company and the matters in respect of which and expenditure take place; (ii) all sales and purchases of goods by the Company; (iii) the assets and liabilities of the Company. (iv) state of affairs of the company. 	papers and s of the
			(b) Where the Board decides to keep all or any of the Books of Account at any place other than the Company, the Company shall within seven days of the decision file with the Registrar a Notice giving the full address of that other place in accordance with Section 128 of the Act.	ne Office of e in writing
			(c) The company may keep such books of account or other relevant papers in electronic mode in as may be prescribed.	such manner
			(d) The Company shall preserve in good order the Books of Account relating to a period of not less financial years immediately preceding a financial year. The books of account and other relevant to papers maintained in electronic mode shall remain accessible in India so as to be usable for substreference together with the vouchers relevant to any entry in such Books of Account.	ooks and
l			86.2 Inspection of accounts or record by members	
		86	No Member (not being a director) shall have any right of inspecting any account or books or docu Company except as conferred by Section 94 of the Act or authorised by the Board or by the comp general meeting.	ments of the pany in
			The Board may determine whether and to what extent and at what time and place and under what or regulations the accounts and books of the Company or any of them may be open to inspection Members. Notwithstanding anything to the contrary contained herein above, the authorised repre Promoters shall have a right to inspect the accounts books, plant, facility, documents, records, prequipment and machinery and all other property of the Company at convenient time(s), after givin notice to the Company.	of the sentative of emises,
			86.3 Statement of Accounts to be furnished to General Meeting	
			The Directors shall, from time to time, in accordance with Sections 129 and 134 and other applications of the Act, cause to be prepared and to be laid before the Company in General Meetin Balance Sheets, Profit and Loss Accounts and Reports as are required by these Sections.	
			86.4 Copies shall be sent to each Member	
			Without prejudice to the provisions of Section 101 and subject to the provisions of Section 136 of copy of the financial statements, including consolidated financial statements, auditors' report and document required by law to be annexed or attached to the Balance Sheet shall at least twenty-o before the General Body Meeting at which the same are to be laid before the members, be sent to members of the company, to every trustee for every holder of any debenture issued by the comparersons other than such members or trustee, being the person so entitled to attend the General E	every other ne days o the any and to all
			86.5 Copy of financial statement to be filed with registrar	
			The Company shall comply with Section 137 of the Act as to filing copies of the Balance Sheet ar Loss Account and documents required to be annexed or attached thereto with the Registrar.	nd Profit and
_			Winding up	
	Niss/		If the Company shall be wound up and the assets available for distribution among the members at be insufficient to repay the whole of the paid up capital such assets shall be distributed so that as may be the losses shall be borne by the members in proportion to the capital paid up or which our been paid up at the commencement of the winding-up on the shares held by them respectively. A winding-up the assets available for distribution among the members shall be more than sufficient	nearly as ght to have and if in a
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whole of the capital paid up at the commencement of the winding-up, the excess shall be distributed among the members in proportion to the capital at the commencement of the winding-up paid up or whichought to 87 have been paid up on the shares held by them respectively. But this Article is to be without prejudice to the rights of the holders of shares issued upon special terms and conditions. If the Company shall be wound up, whether voluntarily or otherwise, the liquidators may, with the sanction of a Special Resolution, divide among the contributions, in specie or kind, any part of the assets of the Company and may, with the like sanction, vest any part of the assets of the Company in Trustees upon such trusts for the benefit of the contributories, or any of them, as the liquidators, with the like sanction, shall think fit, Indemnity Subject to provisions of the Act, every Officer of the company shall be indemnified out of the assets of the \boxtimes Company against any liability incurred by him in defending any proceedings, whether civil or criminal, in which 88 judgment is given in his favour or in which he is acquitted or in which relief is granted to him by the court or the Tribunal. Provided that if such person is proved to be guilty, the premium paid on such insurance shall be treated as part of the remuneration. X Others Company not bound to recognize holding of shares on trust or any interest in shares other than that of registered holder Except as ordered by a Court of competent jurisdiction or as required by law, the Company shall not be bound to recognize holding of any share upon any trust and to recognize any equitable, contingent, future or partial interest in any share, or any interest in any fractional part of a share (except only as is by these Articles otherwise expressly provided) any right in respect of a share other than an absolute right thereto, in accordance with these Articles, in the person from time to time registered as the holder thereof, but the Board shall be at liberty at their sole discretion to register any share in the joint names of any two or more persons or the survivor or survivors of them. 90. Funds etc. of Company may not be applied in purchase of shares of the Company The Company shall not give, either directly or indirectly, and either by means of a loan, guarantee, the provision of security or otherwise, any financial assistance for the purpose of or in connection with the purchase or subscription made or to be made by any person for purchase of any shares in the Company except in conformity with the provisions of Section 67 of the Act. 91. Underwriting and Brokerage Commission may be paid Subject to the provisions of Section 40 of the Act, the Company may at any time pay a commission to any person in consideration of his subscribing or agreeing to subscribe for any shares in or debentures of the Company, or procuring, or agreeing to procure subscriptions for any shares in or debentures of the Company. but so that the commission shall not exceed in case of shares, five percent of the price at which the shares are issued, and in case of debentures, two and a half percent of the price at which the debentures are issued. Such commission may be satisfied by payment in cash or by allotment of fully or partly paid shares or debentures or partly in one way and partly in the other. Brokerage The Company may also on any issue of shares or debentures, pay such brokerage as may be lawful. 92. Interest out of Capital Interest may be paid out of capital Where any shares are issued for the purpose of raising money to defray the expenses of the construction of any work or building or the provision of any plant, which cannot be made profitable for a lengthy period, the Company may pay interest on so much of that share capital as is for the time being paid up, for the period, at the rate and subject to the conditions and restrictions provided by the Company Act, 2013 and may charge the same to capital as part of the cost of construction of the work or building, or the provision of plant. 93. Annual Returns

The Company shall comply with the provisions of Sections 92 of the Act as to the making of Annual Returns.

94. Borrowing powers

As per the provisions of Section 73, 76, 179, 180 and other applicable provisions of the Act, the Board of Directors may, from time to time at its discretion, by resolution at a meeting of the Board and subject to the approval of the shareholders in General Meeting, accept deposits from Members, either in advance of calls or otherwise, and generally raise or borrow or secure the payment of any sums of money for the purpose of the Company. Provided however, where the moneys already borrowed (apart from temporary loans obtained from the Company's bankers in the ordinary due course of business) exceed the aggregate of the paid-up capital of the Company, its free reserves (not being reserves set apart for any specific purpose) and the securities premium, the Board shall not borrow such moneys without the consent of the Company in General Meeting.

95. Payment or repayment of borrowed Moneys

Subject to the provisions of Article 64 hereof, the payment and repayment of moneys borrowed as aforesaid may be secured in such manner and upon such terms and conditions in all respects as the Board of Directors may think fit, by resolutions passed at a meeting of the Board and in particular, by the issue of bonds or debentures of the Company whether unsecured or secured by a mortgage or charge over all or any part of the property of the Company (both present and future) including its uncalled capital for the time being, and debentures and other securities may be made assignable free from any equities between the Company and the person to whom the same may be issued.

96. Terms of issue of Debentures

Any debentures or other securities may be issued or otherwise and may be issued on condition that they shall be convertible into shares of any denomination, and with any privileges and conditions to redemption, surrender, drawing, allotment of shares and attending (but not voting) at General Meetings. Debentures with the right to conversion into or allotment of shares shall be issued only with the consent of the Company in General Meetings accorded by special resolution.

97.Register of charges to be Kept

The Board shall cause a proper Register to be kept in accordance with the provisions of Section 85 of the Act of all charges and floating charges affecting the property or assets of the Company or any of its undertakings and shall cause the requirements of Sections 77, 79, and 81 to 87 (both inclusive) of the Act in that behalf to be duly complied with, so far as they are required to be complied with by the Board.

98.Register of Debenture holders

The Company shall, if at any time it issues debentures, keep a Register and Index of Debenture holders in accordance with Section 88 of the Act. The Company shall have the power to keep in any Country outside India a Register of Debenture holders residing outside India, in such manner as may be prescribed.

99. Application to Debentures and other securities

The provisions of the Articles shall apply mutatis mutandis to debentures, bonds or other securities issued by the company.

100. Dematerialization of Securities

Definitions:

For the purpose of this Article:

"Depository" means a depository as defined in clause (e) of sub-section (1) of section 2 of the Depositories Act. 1996.

'Beneficial Owner' means a person or persons whose name is recorded in the Register maintained by a Depository under the Depository Act, 1996.

"SEBI"means the Securities and Exchange Board of India established under section 3 of the Securities & Exchange Board of India Act, 1992.

"Securities" means the securities as defined in clause (h) of section 2 of the Securities Contracts (Regulation)
Act, 1956;

(2) Dematerialization of Securities

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Notwithstanding anything contained in these Articles, the Company shall be entitled to dematerialize its existing securities, rematerialize its securities held in the Depositories and / or offer its fresh securities in dematerialized form pursuant to the provisions of the Depositories Act, 1996 and the rules framed there under, if any.

(3) Option for investors

Every person subscribing to or holding securities of the Company shall have the option to receive securities certificates or to hold the securities with the Depository. Such a person who is the beneficial owner of the securities can at any time opt out of the Depository, if permitted by the law, in respect of any security in the manner and within the time prescribed, issued to the beneficial owner the required certificate of the securities. If a person opts to hold his securities with a Depository, the Company shall intimate such Depository, the details of allotment of the security and on receipt of the information, the depository shall enter in its records the name of the allottees as the beneficial owner of the securities.

(4) Securities in Depository to be in Fungible Form

All securities held by a Depository shall be dematerialized and be in fungible form. Nothing contained in Section 88, 89, 112 and 186 of the Act shall apply to a Depository in respect of the securities held by it on behalf of the Beneficial Owners.

- (5) Rights and Liabilities of Beneficial Owner
- (a) Notwithstanding anything to the contrary contained in the Act or these Articles, a Depository shall be deemed to be the registered owner for the purposes of effecting transfer of ownership of security on behalf of the beneficial owners.
- (b) Save as otherwise provided in (a) above, the Depository as the registered owner of the securities shall not have any voting rights or any other rights in respect of the securities held by it.
- (c) Every person holding securities of the Company and whose name is entered as the beneficial owner in the records of the Depository shall be deemed to be a member of the Company. The beneficial owner of securities shall be entitled to all the rights and benefits and be subject to all the liabilities in respect of his securities, which are held, by a Depository.
- (6) Service of Documents

Notwithstanding anything to the contrary contained in the Act or Articles to the contrary, where securities are held in a Depository, the records of the beneficial ownership may be served by such Depository on the Company by means of electronic mode or by delivery of floppies or discs.

(7) Provisions of Articles to apply to shares held in Depository

Nothing contained in Section 56 of the Act or these Articles shall apply to a transfer of securities effected by a transferor and transferee both of whom are entered as beneficial owners in the records of a Depository.

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(8) Allotment of Securities dealt within a Depository

Notwithstanding anything in the Act or these Articles, where securities are dealt with by the Depository, the Company shall intimate the details thereof to the Depository immediately on allotment of such securities.

(9) Distinctive numbers of securities held in the depository Mode

Nothing contained in the Act or these Articles regarding the necessity of having distinctive numbers on securities issued by the Company shall apply to securities held with a Depository.

(10) Register and Index of Beneficial Owners

The Register and Index of Beneficial Owners maintained by a Depository under the Depositories Act, 1996 shall be deemed to be the Register and Index of member and security holder for the purpose of these Articles

- 101 Conversion of Shares into Stock and Reconversion
- 101.1 Shares may be converted into stock and reconverted

The Company in General Meeting may convert any paid up shares into stock and when any shares shall have been converted into stock, the several holders of such stock may henceforth transfer their respective interest therein, or any part of such interest, in the same manner and subject to the same regulations, as if no such conversion had taken place, or as near thereto as circumstances will admit. The Company may at any time reconvert any stock into paid-up shares.

101.2 Rights of stock holders

The holders of stock shall, according to the amount of stock held by them, have the same rights, privileges and advantages as regards dividends, voting at meetings of the Company, and other matters, as if they held the shares from which the stock arose

102 Audit

102.1 Accounts to be audited

Accounts to be audited

The Auditors of the Company shall be appointed or reappointed by the Comptroller and Auditor General of India and their remuneration, rights and duties shall be regulated by Section 139 to 143 and 145 to 148 of the Act.

102.2 Powers of the Comptroller and Auditor General of India.

The Comptroller and Auditor General of India shall have the powers:-

- (a) to direct the manner in which the Company's accounts shall be audited by the auditors appointed in pursuance of Article hereof and to give such auditors instruction in regard to any matter relating to the performance of their functions as such.
- (b) to conduct a supplementary or test audit of the financial statement of the Company by such person or persons as he may authorize in this behalf, and for the purposes of such audit, to have access at all reasonable times, to all accounts, account books, vouchers, documents and other papers of the Company and to require information or additional information to be furnished to any person or persons so authorized on such matters, by such person or persons and in such form as the Comptroller and Auditor General may, by general or special order, direct.
- 102.3 Comments upon or supplement to audit report by the Comptroller & Auditor General of India to be placed before the annual general meeting

The auditors aforesaid shall submit a copy of his / her audit report to the Comptroller and Auditor General of India who shall have the right to comment upon or supplement such audit report in such manner as he may think fit. Any such comments upon or supplement to the audit report shall be placed before the Annual General Meeting of the Company at the same time and in the same manner as the audit report.

103. Service of Documents

Manner of Service of Documents

103.1 A document or notice may be served or given by the Company to any Member either through speed post, registered post or through electronic mode to his registered address or (if he has no registered address in India) to the address, if any, in India supplied by him to the Company for serving documents or notices on him. Notice is to be sent by the company through its authorized and secured computer programme which is capable of producing confirmation and keeping record of such communication addressed to the person entitled to receive such communication at the last electronic mail address provided by the member.

The notice may be sent through e-mail as a text or as an attachment to e-mail or as a notification providing electronic link or Uniform Resource Locator for accessing such notice through in-house facility or its registrar and transfer agent or authorise any third party agency providing bulk e-mail facility.

103.2 When notices or documents served on Members

When notices or documents served on Members

Where a document or notice is sent by post, service of the document or notice shall be deemed to be effected

by properly addressing, prepaying and posting a letter containing the document or notice.

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When notice or notifications of availability of notice are sent by e-mail, the company should ensure that it uses a system which produces confirmation of the total number of recipients e-mailed and a record of each recipient to whom the notice has been sent and copy of such record and any notices of any failed transmissions and subsequent re-sending shall be retained by or on behalf of the company as "proof of sending".

Provided that the member shall provide the updated email address to the company and for that company will provide an advance opportunity atleast once in a financial year, to the member to register his e-mail address and changes therein and such request may be made by only those members who have not got their email id recorded or to update a fresh email id. Notice will also be simultaneously updated in the website of the company.

103.3 By Advertisement

A document or notice advertised in a newspaper circulating in the neighborhood of the Registered Office shall be deemed to be duly served or sent on the day on which the advertisement appears on or to every Member who has no registered address in India and has not supplied to the Company an address within India for the serving of documents on sending the notices to him. Explanatory Statement of material facts under Section 102 need not be advertised but it will be mentioned in the advertisement that the Statement has been forwarded to the Members.

103.4 On personal representatives etc.

A document or notice may be served or given by the Company on or to the persons entitled to a share in consequence of the death or insolvency of a Member by sending it through the post in prepaid letter addressed to them by name or by the title of representative of the deceased, or assignee of the insolvent or by any like description, at the address (if any) in India supplied for the purpose by the persons claimed to be entitled, or until such an address has been so supplied by serving the document or notice in any manner in which the same might have been given if the death or insolvency had not occurred.

103.5 To whom documents or notices must be served or given

Documents or notices of every General Meeting shall be served or given in same manner as herein before or to (a) every member of the company, legal representative of any deceased member or the assignee of an insolvent member, (b) the auditor or auditors of the company; and (c) every director of the company.

103.6 Members bound by documents or notices served on or given to previous holders

Every person who, by operation of law, transfer or other means whatsoever, shall become entitled to any share, shall be bound by every document or notice in respect of such share, which previously to his name and address being entered in the Register of Members, shall have been duly served on or given to the person from whom he derives his title to such shares.

103.7 Documents or notice by Company and signature thereto

Any document or notice to be served or given by the Company may be signed by a director or key managerial personnel or an officer of the company duly authorised by the Board in this behalf.

103.8 Service of document or notice by Member

All documents or notices to be served or given by Members on or to the Company or any officer thereof shall be served or given by sending it to the Company or Officer at the Office by post or through electronic mode under a certificate of posting or by registered post, or through email.

104. Secrecy

(a) Every Director, Manager, Auditor, Treasurer, Trustee, member of a committee, officer, servant, agent, accountant or other person employed in the business of the Company, shall, if so required by the Directors, before entering upon his duties, sign a declaration pledging himself to observe strict secrecy respecting all transactions and affairs of the Company with the customers and the state of the accounts with individuals and in matters relating thereto, and shall by such declaration pledge himself not to reveal any of the matters which may come to his knowledge in the discharge of his duties except when required so to do by the Directors or by liaw or by the person to whom such matters relate and except so far as may be necessary in order to comply with any of the provisions in these presents contained.

(b) No Member shall be entitled to visit or inspect any work of the Company without the permission of the Directors or to require discovery of or any information respecting any details of the Company's trading, or any matter which is or may be in the nature of a trade secret, mystery of trade, secret process or any other matter which may relate to the conduct of the business of the Company and which in the opinion of the Directors, it would be in expedient in the interest of the Company to disclose.

105. Copies of Memorandum and Articles of Association to be sent by the Company

Copies of the Memorandum and Articles of Association of the Company and other documents referred to in Section 17 of the Act shall be sent by the Company to every Member at his request within seven days of the request on payment of such fees as may be prescribed.



		Subscriber Details		2	94
S. NO	Name, Address, Description and Occupation	DIN/PAN/Passport Number	Place	DSC	Dated
1	Registered office at First Floor, Urjanidhi, 1, Barakhamba Lane, Conaught Place, New Delhi 110001 through Sh. Manish Kumar Agarwal, S/o Sh. Narender Agarwal, R/o 41, 2nd floor, Gyan Khand-III, Indirapuram, Shipra Sun City, Ghaziabad, Uttar Pradesh- Occupation: Service (as Authorised Signatory of PFC Consulting Limited)		New Delhi	MANISH Dappin prigrative MANISH CHURCH AGARWAL AGARWAL 1259 68-2930	20/11/2019
2	Yogesh Juneja S/o Sh. H.L. Juneja R/o Flat No. E-21, Seema CGHS, Plot No. 7, Sector 11, Dwarka, New Delhi - 110075 Occupation: Service (as Nominee of PFC Consulting Limited)		New Delhi	YOGESH (buttle rooms by JUNEJA 12702 editor)	20/11/2019
3	Purna Chandra Hembram S/o. Sh. Shyam Sundar Hembram R/o Flat No.: 241, SRI Vinayak Apartments, Plot No.: 5 C, Sector 22, Dwarka, New Delhi-110077 Occupation: Service (as Nominee of PFC Consulting Limited)		New Delhi	PUBNA CHANDRA CHANDRA HEMBRAM 11.8 11.400°	20/11/2019
4			New Delhi	NEERAJ Occidity reproductive security of the s	20/11/2019
5	Dharuman Manavalan S/o. Sh. Pamandi Chinnian Dharuman R/o A-703 Saheta Apartment, Plot No-30 Dwarka Sector-4, South West Delhi, Delhi 110078 Occupation: Service (as Nominee of PFC Consulting Limited)		New Delhi	D Dynamy signed by MANAVAI D MANAVAI AN 1131 88 -2530	
6	SACHIN S/o. Sh. Raj Kumar Shukla R/o C5/804, PWO HOUSING COMPLEX Gautam Budh SECTOR-43, GURGAON-122002 Occupation: Service (as Nominee of PFC Consulting Limited)		New Delhi	SACHIN Deptitely segmed by SACHIN SHUKLA SHE 2016-11134-006-195-207	20/11/2019
7	Sanjay Nayak S/o. Sh. Jagabandhu Nayak R/o K 713, Jalvayu Tower, Sector 56, Gurgaon, Haryana 122011 Occupation: Service (as Nominee of PFC Consulting Limited)		New Delhi	SANJAY Digular signed KUMAR WANAYAK KUMAR NAYAK NAYAK 1136 69 165:30	20/11/2019



		29	295			
-	Name	Address, Description and Occupation	DIN/PAN/ Passport Number/ Membership Number	Place	DSC	Dated
ACS	Anuradha Jain	D-427, 2nd Floor, Ramphal Chowk, Palam Extn, Sector 7, Dwarka, New Delhi-110075. Occupation: Practicing Company Secretary	-	New Delhi	Anur adha hasafis Jah Jain	20/11/2019

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CERTIFIED TRUE COPY OF THE RESOLUTION PASSED AT THE MEETING OF THE BOARD OF DIRECTORS OF KARUR TRANSMISSION LIMITED HELD ON 18TH JANUARY 2022

SUB: AUTHORISATION TO MAKE APPLICATION BEFORE CENTRAL ELECTRICITY REGULATORY COMMISSION

"RESOLVED THAT Mr. M.R. Krishna Rao, Mr Hitesh Vaghasiya, Mr. Sameer Ganju, Mr. Tanmay Vyas, Mr. Anupam Sawhney, Mr. Praveen Tamak, Mr. Narendra Ojha, Mr. Bhavesh Kundalia, Mr. Matulya Shah, Mr. Rajesh Sirigirishetty, Mr Atul Kumar Singh, and Mr. Afak Pothiawala, (hereinafter referred to as Authorised Signatories) be and are hereby severally authorised to sign and submit petitions, affidavits, agreements, declarations, undertakings, deeds, Bills, Availability Certificates and other documents in connection therewith or incidental thereto before Central Electricity Regulatory Commission (CERC) or Appellate Tribunal for Electricity (APTEL) and other regulatory authorities for and on behalf of the Company.

RESOLVED FURTHER THAT Authorised Signatories be and are hereby severally authorised (a) to issue notices, affidavit and other documents, communications to Long Term Transmission Customers and other Parties / agencies, including Central Transmission Utility of India Limited. and WRLDC/SRLDC (b) to file Petition, Affidavit, Notices and other documents before Regulatory Commission or other Electricity body, Appellate Tribunal for Electricity and Supreme Court for issues arising out of Transmission Service Agreement and Bulk Power Transmission Agreement, (c) to engage, appoint or remove any pleaders or advocates, and sign vakalatnamas, power of attorney for such engagement or appointment and (d) to file appeal and defend the interest of the Company."

Certified True Copy

For Karur Transmission Limited

Shashark Sharma Director

(DIN: 09336142)

Tel +91 79 2555 7555

Fax +91 79 2555 7177 info@adani.com www.adanitransmission.com

KARUR TRANSMISSION LIMITED Adani Corporate House Shantigram, Near Vaishnav Devi Circle, S. G. Highway, Khodiyar, Ahmedabad 382 421 Gujarat, India CIN: U40106DL2019G0I357791

