

No.10/8/2015-Trans
Government of India
Ministry of Power
Shram Shakti Bhawan, Rafi Marg,
New Delhi-110001

Dated, 18th September, 2015

Office Memorandum

Subject: Minutes of the meeting chaired by Secretary, Ministry of Power on 18.8.2015 on various issues in Power Sector (i) General Network Access; (ii) 20 years perspective plan; (iii) Power system development fund; (iv) 24x7 documents; (v) Right of Way issues for transmission lines; (vi) Green Energy Corridor; and (vii) Reliable Communication and Data Acquisition System for sub-stations of (a) upto 132 kV level; and (b) below 132 kV and upto 33 kV.

The undersigned is directed to forward herewith the minutes of meeting held on 18.08.2015 under the chairmanship of Secretary, Ministry of Power on the above mentioned subject, for information and further necessary action.



(S.Venkateshwarlu)
Under Secretary (Trans)
E-mail: transdesk-mop@nic.in
Tele-fax: 011-23325242

To

1. Chairperson, CEA, New Delhi
2. Member (PS), CEA New Delhi.
3. Principal Secretary/Secretary (Power/Energy) of all States/UTs.
4. Chairman/CMDs of all States/UTs Transmission Utilities.
5. CMD. PGCIL, Gurgaon
6. COO(CTU-Plg.) PGCIL, Gurgaon.
7. CEO, POSOCO, New Delhi.
8. Secretary, CERC, New Delhi.
9. CEO, Sterlite Grid Limited, New Delhi.
10. CEO, Adani Power Limited, Gurgaon.
11. CEO, Reliance Power Transmission Limited, Gurgaon.

Copy to: PPSs to Secretary(Power)/AS(BNS)/JS (Trans)/Director (Trans), Ministry of Power, New Delhi.

Copy also to: Technical Director, NIC, Ministry of Power (MoP) with the request to host the Minutes on MoP website.

Minutes of the meeting taken by Secretary (Power) on 18.8.2015 on various issues in power sector viz. (i) General Network Access; (ii) 20 years perspective plan; (iii) Power system development fund; (iv) 24x7 documents; (v) Right of Way issues for transmission lines; (vi) Green Energy Corridor; and (vii) Reliable Communication and Data Acquisition System for sub-stations of (a) upto 132 kV level; and (b) below 132 kV and upto 33 kV.

List of participants is at **Annex-A**.

2. Secretary (Power) initiated the discussion on the concept of General Network Access and other related issues.

3. Thereafter, the agenda items were taken up for discussion as follows:

Agenda item 1 : General Network Access (GNA).

1. A presentation on CERC Staff Paper on "Transmission Planning, Connectivity & Open Access" was made by Chief (Engg), CERC highlighting the background in which the staff paper was made, the proposals in the CERC Staff paper, the views of stakeholders on the alternatives and the issues to be addressed along with GNA. (Copy at **Annex-B**).

2. He mentioned that some of the Stakeholders have favoured Alternative-1 which provides options for Connectivity Access, Connectivity plus Injection Access and Connectivity plus Full Network Access; and others have favoured GNA. He gave an overview of the issue raised by stakeholders which need to be addressed in GNA. He identified the main issues to be addressed along with GNA as (a) Assurance of access commensurate with GNA, (b) Aligning Transmission Pricing mechanism with distance, direction and quantum of flow as envisaged in National Electricity Policy and Tariff Policy; (c) Payment liability as per GNA may induce under declaration by States, (d) Relinquishment charges (e) Consequences of delay.

3. The views expressed by the participants are summarised hereunder:-

i) Representative from UPPCL raised concerns about accuracy of forecast of GNA as demand was not in the control of states. He added that GNA is speculative; payment should be based on actual usage. He was of the view that estimation of

drawal GNA should be a joint exercise with CEA. He stated that as per Para 8.2 of agenda paper on GNA, the rate for STOA over and above the GNA to be at premium rate of say 400% and further excess use of transmission is to be charged at a still higher rate e.g. 6-10 times the PoC rate. He mentioned that State needs to estimate accurately the demand which depends upon climatic conditions. During drought, there is a large demand from agriculture. In view of this, the State should either give a high GNA capacity based on maximum demand & use it for very short period or it should pay penalty in terms of higher STOA charges. Penalty in terms of higher charges should be there only in case of grid disturbance or grid instability. Redundancy in the system will increase with GNA system and consequently cost of the transmission will increase and the same will get reflected in total cost of power. If cheaper power is available outside, STOA charges would become deterrent to use power from outside, and would force the State to use costlier power available with it. He emphasised that charges should be based on actual usage and direction sensitive.

- ii) Representative of J&K opined that (a) more discussion is required on GNA; and (b) CEA could assist in assessment of GNA and its impact on Gencos.
- iii) Representative from Maharashtra mentioned that financial implication of GNA has not been indicated in CEA's proposal. Clarity about the impact of transmission charges to be paid to POWERGRID is not there. He also mentioned that as per Para 6.3 of agenda paper on GNA, STUs of respective states would be the nodal agency. Present practice is that DISCOMs directly pay the charges to CTU, but in new system, STU will pay charges to POWERGRID. STUs are financially very weak and if they do not receive payment from DISCOMs, there will be difficulty in payment to CTU.
- iv) Representative of Punjab mentioned that GNA is based on maximum demand. Their demand is at maximum only during 3 months of paddy season and rest of the year, demand remains very low. He wanted to know whether, they needed to pay high transmission charges corresponding to maximum demand throughout

the year or they could surrender GNA for 9 months, when demand is low. Representative of Haryana also raised the similar issue.

- v) Representative of GRIDCO mentioned that under GNA generation, power procurement planning will be done on long term basis but power procurement is moving towards medium term and short term power purchases. Today in the transmission planning criteria used by CEA & CTU, no network is developed for medium term and short term power purchase requirements hence there is congestion. Some mechanism needs to be developed to enable investment in transmission network for short term and medium term where no beneficiaries are identified. GNA has tried to address this issue in a very meaningful way. However in GNA per se, it is not possible to have pricing based on distance, direction and quantum, there is also possibility of under-declaration by states and leading to a gaming. He added whether a hybrid system could be thought of where long term planning and procurement along with add-on system for short term and medium term based on risk-rewards basis is developed by CTU. Further, GNA has tremendous bearing on transmission pricing, the impact of GNA on transmission tariff with some live examples (one state from each Region) needed to be assessed. He suggested that more discussion is required on GNA.
- vi) JS (Transmission) also acknowledged that worldwide power procurement is shifting from long term to medium & short term basis. She mentioned that there should be incentives for long term usage of ISTS rather than for medium & short term usage and accordingly the transmission charges for long-term should be cheaper than medium term and long-term. We need to look in a holistic way i.e. not only to the transmission pricing but to the total generation plus transmission cost. If we have adequate transmission capacity available, then we can replace costlier power with cheaper power. She also emphasized that simulations need to be carried out for finding out impact of GNA on total cost so that planning is done in an optimal manner.

- vii) Representative of Gujarat mentioned that power demand is very dynamic and GNA estimation may go wrong. The law of connectivity is flawed as connectivity is given without beneficiaries. Before development of transmission network, beneficiaries may be identified upfront as is being done presently. The system should not be developed from market point of view. He mentioned that DISCOMs directly pay to CTU, therefore, state's liability in GNA regime should be known. He also suggested thorough discussion is needed in GNA.
- viii) Representative of Tripura mentioned that power goes from intra-State to inter-State system, therefore before implementation of GNA, intra-State lines to be developed.
- ix) Representative of Karnataka mentioned that constituents of Southern Region are sufferers due to lack of transmission and they support GNA. In case any State under-declares its drawal in GNA and then draws more, then it needs to pay more. The intra-State lines are coming to SR but already overbooked. If GNA helps, it is welcome, even if one may have to pay more transmission charges. Interactions are required to fine tune GNA.
- x) Representatives of Reliance Power mentioned that generation capacity is usually 160% of demand, therefore, injection GNA will be always higher than drawal GNA. If we plan transmission system on generation GNA then higher system will be developed on generation side and required system on the load side. It is necessary to align transmission planning process with short-term procurement of power. He mentioned that seasonal GNA could be a solution wherein transmission charges should be based on some base GNA (such as 70%) rather than on maximum GNA in the form of fixed charge plus variable charge. More than one despatch scenario along with extreme despatch scenario needs to be considered. It is also necessary to revisit sale of power at generator bus-bar and the exchange of power could take place at a notional boundary between generator and load. He cited example of Case-I bidding in this context where exchange takes place at state periphery.

4. Secretary (Power) concluded the discussion by mentioning that there appears to be a need for more discussion on GNA. It's snitty-gritty and operational issues needed to be addressed in a smaller group. He added that there is a need to examine whether we should continue with the same planning process we have followed in the past or there is a need for a change, because the way the power market has changed. JS (Transmission) requested all the States to send their comments.

All States/ MoP)

5. It was decided to form a group to study the issues relating to GNA in detail.

[Action: JS (Trans)]

Agenda item 2: Planning of State Transmission Network aligning with 20 yearsperspective plan on transmission.

Secretary (Power) highlighted the importance of aligning development in intra-state transmission system with that inter-state transmission system so that maximum benefit could be arrived.

2. CEA made presentation regarding the 20-Year Perspective Transmission Plan prepared in August, 2014 and highlighted the load growth and generation capacity addition assumptions considered for this purpose and the broad numbers of 400 kV and above transmission lines and substation capacities required to be added in 13th Plan.

3. CEA further highlighted the following issues:

(i) Next step is preparing new transmission plan that would cover transmission needs for a period upto 13thPlan which would dovetail both inter-state as well as intra-state transmission system development and optimize 220 kV, 400 kV and 765 kV network with aim to meet state-wise import/export requirements. CEA emphasized that this activity needs to be carried out with better rationales of generation programme, load forecast and load-profiles. The information regarding renewable energy generation expected/targeted to be achieved up to 2022 will be important for working out transmission requirement.

(ii) Earlier, the data given by the states have been modelled into base-case load flow file and the substation-wise load data, transmission line data and substation capacity data have been emailed in the form of excel files to the states of SR, WR, ER and NER in June, 2015 for the states to validate and fill the gaps. A sample excel sheets were also presented in the meeting. Chairperson, CEA requested the states to submit data for this purpose and also the data for preparation of 19th Electric Power Survey (EPS). He also requested that the information being sent for 19th EPS, for 24/7 programme and for perspective transmission programme should match with each other.

4. Representative of Gujarat said that about 40% of the targeted 100,000 MW solar being targeted to be added in 13th Plan may be in the form of roof-top Solar PVs and, therefore, the planning of 33 kV and 66 kV is also essential. He also emphasized need to use high performance conductor for future development.
5. Representative from J&K stressed the need better coordination between centre and their state for development of transmission system. He enquired about status of ultra mega solar project at Laddakh which is given in the GEC-II report. It was informed that these projects may be considered after 13th Plan.
6. Representative of Sterlite stated that emphasis should be on development of intelligent grid. He also stated that considering shorter timeframe for implementing transmission projects and for achieving higher efficiency in use of transmission corridors, higher capacity conductors should be used.
7. Representative of Odisha said that each state has their five year business plan which is required to be submitted to their respective state electricity regulatory commission and the same may be used for the purpose of perspective transmission plan. He also emphasized needs to phase out old technologies. He stated that the special care should be taken for multi-circuit/multi-voltage transmission lines especially in costal areas where tower structures should be built with non-corrosive material. He also requested the Government of India to assist states in developing their transmission system and proposed that these may be funded under PSDF for keeping their tariff low.
8. Representative of Karnataka said that they had sent detailed data to CEA. He wanted to know whether the Udipi – Kozikode line has been considered in the perspective plan. CEA responded that the data sent by Karnataka has been incorporated in the load flow model and as stated above it was sent to the State nodal officer for filling gaps. The Udipi –Kozikode line has already been included in the transmission plan.
9. All the States agreed to furnish data by September 2015.

Agenda item 3: Expediting proposals for Power System Development Fund (PSDF) from the States and faster implementation of the already sanctioned projects under the scheme.

Following action points emerged during the discussion:

2. States like Kerala, West Bengal, Rajasthan and POWERGRID whose schemes have already been approved and sanction orders issued, may expedite placing of LOAs (Letter of Awards) and send requests for release of funds to NLDC which is the nodal agency for this purpose. West Bengal and Rajasthan have been requested for submission by December, 2015.
3. Signing of Tripartite Agreements for the schemes which have already been sanctioned, but are pending with State Governments for signing, may be expedited by the respective State Governments viz., Odhisa, Assam, UP and Nagaland. Odisha has informed that the agreement would be signed by 31st August, 2015.
4. Some of the States like Haryana, Chandigarh, Jharkhand, Maharashtra & Sikkim who have yet to submit any scheme for funding from PSDF may expedite submitting the schemes. Communications in this regard have already been sent by CEA and MOP.
5. Clarifications sought by the Techno-Economic Group in respect of the schemes already submitted, may be expedited by the concerned States to enable the Appraisal Committee to process the same further. Entities from J&K, Arunachal Pradesh, West Bengal, Punjab, Telangana and Andhra Pradesh would come under this group.
6. The guidelines provide for the utilization of funds and steps to be taken to release the funds. States should place the LOAs post approval of the scheme by the Monitoring Committee to enable release of funds from PSDF.
7. For each of the approved scheme, separate accounts have to be opened which would be linked to the Public Finance Management System (PFMS) of Ministry of Finance, for which the details are available on the PSDF website. Every entity shall furnish details of the same before release of funds.

Agenda item 4: 24x7 Power for All documents.

Shri R.K.Verma, Chief Engineer, CEA, made the presentation on 24x7 Power For all documents which is a joint initiative of Govt. of India and States to provide power supply to all the consumers by 2019.

2. CE, CEA informed about the status of preparation of documents for all the States which are being prepared with the help of various Consultants, namely, M/s MECON, M/s Delloitte and M/s CRISL. Phase-wise timelines were indicated in the presentation with a target of completion along with the scheduled/tentative dates of presentation to be made by Secretaries of respective States. Copy of the presentation made by CEA is at **Annex-C**.

3. Secretary (Power), GOI requested all the representatives of the States to strictly adhere to the timeline indicated in the presentation. By end August'15, 11 documents have been targeted for completion, namely, Uttarakhand, Goa, Meghalaya, Chhattisgarh, Bihar, Telangana, Haryana, Jharkhand, Assam, Maharashtra and Arunachal Pradesh.

Agenda item 5: Right of Way (RoW) issues in 20 important transmission lines.

PGCIL presented the details about forest clearance and Right of Way(RoW) issues in the states of Karnataka, Kerala, Assam, West Bengal, Odisha, Western Uttar Pradesh and Maharashtra.

2. Secretary, Ministry of Power requested the State Governments to look into for early resolution of these issues so that the completion of the transmission lines, which are getting delayed largely due to these issues, may be completed by PGCIL at the earliest.

3. The State-wise issues are as below:

(i) Karnataka:

(a) Secretary (Energy), Government of Karnataka acknowledged the RoW issues prevailing in and around Bengaluru urban areas and assured that all efforts shall be made for early resolution of compensation issues.

(b) PGCIL submitted that they are agreeable to make payments of compensation in line with the draft guidelines formulated by the Committee of Ministry of Power (i.e. 85% for tower footing & 15% for line corridor) and requested for active support of Government of Karnataka to ensure completion of POWERGRID's lines (i.e. 400 kV D/C Dharmapur (Salem New)-Somanhalli line; 400 kV D/C Madhugiri-Yelahanka line; 765 kV S/C Madhugiri-Salem line; 400 kV D/C Yelahanka LILO line; & 400 kV D/C Edamon (KSEB)-Muvattupuzha line).

(ii) Kerala:

(a) Secretary (Power), Government of Kerala informed that all efforts are being made for enabling POWERGRID to take up the survey works in the RoW affected portion and also informed that Chief Secretary, Government of Kerala is personally looking into the matter for expeditious recommencement of works.

(iii) Uttar Pradesh:

Representative of Uttar Pradesh acknowledged that there are RoW issues in Saharanpur district, which need to be resolved by the State Government and assured POWERGRID that all efforts shall be made towards the same enabling POWERGRID to complete their lines viz. 400 kV D/C Quad Dehradun-Bagpat line; LILO of 400 kV D/C Meerut-Kaithal at Bagpat; 400 kV D/C Dehradun-Abdullapur line; and 400 kV D/C Roorkee-Saharanpur line.

(iv) Maharashtra

Principal Secretary (Energy), Government of Maharashtra acknowledged that there are RoW issues near Boisar, Aurangabad and Navi Mumbai and assured to help POWERGRID for early resolution of these issues.

Agenda item 6: Green Energy Corridors: Part-I and II.

A presentation was made on the status of Green Energy Corridors-I &II. It was informed that about 33 GW renewable capacity addition has been envisaged in 8 renewable resources rich states viz. Tamil Nadu, Rajasthan, Karnataka, Andhra Pradesh, Maharashtra, Gujarat, Himachal Pradesh and Jammu and Kashmir. Subsequently, Madhya Pradesh also included in the year 2014 with capacity addition target of about 3906 MW.

2. Green Energy Corridor-I includes transmission system in Intra State level (Rs.13946 Cr.) and Inter State System (Rs.15074 Cr.), which comprise transmission network strengthening covering pooling station at Bhuj, Banaskantha, Chittorgarh, Ajmer, Bikaner & Tirunelveli and other control infrastructure like dynamic compensation, setting up of Renewable Energy Management Centers (REMC), Real Time Monitoring and Energy Storage etc.

3. Green Energy Corridor-II includes Transmission schemes for envisaged Ultra Mega Solar Power Park of about 22000MW capacity envisaged in 13th Plan. It includes nine(9) solar parks in seven(7) States which are identified for evacuation through Inter State Transmission System (10,120 MW) in Andhra Pradesh, Karnataka, Gujarat, Rajasthan, Madhya Pradesh, Uttar Pradesh and Telangana. In addition, solar park in Jammu and Kashmir at Leh/Kargil (7500 MW) have been identified. However, it has been slowed down due to high cost of transmission system. Balance 4480 MW Solar Park capacity is envisaged to be evacuated through Intra State Transmission System to be identified by respective STU.

4. **Present status:**

(i) Green Energy Corridor-I

Major ISTS elements have already awarded and are under various stages of implementation. For Intra State network under Green Energy Corridors, Tamil Nadu has placed award for one(1) package, others to follow in August 2015. Rajasthan is expected to place the award of various packages in September/ October 2015.

(ii) Green Energy Corridor-II

Transmission scheme for NP Kunta Solar Park (1500 MW) in A.P is already under implementation and tendering for transmission schemes for RewaSolarPark has been done while tendering for KarnatakaSolarPark (2000 MW) is under process.

5. Issues :

(i) Green Energy Corridor-I

The Interstate transmission system evolved as part of Green Energy Corridor scheme includes establishment of six (6) no. of pooling stations as well as major high capacity corridors. It is to mention that for effective utilization of above transmission corridors, RE generation as envisaged in various complexes in the 12th Plan should materialize. Therefore, it is important to expedite the envisaged RE capacity addition programme.

Out of above pooling stations being developed as part of ISTS, Long Term Access application has been received for Tirunelveli Pooling Station for about 300 MW and Bhuj for about 75 MW. For other locations i.e. Banaskantha, Chittorgarh, Ajmer and Bikaner, Long Term Access application (LTA) are yet to be received by CTU. Therefore, it is necessary to expedite the application of Long Term Access from the respective agency for injection of power at above 6 (six) ISTS pooling stations. Further, the solar/wind Parks may be planned preferably near above ISTS pooling stations.

(ii) Green Energy Corridor-II

It was informed that Long Term Access application for two (2) solar parks, namely, Andhra Pradesh and Karnataka have been received by CTU while LTA application for balance seven(7) solar parks need to be expedited. Further, to facilitate the matching transmission development with solar park generation, allocation of land contiguous to solar power park for establishment of off-take pooling station is required. At present,land for AP solar park has been obtained, while allocation of land for setting up of pooling station for a balance eight (8) solar Park may be expedited. Identification of

intraState transmission strengthening by the respective State Transmission utilities may also be carried out expeditiously.

6. MD, GETCO informed that transmission charges of Green Energy Corridor-I to be shared by all the constituents. He suggested that Green Energy Corridor-II implementation may be taken up carefully. He also emphasized that under Green Energy Corridor, apart from identification/development of transmission network, it is important to identify balancing infrastructure requirement like Pump Storage Hydro plant, Ancillary services etc. to address the variability associated with renewable generation.

7. JS (Trans), MOP informed that the balancing part to facilitate integration of renewable is being addressed separately by CERC. Regarding, ISTS transmission charges of Green energy corridor-I, JS(Trans) informed that as per prevailing CERC regulation, solar generation commissioned till certain period need not pay ISTS transmission charges. However, transmission charges of Green Energy Corridor-I is to be shared by the constituents as per POC mechanism.

8. CEO, POSOCO informed that cost of transmission is very less as compared to cost of generation. Therefore, it is important to develop the transmission network which will facilitate in economizing the ultimate cost of delivered power. This necessitate transmission network is to be built up ahead of RE generation especially in the context of renewable generation having very short gestation period.

9. After deliberations, following was decided:

- (i) States may expedite materialization of envisaged Renewable capacity addition in 12th Plan.
- (ii) State may impress upon RE developers to set-up Renewable Generation plants near six(6) ISTS pooling stations and apply for long term access to CTU at the earliest.
- (iii) Transmission system for facilitating RE integration may be taken up for implementation much ahead of start of RE plant works.

Agenda item 7: Reliable communication and Data Acquisition System for sub-stations (i) upto 132 kV sub-stations by PGCIL; and (ii) below 132 kV level upto 33 kV level by CEA.

Ministry of Power (MoP) had entrusted the work of provision of reliable communication at 66 kV & 33 kV substations to CEA and for 132kV and above, the work has been assigned to PGCIL.

2. Chief Engineer (PCD Division), CEA made a presentation giving status of implementation of Reliable Tele-communication Scheme of 66kV & 33kV voltage level across the country. Regarding 33kV & 66kV substations, he informed that there are around 30,000 nos. substations and about 5 lakh km line lengths across the country. CEA had initially prepared a scheme of V-SAT communication network at each 33kV and 66kV substation and broadband connectivity over existing copper telephone connection at the substations, wherever the same is available, with an estimated cost of around Rs. 2,500 crore. Subsequently, another scheme covering optical fiber based communication backed by V-SAT connection at each 33kV & 66kV sub-stations, with an estimated cost of about Rs. 27,000 crore was submitted to MOP. Secretary, MOP in the meeting taken on 24.07.2015 decided that instead of implementing one type of communication across the country, actual requirement may be sought from the States/UTs. Accordingly, a Performa was sent to all the States/UTs (copy enclosed at **Annex-D**). So far, information from 12 utilities has been received. Information from the remaining utilities is awaited. It was also informed that purpose of Performa is that each power utility should segregate its substations as per need and inform CEA of the requirement accordingly. Secretary, MOP asked States to expeditiously furnish the information to CEA, latest by end of September, 2015 so that a final view in this regard could be taken.

3. Regarding 132kV and above, he stated that PGCIL has prepared DPRs for all five regions and CEA has vetted these DPRs, costing around Rs. 4,200 crore. It was stated that PGCIL will implement Central portion and the States portion would be implemented by the respective States themselves.

4. Regarding funding, there were options of PSDF and multilateral funding arrangements with some funding from the States. A final decision in this regard would be taken later.

5. PGCIL added that DPR for the scheme of Reliable Communication and Data Acquisition Scheme upto 132 kV level has been prepared. A copy of DPR was also provided/ circulated to States for their portion during the meeting. The scheme involves laying of 1,09,313 kms of OPGW network for providing communication to 3,564 nos. sub-stations at a cost of Rs 4,234 crore. Implementation strategy as proposed in the DPR envisages execution of OPGW network by concerned state for their respective portion and Central Sector portion to be executed by POWERGRID.

Annex-A

Date/time of the meeting: 18.08.2015 at 10.00 am

Venue: Ministry of Power, Committee Room (Labour), C-Wing, Shram Shakti Bhawan,
New Delhi-110001.

**Sub: Minutes of meeting regarding concept on General Network Access (GNA)
etc.**

List of Participants

Ministry of Power

1. Shri Pradeep Kumar Pujari, Secretary (Power) - In the chair
2. Shri B.N. Sharma, Additional Secretary
3. Smt. Jyoti Arora, Joint Secretary (Trans)
4. Shri Shantanu P. Gotmare, PS to MoP
5. Shri Sanjeev Jain, Under Secretary (PG)
6. Shri D. Guha, Under Secretary (OM)

Central Electricity Authority (CEA)

7. Shri Major Singh, Chairperson
8. Shri Shyam Dhar Dubey, Member (PS)
9. Shri Ravindra Kumar Verma, Chief Engineer
Mobile : 9868167199/Email : ravi2658@yahoo.co.in
10. Shri Prabhat Mohan, Chief Engineer, (PCD)
Phone: 26565214/ Email: prabhatmohan1957@rediffmail.com
11. Shri K.K. Arya, Chief Engineer (SP&PA)
Phone: 26102045/Email: kkarya_2001@rediffmail.com
12. Shri Naresh Bhandari, Director (PCD)
Mobile : 9899061449/Email : nbnareshbhandari@gmail.com
13. Shri Pardeep Jindal, Director (SP&A)
Mobile: 9868438594/Email: bkarya1664@gmail.com

Central Electricity Regulatory Commission (CERC)

14. Smt. Shubha Sarma, Secretary
Phone : 011-23753923/Email : secycerc@gmail.com,
15. Shri A.K.Saxena, Chief (Engg.)
Email : akumar.saxena@nic.in
16. Shri Akhil Kumar Gupta, Jt. Chief (Engg.),
Mobile: 9650995105/Email: akhilkg@cercind.nic.in/akhilkg@gmail.com
17. Ms. Shilpa Agarwal, Dy. Chief (Engg.),
Mobile: 9650992680/Email: shilpadce@yahoo.com

Power Grid Corporation of India Limited (PGCIL)

18. Shri I.S. Jha, Director (Projects)
Phone: 0124-2571930/Email: isjha@powergridindia.com
19. Shri Anil Jain, ED

- Mobile : 9811317975/Email : aniljain@powergridindia.com
20. Shri Subir Sen, GM (Smart Grid)
Mobile : 9650293185/Email : subir@powergridindia.com
21. Shri Sunil Agarwal, GM (LD&C)
Mobile : 7042195068/Email : sunil9@powergridindia.com
22. Shri H.H. Sharan, AGM,
Mobile : 9873549014/Email : sharan@powergridindia.com
23. Shri Ashok Pal, AGM (CTU-PIg)
Mobile : 9910378105/Email : ashok@powergridindia.com

POSOCO/NLDC

24. Shri S.K.Soonee, CEO
Mobile : 9899092215/Email : sksoonee@gmail.com,
25. Shri R.K. Bansal, Consultant, NLDC
Mobile : 9717296936

STATE SECTOR

Govt. of NCT of Delhi/Delhi Transco Ltd.

26. Shri Sanjeev Singh, MD
Phone No.23231748/Fax No.23234640/23232715
Email :md@dtl.gov.in

Govt. of Madhya Pradesh/MPPTCL, Jabalpur

27. Shri B. Ananda Babu, Secretary (Energy)
Mobile : 09425528573/Email : banand-92@yahoo.com
28. Shri Umesh Rautji, MD
Mobile: 09425805124
29. Shri R.S.Shrivastava, CE (P&D),
Mobile: 9425805010/Email: cepts321@yahoo.com

Govt. of Karnataka, Bengaluru

30. Shri P. Ravi Kumar, Secretary (Energy)
Mobile: 09448124242/Email: prs-energy@karnataka.gov.in
31. Shri Jawaid Akhtar, MD, KPTCL
Phone: 080-22244556/Email: md@kptcl.com

Government of Uttar Pradesh/UPPCL, Lucknow

32. Shri Vishal Chauhan, MD,
Mobile: 8005429725/ Email: cmd@upptcl.org
33. Shri K.M.Mittal, Director (Distribution)
Mobile: 08004912083/Email: dduppcl@gmail.com
34. Shri Suman Guchh, S.E.
Mobile : 09415005397/Email : setppss@gmail.com
35. Shri B.K.Saxena, S.E.,
Mobile: 08004525398
36. Mohd. Ishaque,
Phone: 8130599628/ Email: seetenoida@upptcl.org

37. Shri V.K. Kaushik, Adviser
Mobile: 9412749249

Govt. of Maharashtra/MAHATRANSCO

38. Shri Mukesh Khullar, Principal Secretary (Energy)
Mobile: 09920066555/Email: khullarm@nic.in
39. Shri Rajeev Kumar Mital, CMD
Phone: 022-26591253/26595000/Fax: 022-26598595
Mobile : 9769446924/Email: md@mahatransco.in
40. Shri Prafulla Pathak RM, MD
Mobile: 9810120094/Email: msebdel@gmail.com

Government of Kerala

41. Shri Sivasankar. M, Secretary (Power)
Mobile: 09847797000/Email: sivasankar@kseb.in

Govt. of Haryana/HVPNL

42. Shri Rakesh Jolly, CE/Comml.&SO
Mobile: 09356273737/ Email: cesocomml@hvpn.gov.in
43. Shri Rakesh Garg, XEN/Comml.
Mobile: 9316369244/Email: cesocomml@hvpn.gov.in

Govt. of Himachal Pradesh/HPPTCL/HPSEB

44. Shri R.K.Sharma, Director (Tech.),
Mobile: 9418482408/ Email: ravinderhpseb@gmail.com
45. Shri Sandeep Sharma, DGM (Planning)
Mobile: 09816628734
46. Shri S.K.Sharda, Director,
Phone : 0177-2623415/Mob:9418048149
Email :dirplaning.hpptcl@gmail.com

Government of Goa

47. Shri Laxmikant. D. Kolveker, CEE, Electricity Deptt.
Mobile: 07350663000/Email: laxmikant.kolveker@gmail.com
48. Shri R.M. Ashrit, Ex. Engineer (EHV),
Mobile: 07350644000/Email: raviashrit@yahoo.co.in

Govt. of West Bengal/WBSETCL

49. Shri S.K.Das, MD
Mobile: 9434994444
50. Shri Asit Karmakar, Addl. Chief Engineer
Mobile: 09434910090/Email: asit.karmakar@wbsetcl.in

Govt. of Punjab/PSTCL

51. Ms. Shashi Prabha, Dir. (Tech)
Mobile: 9646200039

52. Shri Ajay Kapur, CE/ TS
Mobile: 9646117802
53. Shri Munish Bhardwaj, ASE/Planning
Mobile: 9646118863/Email: se-planning@pstcl.org
54. Shri K.L.Sharma, Director(Distribution)
Mobile: 9646200026/Email: directordistribution@gmail.com

U.T. Chandigarh/Electricity Department

55. Shri M.P Singh, SE (Electricity)
Mobile: 8054104516/Email: seelecty@gmail.com

Govt. of Assam/AEGCL

56. Ms. Karuna Sarma, AGM, Guwahati
Mobile: 9435013532/Email: karunasarma@gmail.com
57. Shri J.K Sarma, CGM,
Mobile: 9435140964/Email: chief.general.manager@aegcl.co.in

Govt. of Jharkhand/Jharkhand Urja Sancharan Nigam Ltd. (JUSNL)

58. Shri KBN Singh, CE (Transmission)
Mobile: 9431102925/Email: cetjusnl@gmail.com
59. Shri Rakesh Kumar, EEE,
Mobile: 9431707302/Email: errakeshkumar07@gmail.com

Govt. of Gujarat/GETCO

60. Shri S.K.Negi, MD,
Phone :0265-2353085 (D)/2338299/Fax : 0265-2338152
E-Mail : md.getco@gebmail.com

Govt. of Chhatisgarh/CSPTCL

61. Shri Vijay Singh, MD,
Mobile: 9406249987/Email: vijaysingh.cseb@gmail.com

Govt. of Tripura/Tripura State Electricity Corporation Ltd. (TSECL)

62. Shri Mridul Kanti Chowdhury, Director (Tech),
Mobile : 09436464245/Email: kanti50@yahoo.co.uk
63. Shri. R.Debbarman, Addl.GM,
Mobile: 9436122643/Email: agmtc11@gmail.com

Government of Sikkim

64. Shri N.T.Bhutia, Secretary (Power),
Mobile:9932321944/Email : ntbhutia@gmail.com
65. Shri Sanjay P Kazi, ACE
Mobile: 9434169660/Email: acepowersikkim@gmail.com

Govt. of Mizoram

66. Shri R.K.Gupta, Commissioner, P&E,
Mobile: 9650012703/Email: spower-mizo@gmail.com

Govt. of Rajasthan/RVPN

67. Shri R.K.Agrawal, Chief Engineer (PPM),
Mobile: 9414061301/ Email: ceppmrvpn@gmail.com
68. Shri Mukul Bhargava, Executive Engineer (KfW),
Mobile: 9413382620/ Email: ceppmrvpn@gmail.com

Government of Jammu and Kashmir/PDD, Jammu/Sringar.

69. Shri Sundeep K. Nayak, Principal Secretary (Power Deptt.)
Mobile: 09419506789/ Email: sknjkpdd@gmail.com
70. Shri Ravi Chanyal, Chief Engineer (S&O), Jammu
Mobile: 09419111781/ Email: ravichanyal01@gmail.com
71. Shri Sheikh Gul Ayaz, Chief Engineer(S&O), Kashmir
Mobile: 09419005907/ Email: gul.ayaz@hotmail.com
72. Shri Subash Chandar Sharma, Chief Engineer
Mobile : 09419131927/Email : cegenleh@gmail.com

Government of Kerala/KSEB

73. Smt. Vijaya Kumari P, Director (Trans. &SO)
Mobile: 09446008444/Email: mtkseb@ksebnet.com

Govt. of Odisha/GRIDCO

74. Shri Hemant Sharma, CMD, GRIDCO
Mobile: 09438907001/Email: cmd@optcl.co.in

Govt. of Andhra Pradesh/APTRANSCO

75. Shri K.Vijayanand, CMD
Mobile : 09652341555/Email: mdapgenco@hotmail.com

Government of Telangana/TS Transco (Telangana) Hyderabad

76. Shri D. Nageswara Sarma,
Mobile: 09440907403/Email: dugga_raju@yahoo.com
77. Shri J Ajay Kumar, ADE,
Mobile: 9440679469/Email: desststransco@gmail.com

Government of Tamil Nadu

78. Dr. R. Kalai Selvan, MD (A/C)
Mobile: 9445858899/Email: mdtantransco@tnebnet.org
79. Er.M.A. Helen, Chief Engineer/Planning
Mobile: 9445856441/Email: ceplg@tnebnet.org
80. Er. A.Axilium Jayamary, Chief Engineer/Operation
Mobile: 9445007726/Email : ceoch@tnebnet.org

Govt. of Meghalaya/MePTCL

81. Shri E.Slong, Director (Transmission)
82. Shri L.M.F.Sohtun, ACE (T&T)
83. Shri F.E.Kharshiing, SE, SLDC

Government of Arunachal Pradesh

84. Shri S.K.Sinha, RE (E)
Mobile : 9999470068/Email: dopnewdelhi@gmail.com

Government of Puducherry/Office of Resident Commissioner

85. Shri P.L.Narassimhan, OSD
Phone: 26118032/Email: jointrcpondicherry@gmail.com

Government of Uttarakhand/PTCUL

86. Shri Dup Sah, Chief Engineer,
Mobile : 09412997891/Email: dup_sah@ptcul.org

Consultant (Transmission), PPMP

87. Shri P.K.Pahwa, Consultant (Transmission)
Mobile :9818243524/Email : pkpahwa2000@yahoo.com,

PRIVATE SECTOR

Reliance Power Transmission Ltd.

88. Shri Alok Roy, CEO,
Mobile: 9350261650/Email: alok.k.roy@relianceada.com
89. Shri Anil Rawal,
Mobile: 9599318295/Email: anil.rawal@relianceada.com
90. Shri Anil Asthana, Advisor (Transmission),
Mobile: 9818644938/Email: anil.kumar_asthana@yahoo.com

Sterlite Grid Limited

91. Shri Pratik Agarwal, CEO
Phone : 022-66461460/Fax No.022-66461450
Email :pratik.agarwal@vedanta.co.in
92. Shri Ajay Bhardwaj, Business Head,
Mobile: 9810446758/Email: ajay.bhardwaj@sterlite.com
93. Shri T.A Reddy, V.P.
Mobile: 9310490976/Email: tan.reddy@sterlite.com

Adani Power Limited/Adani Transmission Ltd.

94. Shri L.N.Mishra, Sr. VP,
Mobile: 9099900244/Email: ln.mishra@adani.com

**CERC STAFF PAPER
ON
TRANSMISSION PLANNING,
CONNECTIVITY,
LONG TERM ACCESS,
MEDIUM TERM OPEN ACCESS
&
OTHER RELATED ISSUES**

BACKGROUND

- **PLANNING BY CTU ON LTA**

- ❖ **CONNECTIVITY WITHOUT LTA / LTA FOR PART CAPACITY :**

- > **Inadequate transmission system-> congestion**

- Suggestions

- Connectivity applications must be accompanied by LTA applications and the time frames for materialization of LTA needs to be honoured so that there is no stranded generation or stranded transmission nor is the grid security unduly compromised.
 - Connectivity on LIFO should be disallowed.

- ❖ **LTA WITHOUT BENEFICIARY:**

- > **Change from forecast demand scenario**

- Suggestions

- At least 85% power should be tied up in long term PPAs at least five years in advance so that transmission can be properly planned and implemented (Change in perception of planners now).
 - margins for short term open access are limited.

BACKGROUND

❖ ***NEED FOR PROPER PROJECTION OF DRAWAL REQUIREMENT FROM ISTS***

- Consistent overdrawal over LTA from ISTS

❖ ***ISSUES OF GENERATORS***

- Charges for LTA to target region but no priority in scheduling
- Force Majeure with generators- wishes to delay commencement of LTA,
-relinquishment of LTA

❖ ***EMERGENCE OF MARKET***

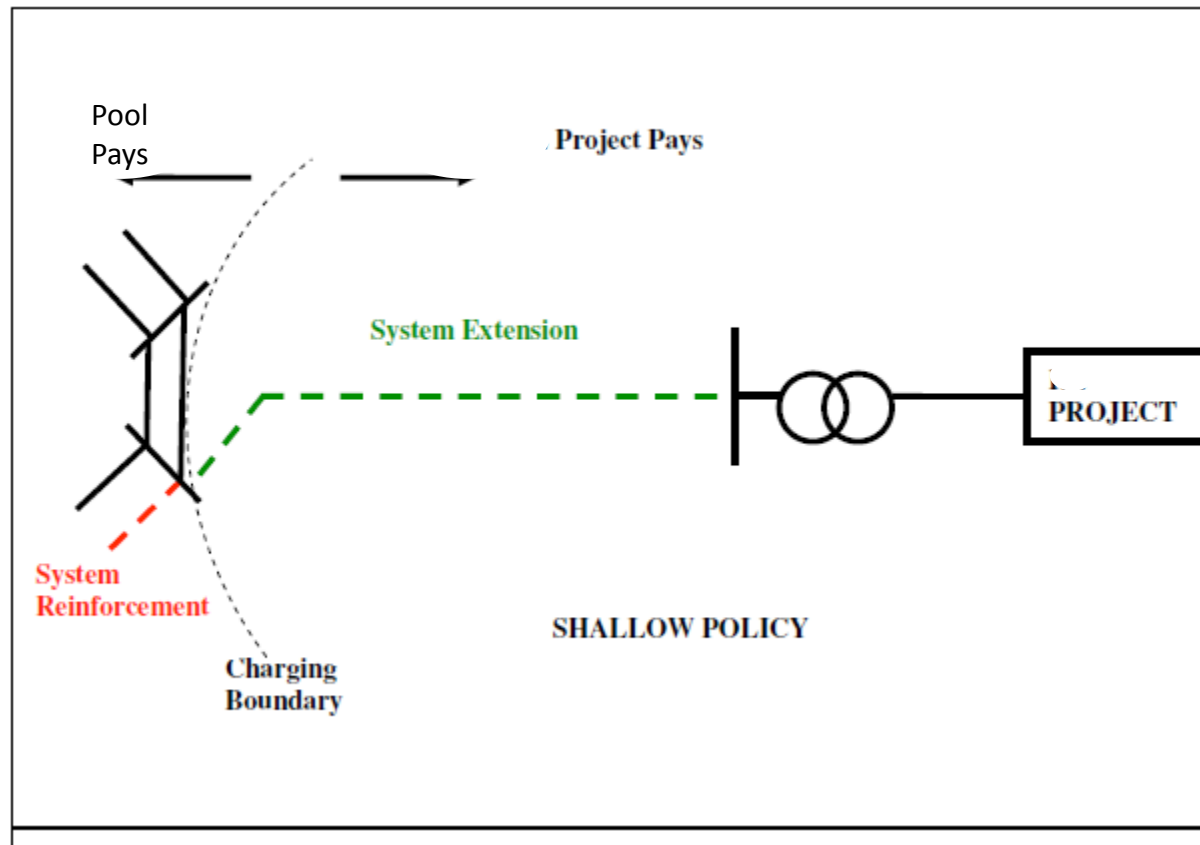
- Availability of cheaper power outside the State

GENERAL NETWORK ACCESS (GNA)

- CEA brought out a paper with concept of GNA in 2013.
- Issues in GNA as conceptualised by CEA
 - ❖ As per CEA- Generators shall not have to declare beneficiaries
 - *How the planning will be done under proposed system – will 360 degree evacuation be possible when it was earlier not feasible specially in view of differences in planning horizon and operation horizon.*
 - ❖ As per CEA- Generators shall not be liable to pay notional point of drawal charges as is being levied currently under POC (target region).
 - *The issue of mismatch between injection GNA & Drawal GNA not handled*
 - **CERC Staff paper:** *In the event of Generation GNA > Drawal GNA, generator to pay for Injection GNA + Drawal GNA for this differential since transmission planning will be on injection GNA.*
 - ❖ Other issues
 - *Relinquishment*
 - *Estimation of drawal requirement by drawee entities-in view of open access*
 - *Connectivity not specified as a separate product*
 - *Possibility of Overbuilding of system*
 - *Treatment for renewables which is public policy investment*

PROPOSALS IN CERC STAFF PAPER

Shallow Connection



Deep Connection

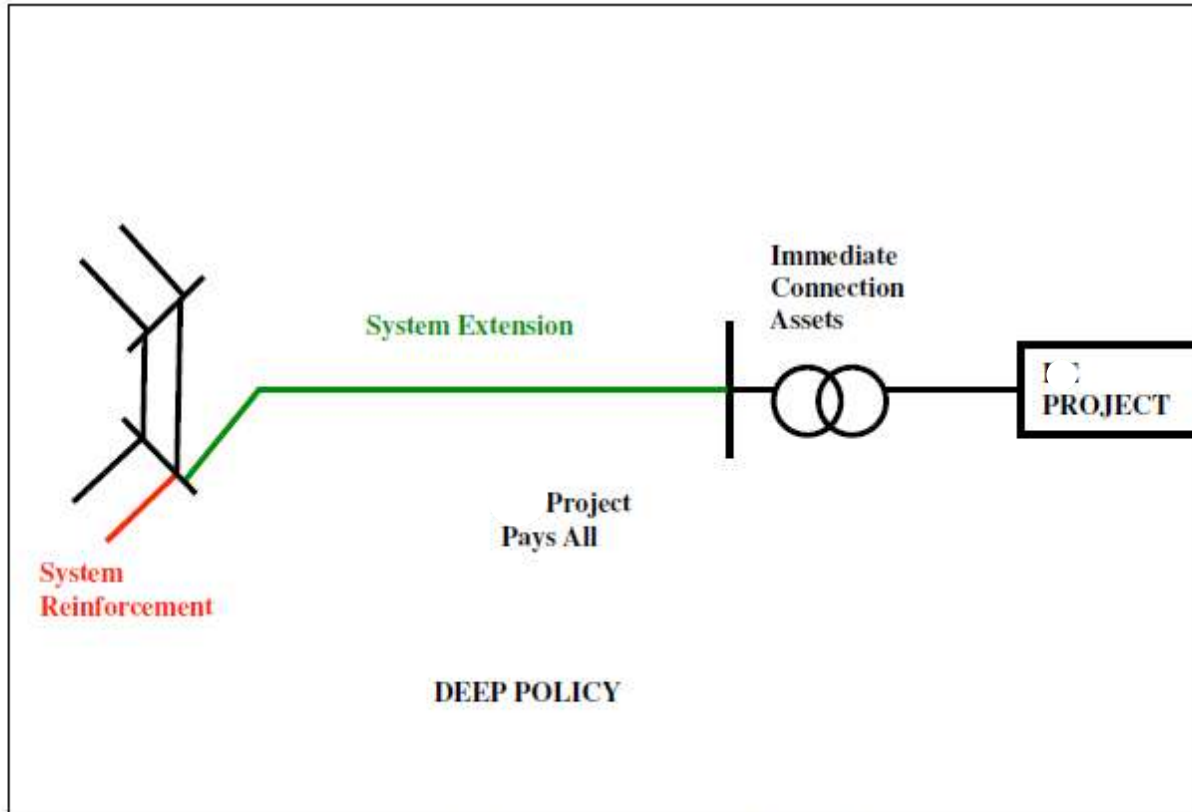


Figure 2-2: Deep connection policy

Examples of the countries- Type of connection charges

Country	Connection Charge-Type
Great Britain	Shallow
Denmark	Shallow to partially shallow
France	Shallow
Germany	Deep (customers), Shallow(Power Plants)
Ireland	Shallow to partially Deep
Sweden	Deep
California	Shallow
PJM	Deep
Chile	Shallow
Australia	Shallow

Alternative 1 with option A, B & C

- Transmission expansion is initially attributable to generators and later shifted to beneficiaries.
- Choice of product will be given to applicant and in accordance with the choice, applicant will get transmission service
- Construction bank guarantee to be furnished by applicant would be equivalent for capital investment to be made in transmission system. No Cash – BG only
- In case of no transmission system augmentation is required, Bank Guarantee will be corresponding to seven year zonal transmission charges.
- Three types of products are proposed to be offered in **Alternative-1:**
 - a) Option-A : Connectivity plus Full Network Access**
 - b) Option-B: Connectivity Access**
 - c) Option-C: Connectivity plus Injection Access**
- Phased timeline may be provided for the quantum under different options depending on scheduled commissioning of units

Summary (Alternative-1)

Type	Network	BG	Facility	Exit	Transmission Charges
A	Connectivity plus network Access	Connectivity line -non refundable plus network Access- Adjustable BG	Full Access	12 year NPV of transmission tariff for new assets	Usage based
B	Connectivity	For full cost of Connectivity Line – non refundable	Only assured connectivity	Bank Guarantee will not be refunded	Fixed monthly tariff for connectivity line plus 25% of average access charge for installed capacity - Adjustable after STOA
C	Connectivity plus injection	Connectivity- non refundable plus 50% of network- Adjustable BG	Only target Region access	12 year NPV of transmission tariff for new assets	Usage based

Alternative 2 with GNA

- Transmission planning execution and transmission cost allocation shall be based on GNA concept as proposed by CEA and CTU.
- Whenever a Generator or Drawal customer wants connectivity and access to ISTS , it will declare its GNA Requirement - 5 year in advance
- For Generators, GNA will correspond to their Net Installed Capacity (i.e. Installed capacity – Auxiliary consumption)
- Declaration of target region will be optional and in case of no identified beneficiary , CTU will plan system in accordance with load generation forecast
- Additional point in Staff paper:
 - Both generator and demand customer will submit BGs corresponding to their GNA
 - In case drawl GNA is less than injection GNA, transmission system will be planned in accordance with injection GNA in case generator agrees to bear both injection and withdrawal GNA for differential.

Comments received from 24 entities

DISCOMS-4 Nos.

KSEB,

GUVNL,

GRIDCO,

MPVVNL

Generators-9 Nos.

Adani Power Limited,

Essar Power Limited,

MB Power Limited,

Thermal Powertech,

Dhariwal Infrastructures Limited,

Jindal Power Limited,

Simhapuri Energy Limited,

NTPC Ltd,

Tata Power.

Trader, Exchanges-4 Nos

IEX, PXIL, TPTCL, PTC

POSOCO, POWERGRID

Associations- 2 Nos

APP, APT

Consultants, Individuals-3 Nos

Mytrah Energy Ltd.,

Statkraft Markets Ltd.,

Sh Shanti Prasad

STAKEHOLDERS VIEWS ON DEEP/SHALLOW CONNECTIONS

- **Shallow Connection only for Renewable Projects-**
GUVNL, APL, APP, KSEB, POSOCO, Thermal Powertech, Mytrah
- **Shallow Connection for both Renewable and Conventional**
DIL, Essar Power, IEX, JPL, NTPC, Tata Power
- **Both products (deep/shallow) to be available**
MPPKVNL
- **Shallow Connection with GNA**
MB Power, Sh. Shanti Prasad

STAKEHOLDERS COMMENTS ON GNA

- **Favouring GNA:**

Adani Power Limited

IEX

Jindal Power Limited

MB Power Limited

POSOCO

Simhapuri Energy Limited

Tata Power

Sh. Shanti Prasad

- **Nitty Gritty should be discussed before finalising GNA**

APP

GUVNL

KSEB

GRIDCO

NTPC

Essar Power

- **Not aware of GNA:** *Dhariwal*

- **Till clarity on issues on GNA raised in Staff paper Alternative-I be followed**
MPPKVNL

- **Alternative-I with drawal based planning delinking with requirement of generators, backbone system be planned as grid strengthening schemes**
POWERGRID

- **3rd amendment to POC + amendment in Connectivity regulations will bring same effect as GNA:** *Thermal Powertech*

ISSUES TO BE ADDRESSED IN GNA AS PER STAKEHOLDERS

ISSUES TO BE ADDRESSED	ENTITIES
<p>Transmission system developed on 360 degree basis may have consequences in form of excess transmission capacity built, redundancy, burden of transmission charges without actual usage etc.</p> <p>Risk of force majeure to generator and charges falling on beneficiaries.</p>	<p>GRIDCO, GUVNL, Sh. Shanti Prasad</p>
<p>To handle issues arising due to non actualization of the forecasted scenario is difficult in wake of power sector issues like delay clearances, fuel issues, liquidity problem, behaviour of open access consumers, captive generators, DISCOMs financial health etc.</p>	<p>GUVNL</p>
<p>It would lead to contract based transmission pricing than usage base required under National Electricity Policy</p>	<p>GRIDCO, KSEB</p>

ISSUES TO BE ADDRESSED IN GNA...

ISSUES TO BE ADDRESSED	ENTITIES
<p>How will the State provide data in view of open access. Suggestion by KSEB- There should be a coordinating agency-STU/discom/any other nodal agency to anticipate the same.</p>	GRIDCO
<p>GNA requirement in advance by all STU may not be actual and they tend to declare less which may lead to again congestion scenario.</p>	NTPC
<p>Transmission planning with GNA concept would be quite challenging in order to accommodate flexibility in injection and drawl anywhere in the grid.</p>	NTPC, Sh. Shanti Prasad
<p>Force Majeure of generators –fuel, clearances be allowed. Exit charges only on scientifically determined stranded capacity</p>	Essar Power

ISSUES TO BE ADDRESSED IN GNA...

ISSUES TO BE ADDRESSED	ENTITIES
Modification to GNA: <i>Transmission System should be developed for a level where the cost of building incremental transmission capacity is equal to cost of congestion. Bidding if congestion still occurs</i>	Statkraft
A Validation Committee with representative of CTU, CEA, Tr. Licensees, generator, one representative of State representing STU/DISCOMs to review once in a year progress of generation projects, inter-state transmission, new proposals of generation projects and transmission sectors etc.	KSEB
Generator be allowed to transfer LTA in part or full to any other interested party.	MB Power
GNA to be done on options and scenario based analysis.	GRIDCO, APP
All alternatives including non-transmission based solutions like Demand Side Management, Special protection Schemes etc also need to be taken into consideration.	GRIDCO

ISSUES TO BE ADDRESSED ALONG WITH GNA

- Assurance of access commensurate with GNA
- Aligning Transmission Pricing mechanism with distance, direction and quantum of flow as envisaged in National Electricity Policy and Tariff Policy.
- Payment liability as per GNA may induce under declaration by State.
- Treatment of Renewables
- Relinquishment charges.
- Consequences of delay

Thank You

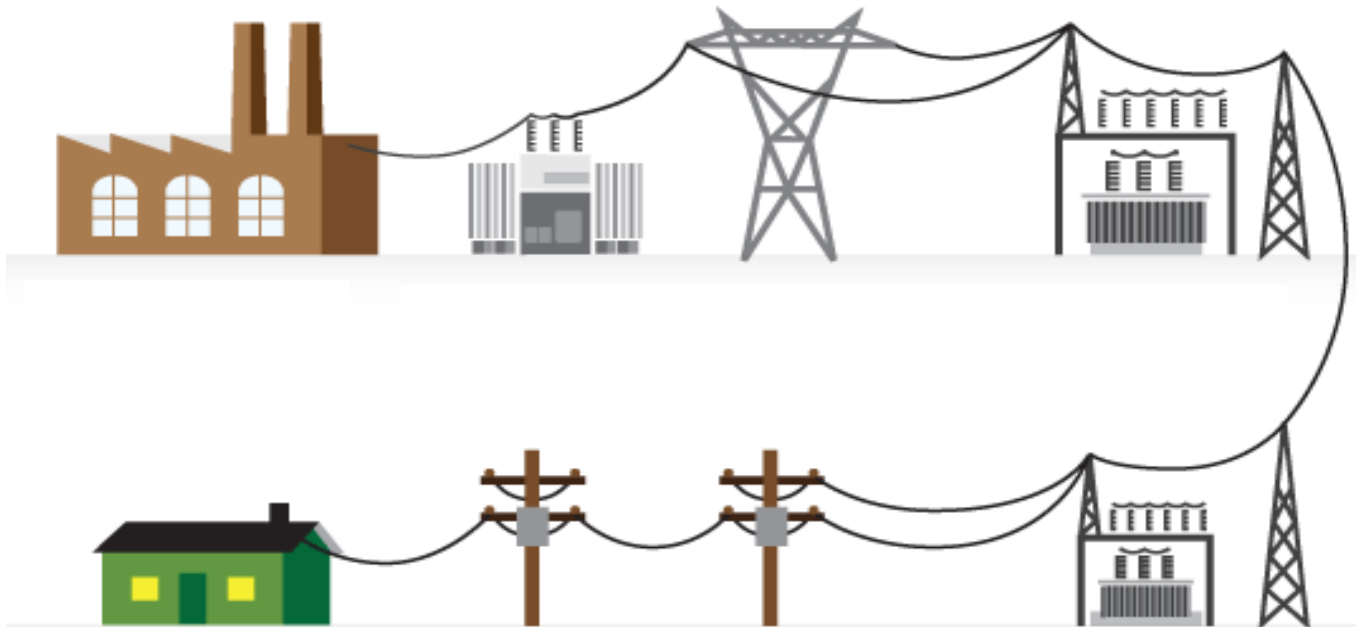


Ministry of Power
Government of India

Annex-C

24x7 Power For All

A Joint Initiative by Government of India and State Governments



AIM OF JOINT INITIATIVE

- Electricity is a concurrent subject and distribution of electricity falls under the purview of respective State Governments. It is the responsibility of distribution companies to provide reliable & quality power to all the consumers in their area of operation.
- To supplement the efforts of State Govts, Government of India have taken a joint initiative with the respective state Govts for preparation of state specific documents for providing 24X 7 power supply to all households/houses, commercial & industrial consumers and adequate supply to agriculture consumers as per state policy.
- This initiatives aims at ensuring uninterrupted supply of quality power to existing consumers by the end of 12th plan and providing access to electricity to all unconnected households by 2019.

Time line for preparation of 24x7 PFA documents

Consultant	Phase 1	Phase 2	Phase 3
M/S CRISIL PACKAGE A	July-August 2015	Sep- Oct 2015	Nov-Dec 2015
	Uttarakhand	Uttar Pradesh	Tripura
	Goa	Odisha	Daman and Diu
	Meghalaya	Madhya Pradesh	Puducherry
	Chhattisgarh	Karnataka	
M/S MECON PACKAGE B	Bihar	Gujarat	Nagaland
	Telangana	Punjab	Manipur
	Haryana	Kerala	Mizoram
		Delhi	Lakshadweep
			Dadra & Nagar Haveli
			Chandigarh
M/S DELOITTE PACKAGE C	Jharkhand	West Bengal	Himachal Pradesh
	Assam	Sikkim	J&K
	Maharashtra	Tamil Nadu	A&N Island
	Arunachal Pradesh		

STATUS

- 24x7- Power For All (PFA) Documents for the state of Andhra Pradesh and Rajasthan have already been prepared in consultation with State Governments and these documents are available on the website of MOP.
- To prepare the remaining documents, the country has been divided in to 3 packages and 3 consultants M/s Crisil, M/s Mecon and M/s Deloitte have been appointed.
- The documents of Uttarakhand , Goa and Bihar have been finalized and are expected to be signed shortly.
- The state specific documents for the states of Meghalaya, Telangana, Assam, Haryana, Jharkhand, Maharashtra, Chhattisgarh & Arunachal Pradesh are under preparation.

Status for preparation of 24x7 PFA documents-

Phase I July–Aug 2015

Consultants	State/UT	Data collection & Analysis	Presentation in MOP	
			JS (MoP)	Secretary (MoP)
Package A				
M/s Crisil	Uttarakhand	Over	Over	Held on 30/06/2015
	Goa	Over	Over	Held on 29/07/2015
	Chhattisgarh	Over	Over	Scheduled on 25/08/2015
	Meghalaya	Over	Over	Scheduled on 28/08/2015
Package B				
M/s Mecon	Bihar	Over	Over	Held on 22/07/2015
	Haryana	Over	Over	Scheduled on 25/08/2015
M/s KPMG	Telangana	Over	Over	Held on 07/08/2015
Package C				
M/s Deloitte	Jharkhand	Over	Over	Held on 5/08/2015
	Assam	Over	Over	Held on 5/08/2015
	Maharashtra	Over	Over	Held on 10/08/2015
	Arunachal Pradesh	Over	Over	Scheduled on 24/08/2015

Schedule for preparation of 24x7 PFA documents-

Phase II Sep-Oct 2015

Consultants	State/UT	Data collection & Analysis	Scheduled Presentation in MOP	
			JS (MoP)	Secretary (MoP)
Package A				
M/s Crisil	Uttar Pradesh	Over	10/09/2015	15/09/2015
	Madhya Pradesh	15/09/2015	18/09/2015	24/09/2015
	Karnataka	15/09/2015	29/09/2015	05/10/2015
	Odisha	15/09/2015	08/10/2015	14/10/2015
Package B				
M/s Mecon	Gujarat	15/09/2015	18/09/2015	24/09/2015
	Punjab	15/09/2015	29/09/2015	05/10/2015
	Kerala	15/09/2015	08/10/2015	14/10/2015
	Delhi	15/09/2015	16/10/2015	19/10/2015
Package C				
M/s Deloitte	West Bengal	15/09/2015	18/09/2015	24/09/2015
	Sikkim	15/09/2015	29/09/2015	05/10/2015
	Tamilnadu	15/09/2015	08/10/2015	14/10/2015

Schedule for preparation of 24x7 PFA documents

Phase III Nov-Dec 2015

Consultants	State/UT	Data collection & Analysis	Scheduled Presentation in MOP	
			JS (MoP)	Secretary (MoP)
Package A				
M/s Crisil	Tripura	15/11/2015	18/11/2015	24/11/2015
	Daman & Diu	15/11/2015	30/11/2015	4/12/2015
	Puducherry	15/11/2015	8/12/2015	14/12/2015
Package B				
M/s Mecon	Nagaland	15/11/2015	18/11/2015	24/11/2015
	Manipur	15/11/2015	30/11/2015	4/12/2015
	Mizoram	15/11/2015	8/12/2015	14/12/2015
	Lakshadweep	15/11/2015	17/12/2015	21/12/2015
	D & N Haveli	15/11/2015	17/12/2015	21/12/2015
	Chandigarh	15/11/2015	17/12/2015	21/12/2015
Package C				
M/s Deloitte	Himachal Pradesh	15/11/2015	18/11/2015	24/11/2015
	Jammu & Kashmir	15/11/2015	30/11/2015	4/12/2015
	A & N Island	15/11/2015	8/12/2015	14/12/2015

Roadmap for providing 24 X 7, Power for All (PFA)

- To prepare state specific Roadmap for providing 24 X 7, Power for All (PFA) in various states & UTs of India, the detailed document would include the following :

1 Power Supply Scenerio and Demand Estimation

2 Generation Plan

3 Transmission Plan

4 Distribution Plan

5 Renewable Energy and Energy Efficiency Plan

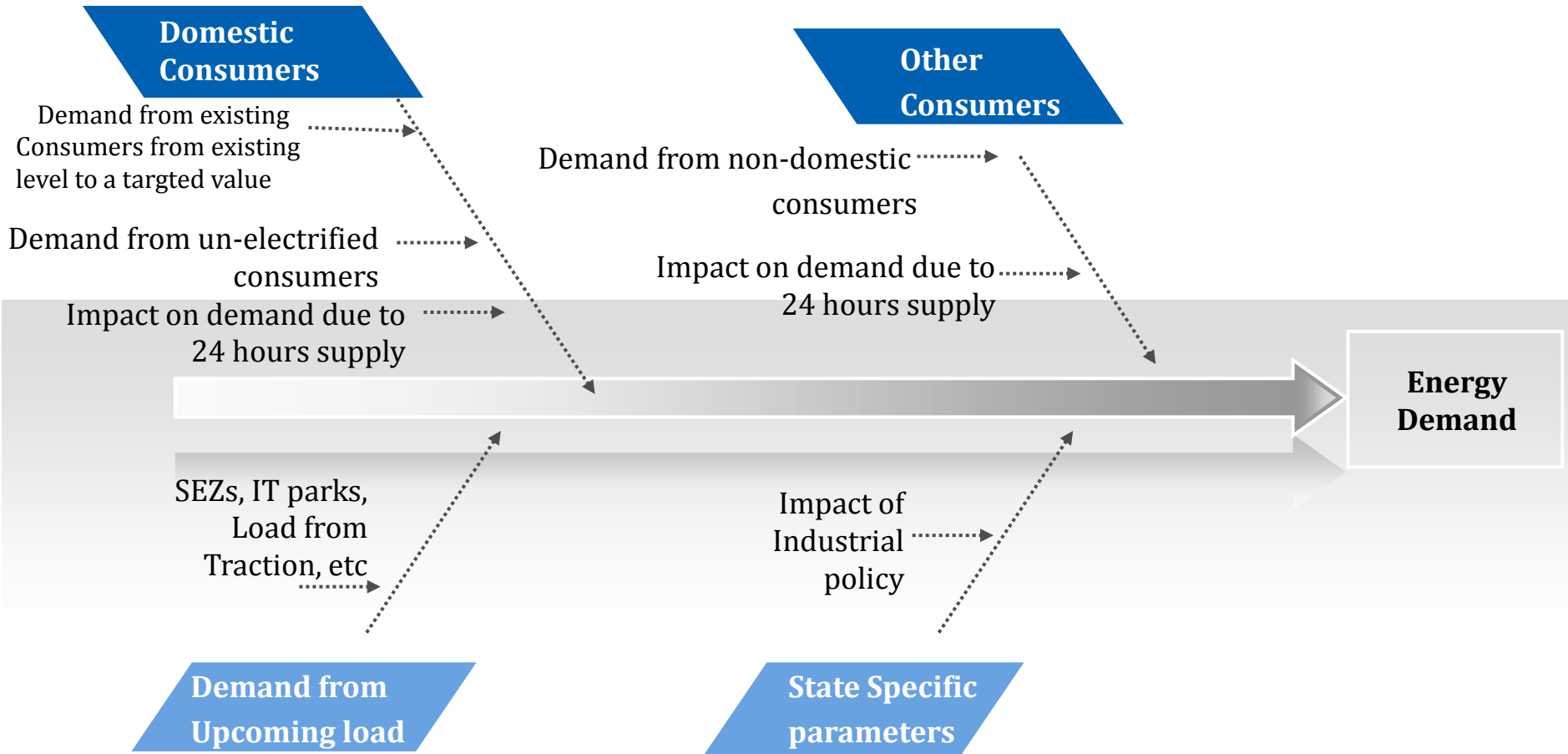
6 Financial Sustainability

7 New Initiatives, Monitoring Mechanism & Capacity Building

8 Road Map and Fund Requirement

Demand Estimation

Approach towards demand estimation



Projections to be done based on state's plan to achieve 24 x 7 Power For All target

Generation Plan

Supply plan to be designed considering estimated demand

Existing Supply *(In state and outside state)*

1

- Availability to the state from existing plants in future (Conventional and un-conventional)
- Plants expecting decommissioning

Future Capacity Available *(In state and outside state)*

2

- Availability from plants to be commissioned in future (Conventional and un-conventional)
- Gap in power requirement and availability

Gap in Existing Plan

3

- Gap in demand and supply based on existing planning
- Plan to bridge the existing gap

Central Assistance

4

- Fuel required to meet the gap (Coal or Gas)
- Fund requirement if any
- Intervention required from Gol

Road Map

5

- Action plan Yearly/Quarterly targets for state intervention to bridge the gap

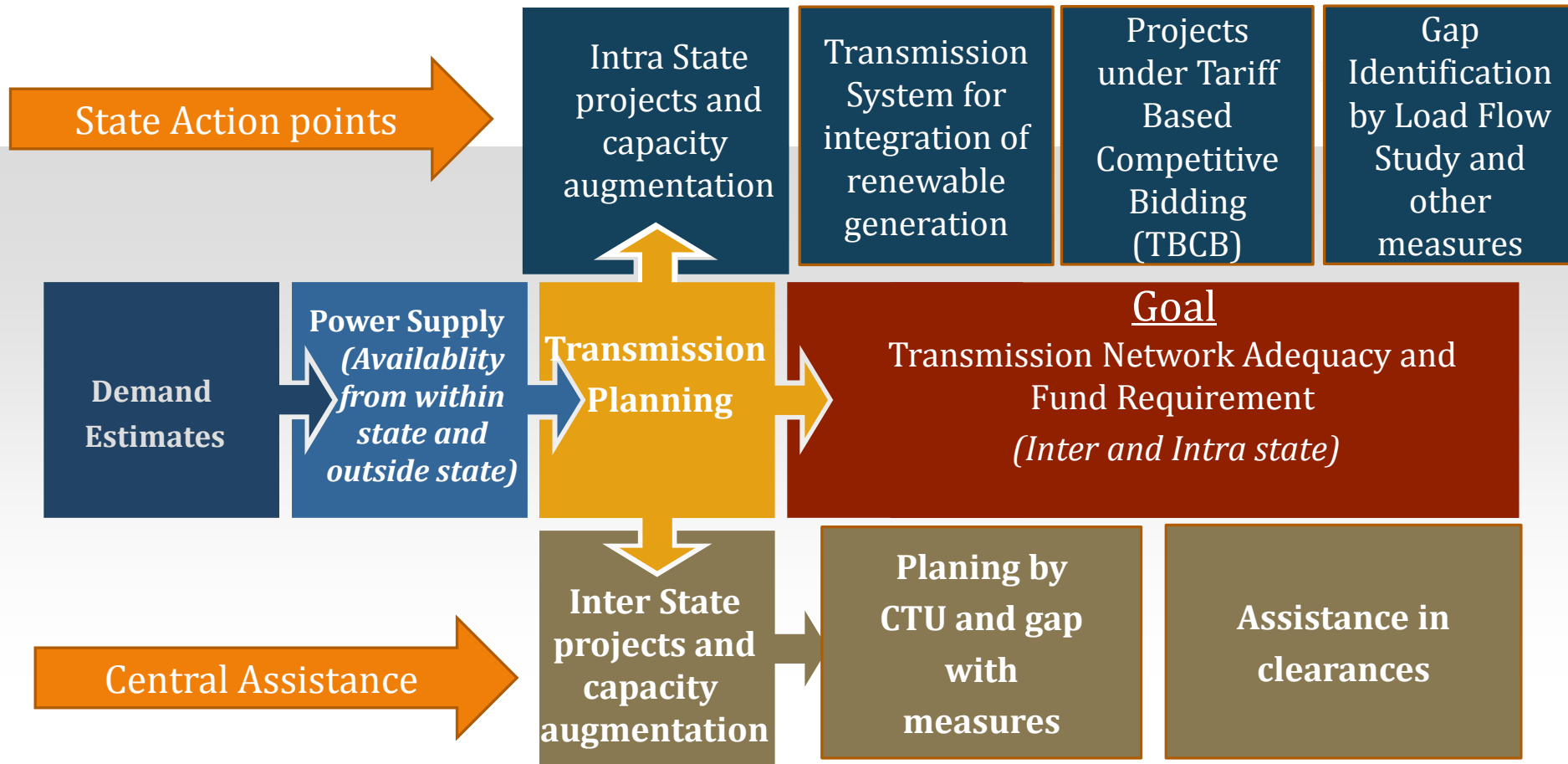
Transmission Plan

Approach towards assessment of transmission network adequacy by FY 2019

- ✓ To meet the expected demand by 2018-19, robust & reliable transmission network is required both at Inter-state & Intra state level
- ✓ Plan for Strengthening of Transmission network would include:
 - ✓ Inter /Intra State Transmission System
 - ✓ Inter/ Intra state Projects under construction
 - ✓ Substations and their transformation capacity, existing & proposed
 - ✓ Transmission System for integration of renewable generation as part of Green Energy Corridor
 - ✓ Renewable Energy Management Centres (REMC)
 - ✓ Adequacy of ISTS / STU
 - ✓ Projects under Tariff Based Competitive Bidding (TBCB)
 - ✓ Action plan of the state
 - ✓ Action plan of CTU/ STU
 - ✓ Fund Requirements (for both inter state and Intra State)
 - ✓ GoI/ State Govt Interventions

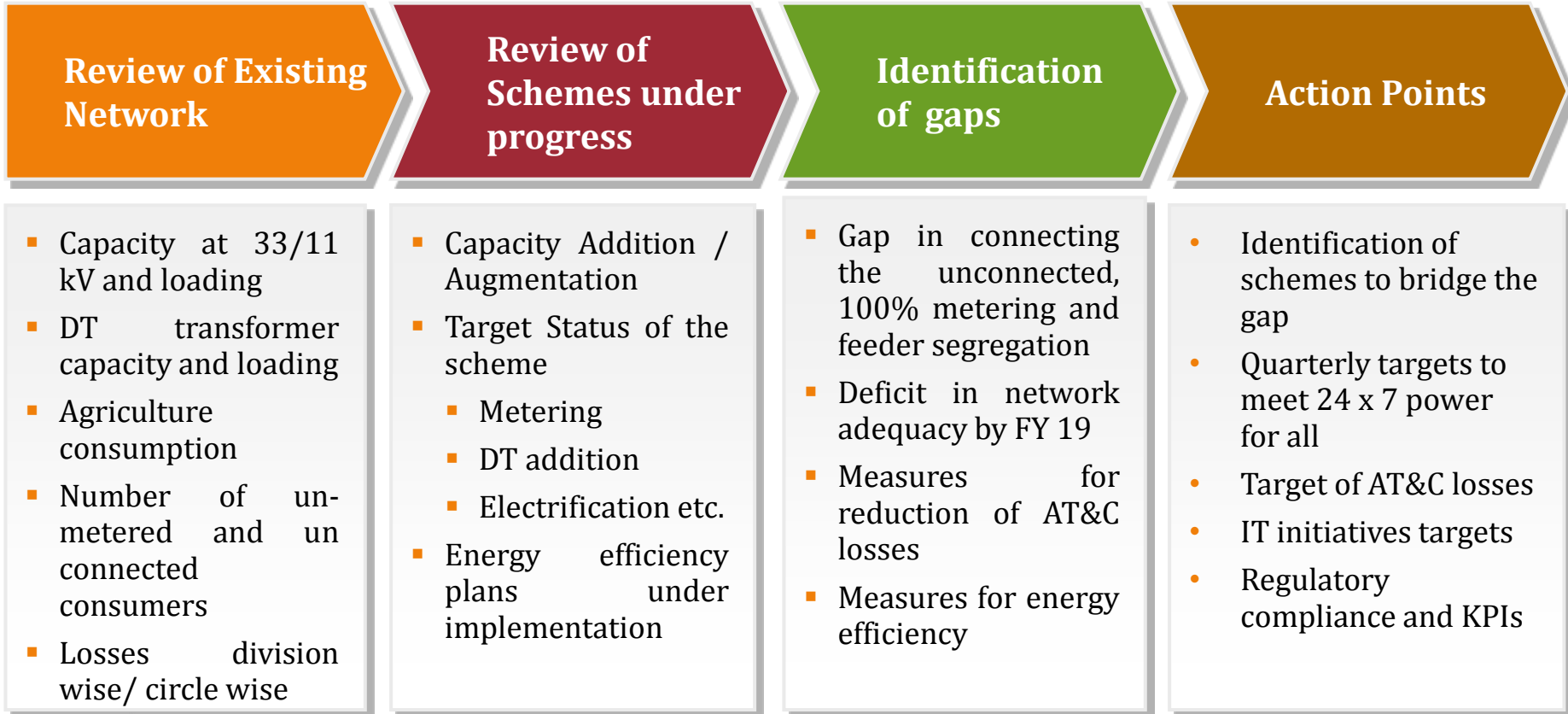
Transmission Plan

To meet the expected demand as per “24 x 7 Power For All” target, a robust & reliable transmission network is required both at Inter-state & Intra state level



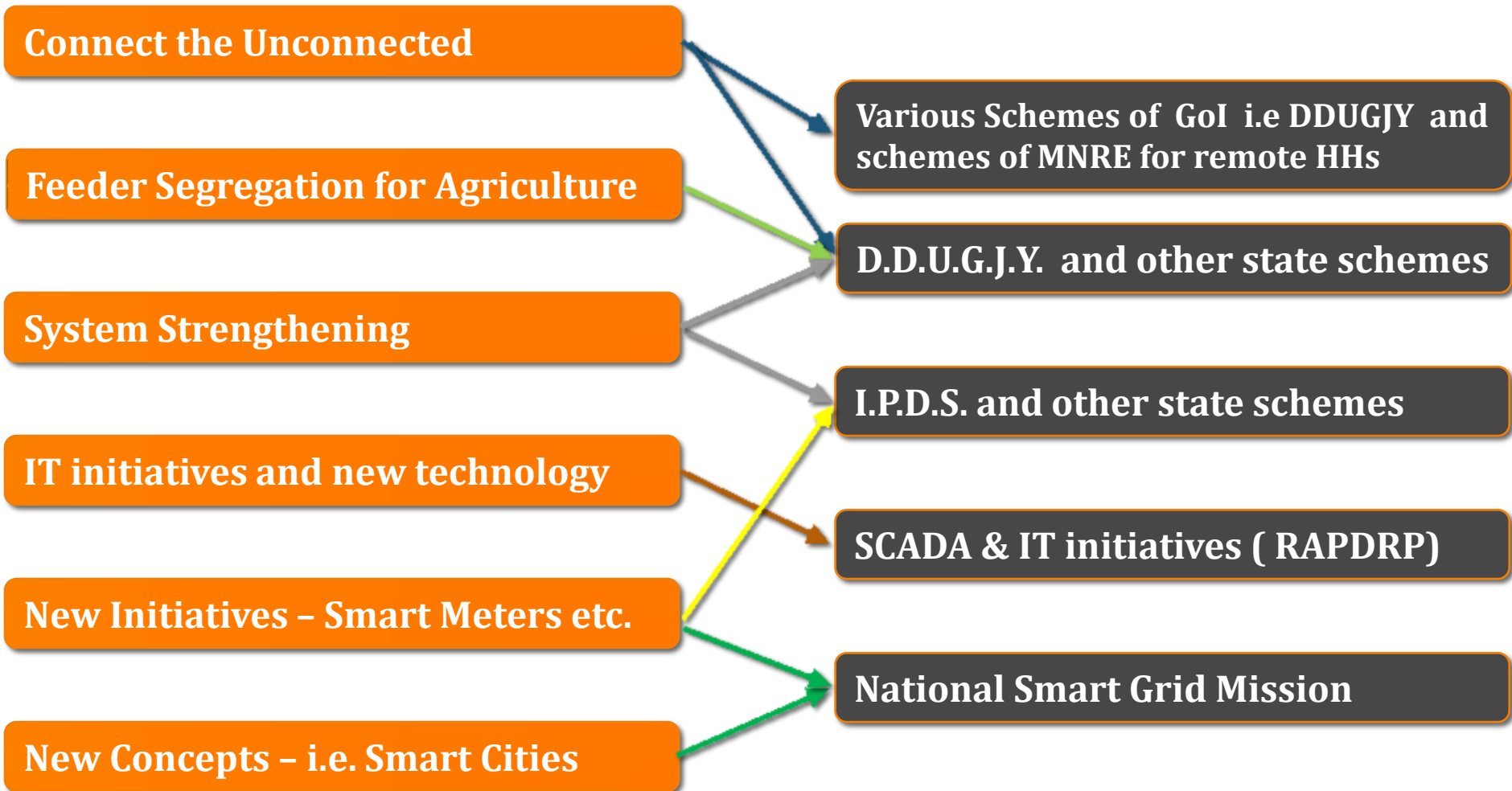
Distribution Plan

The existing distribution infrastructure would be required to be strengthened and augmented to meet the demand estimated for 24 x 7 Power For All



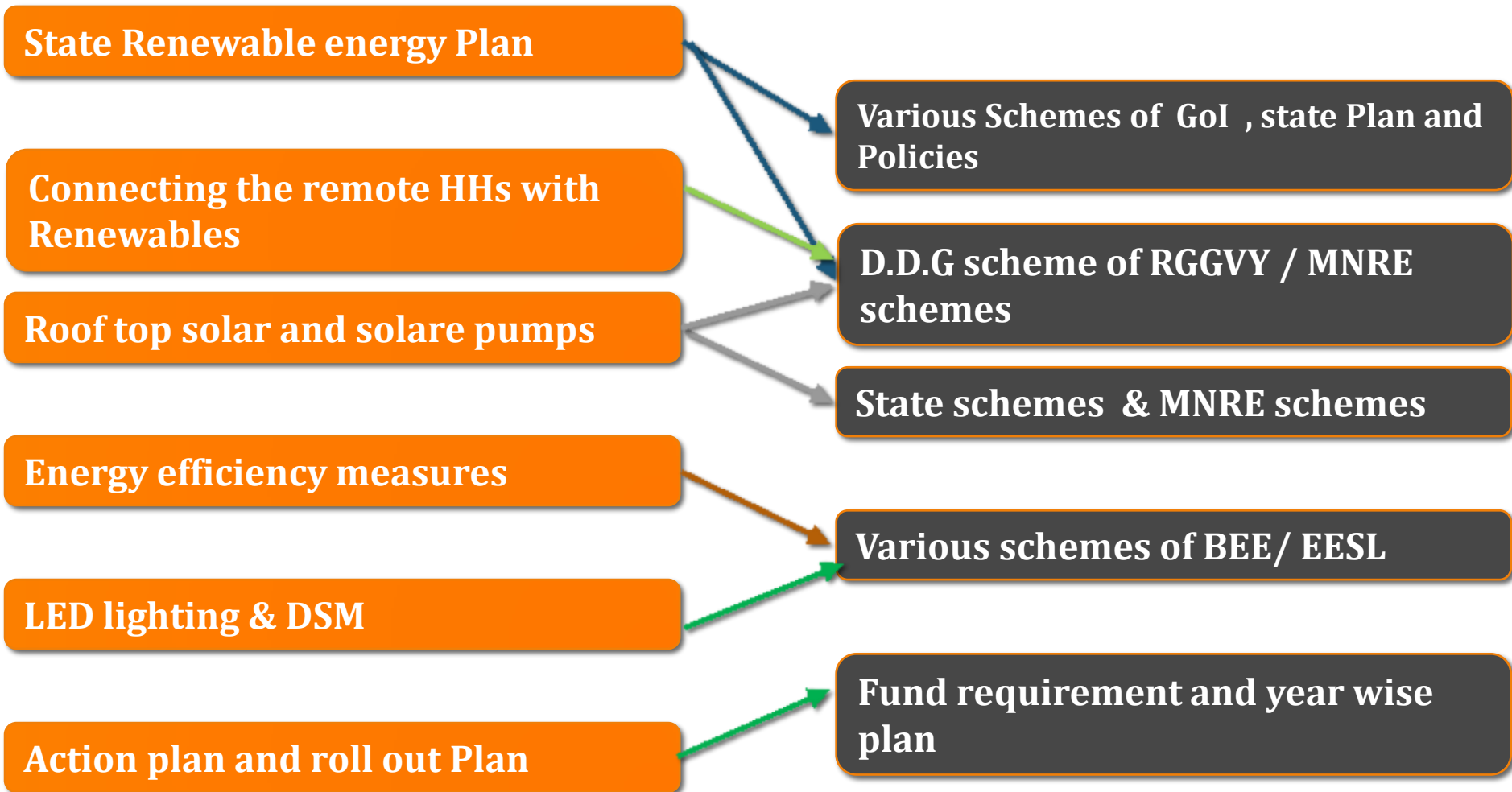
Distribution Plan

Schemes Available to Bridge the Gap



Renewable Energy and Energy Efficiency Plan

Schemes Available to Bridge the Gap



Financial Sustainability

Impact on financial condition of distribution utilities in the state has to be assessed for meeting the target of 24 x 7 Power For All based on below parameters:

- Financial Position of Distribution Utilities
- Effectiveness of FRP of Gol
- Sector Wise Investment Plan and Fund Requirement
- Loss Reduction, Energy Management & Energy Accounting
- Gol Schemes already Sanctioned and under implementation
- Projected Financial Statement including cash Flow projections
- Gap between ACS & ARR
- Timely preparation and finalization of annual accounts
- Release of subsidy to the Discoms
- Timely adherence to FRP implementation plan
- Filing of tariff petitions and Tariff order
- Action plan of the state for Financial Turnaround.

Financial Sustainability

Impact on Financial Sustainability under different scenarios

Scenario A

As per Road Map

No subsidy and tariff hike

Escalation of O&M at WPI

Loss trajectory as planned by MOP

Scenario B

As per Road Map with Financial turnaround

Nominal tariff hike + Scenario A

Scenario C

Pessimistic Scenario

Higher T&D losses than targeted

Higher tariff required for meeting the financial gap

New Initiatives

To be planned by the state

Information Technology (IT) Initiatives

- ERP (Enterprise Resource Planning)
- SCADA
- DSM (Demand Side Management)
- OMS (Outage Management System)
- Regional Distribution Control Centres (RDCC)
- Renewable Energy Management centres
- Power procurement optimization tools
- Interactive Voice Response System (IVRS)

Initiative towards reform process

- Consumer Grievance Cell, Improving Consumer Convenience, Mobile alerts through SMS, capacity building initiatives, Smart Cities, etc.

Private sector participation

- PPP initiatives in the state

Project Monitoring at Center and State Level

- Monitoring of “24 x 7 Power For All” project at all levels including Project Management Agency (PMA)

Monitoring mechanism

Project Management Unit proposed

Communication Objective	Responsibility	Frequency
“ Power for all” - Roll Out Plan	Secretary, Energy	Quarterly
Status update on Deliverables	Secretary, Energy	Quarterly
Generation Projects Physical Progress, Achievements and Other Relates Issues	Managing Director, Genco	Quarterly
Inter-State Transmission Projects Physical Progress, Achievements and Other Relates Issues	Director (Projects), PGCIL	Monthly
Intra-State Transmission Projects Physical Progress, Achievements and Other Relates Issues	Managing Director, STU	Monthly
Distribution Progress, Achievements, Losses, Consumer Initiatives etc.	Managing Director, Discom	Monthly
Renewable Power/EE Plan	MD, RE/EE agency	Quarterly

Road Map

Planning in terms of yearly/quarterly/ monthly targets:

Sl.No.	Category	Base year scenario (Year 2015)	Rollout Plan					Total expected capacity as on March'19
			FY 16	FY 17	FY 18	FY 19	Total	
1	Capacity Addition (MW)							
2	Renewable Energy Capacity (MW)							
3	Transmission Expansion Plan (Lines & sub-stations)							
4	AT&C Losses (%)							
5	Per Capital consumption							
6	Electrification of UE villages & Households							
7	Dist Lines & sub-stations							
8	RE Plan- Solar/wind/bio mass							
9	Energy Efficiency measures Replacement of LED/ Ag pumps ect							

Funding Source:

Parameters	State Government	Central Government	Through PPP initiatives	Domestic/ External borrowing
Generation				
Transmission				
Distribution				
Renewable and EE projects				

Capacity Building

Present capacity building program of Genco/ Transco/Discoms

No of technical & non technical employees in these utilities (trained / untrained)

Existing training institutes in the state / proposed institutes

Details of requirement of training of the employees
(Tech & Non Technical)

Requirement of funds for establishment of requisite institutes in the state

Details reg capacity building being done presently including RAPDRP

THANK YOU

**Ravindra Kumar Verma
Chief Engineer, CEA
Ph 9968167199
e mail: dpd_cea@rediffmail.com**

Sr. No.	NAME OF STATE		
1	DETAILS OF DISCOMS	1. (Name of Discom) 2. 3. .	1. (Nos. of 33kV and 66kV Substations) 2. 3. .
DISCOM-WISE DETAILS			
2	Name of Discom		
3	Whether APDRP, R-APDRP, DDUGJY, IPDS, 24/7, or any other scheme of strengthening of Distribution system is being implemented or planned to be implemented	If yes, specify the scheme-wise substations covered	
4	Balance nos. of existing substations	(Nos. of substations at Sr.no. 1) minus (Nos. of substations at Sr.no.3)	
5	Details of Existing Telecommunication System at balance existing substations	<u>Nos. of 33kV and 66kV Substations covered</u>	
	Optical Fiber		
	V-SAT		
	GPRS		
	Leased line		
	BSNL/MTNL Telephone		
	Any other		
6	Whether existing Telecommunication System is reliable	Yes / No; If No, the deficiency be stated.	
7	Specify Telecommunication Requirement with justification		
	Optical Fiber	i) Details of 33kV and 66kV S/S and associated line length in KM ii) Fiber Optic Network Diagram showing connection between substations and fiber optic line length iii) Justification	
	V-SAT	Details of substations, justification, and any other information	
	GPRS	--do--	
	Leased line	--do--	
	BSNL/MTNL Telephone	--do--	
	Any other	--do--	
8	Estimated Expenditure to meet above requirement of Reliable telecommunication system		
9	Whether integration of RE (Renewable Energy) at 33kV or 66kV substations is intended, if yes, give details		