Report on the Technical Viability of the Comprehensive Scheme for strengthening of Transmission and Distribution System in Arunachal Pradesh.

The Comprehensive Scheme for strengthening of Transmission and Distribution System in Arunachal Pradesh has been finalized in a meeting between Deptt. of Power, Arunachal Pradesh, CEA & PGCIL on 30-04-2013, 01-05-2013 and 19-06-2013. The present report is for the details of the scheme and its technical justification.

In order to visualize the requirements of the state, it would be appropriate to know about the geo-climatic peculiarity of the state of Arunachal Pradesh. Being thinest in its population density of 13 persons per square KM, the area is covered with dense forest and hilly terrain. About 90% of area of Arunachal Pradesh is mountainous being criss- crossed by rivers & river systems making the logistic of the state so difficult that providing infrastructure of this state is the single most challenge to the state. The villages, towns and human concentration of the area are scattered over 84000 square KM making the distance between the villages and the towns longest in the country. The yardstick followed elsewhere in the country, therefore, does not fit into the state of Arunachal Pradesh, because of these peculiarities.

After conceiving the idea of strengthening the Transmission and Sub-Transmission systems in the region in the Pasighat Proclamation in 2007 new developments have taken place. Under RGGVY scheme, extensive and intensive electrification has been carried out electrifying about 1800 virgin villages extending the distribution systems to every nook and corner of the state. Moreover, some sub-transmissions projects also were taken up by the state in the last 5 – 6 years.

The Government of Arunachal Pradesh has entered into agreement with Hydro Power Developers for development of the hydro power project in Arunachal Pradesh. Providing construction power to these constructing companies has become a new challenge to the state. This type of bulk consumers cannot be served in isolation from rest of the consumers to avoid duplication of investment.

Aforesaid developments necessitated a total review of the proposed comprehensive scheme under reference. The total scope of work is enclosed at **Annexure-1**.

Ashok Pal.
AGM(CTU)
POWERGRID

19/6/13

Chief Engi... (P)
Transmission, Plg. & Proj. Zone
Vidyut Bhawan, Bty, Itanagar

The element wise detailed justification of the project is enclosed at **Annexure-2**. It contains the justification for 24no. of new 132kV substations **(Annexure-2a)**, 7 no. of 132kV new lines to be initially operated at 33kV **(Annexure – 2b)** and 70 no. of new 33/11kV substations **(Annexure 2c)**.

Following is the summary of the justification for the Comprehensive Scheme for strengthening of Transmission and Distribution System in Arunachal Pradesh :

1) The proposed system would provide a reliable state grid and provide the minimum required connectivity to the upcoming load centers. At present only 5 out of 20 districts of the state is connected with the Grid. The present proposal would extend the benefit of the Grid connected power to all the Districts of Arunachal Pradesh.

2) The proposed system would provide necessary connectivity and access to provide construction power to upcoming Hydro Power Projects, which will not only benefit the state but ultimately benefit the entire country by making available the scarce Hydro Power.

3) Villages & towns of the state including the remote and border areas which are now been connected under RGGVY schemes shall be provided with the required grid connectivity. The major part of the state is experiencing very poor power supply condition as it is fed with extra long 33kV and 11kV lines. The present proposal comprises of 132 kV and 33kV system, and would ensure strong and reliable source of power to a large part of the state for next 15 to 20 years.

Ashok Pvt.

Chief Engineer (P)
Transmission, Plg. & Mtg. Zone
Vidyut Bhawan, Dafr, Nagar

19/6/13

Annexure - 1

SCOPE OF WORKS FOR COMPREHENSIVE SCHEME IN ARUNACHAL PRADESH

(REVISED AT ITANAGAR ON 19-06-2013)

Sl. No.	A : TRANSMISSION LINE	kV	Ckt.	Km.
1	Niglok - Pasighat New	132	S/c on D/c	30
2	Pasighat New (Napit)- Pasighat Old	132	D/c	15
3	Khupi – Seppa	132	S/c on D/c	60
4	Seppa-Rilo	132	S/c on D/c	50
5	Rilo-Sagali	132	S/c on D/c	55
6	Sagali-Naharlagun	133	S/c on D/c	45
7	Naharlagun - Gerukamukh	132	S/c on D/c	90
8	Gerukamukh - Likabali	132	S/c on D/c	60
9	Likabali - Niglok	132	S/c on D/c	75
10	Deomali - Khonsa	132	S/c	40
11	Khonsa - Changlang	132	S/c	45
12	Changlang - Jairampur	132	S/c	60
13	Jairampur - Miao	132	S/c	40
14	Miao - Namsai (PG)	132	S/c on D/c	45
15	Tezu (PG) - Halaipani	132	S/c on D/c	100
16	Naharlagun - Banderdewa	132	S/c on D/c	25
17	Chimpu (Itanagar)- Holongi	132	S/c on D/c	20
18	Ziro – Palin	132	S/c on D/c	50
19	Palin - Koloriang	132	S/c on D/c	75
20	LILO of Daporijo - Along 132kV S/c at Basar	132	D/c	5
21	Roing (PG) – Anini	132	S/c on D/c	125
22	Along – Kambang	132	S/c on D/c	40
23	Kambang - Mechuka	132	S/c on D/c	130
24	Along - Yingkiong	132	S/c on D/c	100
25	Yingkiong - Tuting	132	S/c on D/c	125
26	Ziro (PG) - Ziro New	132	D/c	2
27	Tawang - Lumla	132	S/c on D/c	40
28	Daporijo - Nacho	132	S/c on D/c	85
29	Khonsa - Longding	132	S/c on D/c	45
30	Roing - Dambuk	132	S/c on D/c	40
31	Pasighat Old - Mariyang	132	S/c on D/c	80
32	Rilo - Seijosa	132	S/c on D/c	60
33	Seppa - Bameng	132	S/c on D/c	60

Ashok Pal.

KKAnye

19/6/13

Chief Engineer (P)
Transmission, Plg. & Mng. Zone
Bhawan, DoP, Itanagar

SCOPE OF WORKS FOR COMPREHENSIVE SCHEME IN ARUNACHAL PRADESH

(REVISED AT ITANAGAR ON 19-06-2013)

Sl. No.	SUB-STATION	Trf	No	MVA	Total
	New S/S				
1	Niglok	132/33	2	31.5	63.00
2	Pasighat New (Napit)	132/33	2	10.0	20.00
3	Seppa	132/33	4	5.0	15.00
4	Rilo	132/33	4	5.0	15.00
5	Sagali	132/33	4	5.0	15.00
6	Naharlagun	132/33	2	31.5	63.00
7	Gerukhamukh	132/33	4	5.0	15.00
8	Likabali	132/33	4	5.0	15.00
9	Khonsa	132/33	4	5.0	15.00
10	Changlang	132/33	4	5.0	15.00
11	Jairampur	132/33	4	5.0	15.00
12	Miao	132/33	4	5.0	15.00
13	Halaipani	132/33	4	5.0	15.00
14	Banderdewa	132/33	2	31.5	63.00
15	Holongi	132/33	2	10.0	20.00
16	Palin	132/33	4	5.0	15.00
17	Koloriang	132/33	4	5.0	15.00
18	Basar	132/33	4	5.0	15.00
19	Yingkiong	132/33	4	5.0	15.00
20	Kambang	132/33	4	5.0	15.00
21	Ziro New	132/33	4	5.0	15.00
22	Dambuk	132/33	4	5.0	15.00
23	Seijosa	132/33	4	5.0	15.00
24	Bameng	132/33	4	5.0	15.00
	Augmentation				
1	Daporijo	132/33	4	5.0	15.00

Chief Engineer (P)
Transmission, Plg. & Mng. Zone
Vidyut Bhawan, DoP, Itanagar

19/6/13

Summary of Distribution works proposed in Arunachal Pradesh

(As discussed on 19.06.2013 in Itanagar)

A. New33/11 kV S/s:

Capacity of S/s	Nos. of S/s	MVA Capacity
2x2.5 MVA	55	275
2x5 MVA	15	150
Total	**70**	**425**

B. New 33 kV line:

Description	Line Length	
Single Ckt.	1823	kms
Double Ckt.	29	kms

C. New 33 kV line bays in existing S/s required to feed new s/s:

S/s where 1 bay is required	10	Nos.
S/s where 2 bays are required	3	Nos.

D. Capacity Augmentation of existing 33/11 kV S/s:

Item	No. of S/s	Capacity (MVA)
Add 1x5 MVA trf.	1	5
Add 2x5 MVA trf.	3	30
Add 2x2.5 MVA trf.	2	10
Total	**6**	**45**

Ashok Pal.

19/6/13

Chief Engineer (P)
Transmission, Plg. & Mng. Zone
Vidyut Bhawan, DoP, Itanagar

List of New 33/11kV Substations

Sl No	District	Name of Substation	Capacity	Details of 33kV feeders	Remarks	Feeding arrangement	Length
1	Anjaw	Halaipani	2x2.5 MVA		in campus of proposed 132/33 kV Halaipani S/s	from proposed 132/33 kV Halaipani S/s	
2	Anjaw	Hawai	2x2.5 MVA	2 (1 for proposed 132/33 kV Halaipani s/s& 1 for proposed 33/11 kV Wallong S/s)	from proposed 132/33 kV Halaipani legth is 30 km	from proposed 132/33 kV Halaipani	30
3	Anjaw	Wallong	2x2.5 MVA	1 (for Hawai)	Hawai-Wallong line is 50 km long	from proposed Hawai 33 kV s/s	50
4	Changlang	Changlang	2x5 MVA		in campus of proposed 132/33 kV s/s at Changlang	from proposed 132/33 kV s/s at Changlang	
5	Changlang	Diyun	2x2.5 MVA	2 (1 for proposed 132/33 kV Miao & 1 for 132/33 kV Namsai DS/s which is under const.)	1 river crossing; 30 kms from Namsai & 15 kms from Miao	from proposed 132/33 kV Miao & 132/33 kV Namsai S/s which is under const.	45
6	Changlang	Kharsang	2x2.5 MVA	1 (for proposed 132/33 kV Miao S/s)		from proposed 132/33 kV Miao S/s	40
7	Changlang	Khimiyong	2x2.5 MVA	1 (for proposed 132/33 kV Changlang S/s)		from proposed 132/33 kV Changlang S/s	40
8	Changlang	Manmao	2x2.5 MVA	1 (for proposed 132/33 kV Jairam Pur S/s)		from proposed 132/33 kV Jairam Pur S/s	25
9	Dibang Valley	Anini	2x2.5 MVA	1 (for proposed 132/33 kV Roing S/s)	132 kV line from (under const.) 132/33 kV Roing S/s to proposed 33/11 kV S/s at Anini cahrged at 33 kV	from (under const.) 132/33 kV Roing S/s	
10	Dibang Valley	Etalin	2x2.5 MVA	2 (for LILO of 132 kV Roing-Anini line which will be charged at 33 kV)		from (under const.) 132/33 kV Roing S/s	
11	East Kameng	Bana	2x2.5 MVA	2 (for Seppa & khuppi)	2 km DC Line for LILO	LILO of Khuppi - Seppa 33 kV line	
12	East Kameng	Seijosa	2x5 MVA			In campus of proposed 132/33 kV S.s at Sejosa	
13	East Kameng	Rilo	2x2.5 MVA			In campus of proposed 132/33 kV S.s at Rilo	
14	East Kameng	Khenwa	2x2.5 MVA	1 (for 33/11 kV existing S/s at Bameng)		from 33/11 kV existing S/s at Bameng	25
15	East Kameng	Pipu	2x2.5 MVA	132/33 kV proposed S/s at Seppa		From 132/33 kV proposed S/s at Seppa	30
16	East Siang	Koreng	2x2.5 MVA	4 (2 for Passighat & Along and 1 for Geku HEP & Boleng)	5 km DC Line for LILO	from LILO of Passighat - Along existing 33 kV line	
17	East Siang	Boleng	2x2.5 MVA	3 (1 for Gengging and 1 for Along & Koreng)	5 km DC Line for LILO	from LILO of Gengging - Along existing 33 kV line	
18	East Siang	Mebo	2x5 MVA	2 (for old Passighat & Ngopok s/s)	1 river crossing is there	from existing 132 kV s/s at Passighat	10

Sl No	District	Name of Substation	Capacity	Details of 33kV feeders	Remarks	Feeding arrangement	Length
19	East Siang	Ngopok	2x2.5 MVA	1 (for proposed 33/11 kV Mebo S/s)		from proposed 33/11 kV Mebo S/s	30
20	East Siang	All India Radio, Passighat	2x2.5 MVA	1 (for proposed 33/11 kV Napit S/s)			7
21	East Siang	Oyan	2x2.5 MVA	2 (for proposed 132/33 kV Passighat S/s, 1 for Ruksin s/s)		from proposed 132/33 kV Passighat S/s	25
22	East Siang	Koyu	2x2.5 MVA	3 (1 for proposed 132/33 kV Passighat S/s, 1 for niglok proposed 33/11 kV s/s and 1 for Rina HEP)		Koyu-Rina HEP (7 kms); New Passighat - Koyu (45 kms); Niglok proposed 132/33 kV s/s (25 kms)	77
23	East Siang	Napit	2x5 MVA	2 (for proposed 132/33 kV Passighat S/s & AIR s/s)	Line from AIR taken with AIR s/s	from proposed 132/33 kV Passighat S/s	2
24	East Siang	Nari	2x2.5 MVA	1 (for proposed 132/33 kV Niglok S/s)		from proposed 132/33 kV Niglok S/s	40
25	East Siang	Ruksin	2x2.5 MVA	1 (for proposed 33/11 kV Oyan S/s)		from proposed 33/11 kV Oyan S/s	15
26	Kurukumey	Tali	2x2.5 MVA	1 (for proposed 132/33 kV Palin S/s)		Proposed Palin 132/33 kV s/s	60
27	Kurukumey	Nyapin	2x2.5 MVA	1 (for existing 33 kV Sangram S/s)		from existing 33 kV Sangram S/s	30
28	Lohit	Choukham	2x5 MVA	1 (for 132/33 kV Namsai under cosnt by PGCIL)		from 132/33 kV Namsai under cosnt by PGCIL	25
29	Lohit	Namsai	2x5 MVA	1 (for 132/33 kV Namsai under cosnt by PGCIL)		from 132/33 kV Namsai under cosnt by PGCIL	10
30	Lower Dibang valley	Bijari	2x2.5 MVA	1 (for proposed 132/33 kV Dambuk S/s)		from proposed 132/33 kV Dambuk S/s	45
31	Lower Dibang valley	Bolung	2x2.5 MVA	1 (for proposed 132/33 kV Roing S/s)		from proposed 132/33 kV Roing S/s	30
32	Lower Subansiri	Hapoli	2x5 MVA	1 (for proposed 132/33 kV s/s at Ziro New)		From proposed 132/33 kV s/s at Ziro new	6
33	Lower Subansiri	Yazali	2x5 MVA	1 (for proposed 132/33 kV s/s at Ziro new)		From proposed 132/33 kV s/s at Ziro new	35
34	Lower Subansiri	Raga	2x2.5 MVA	1 (for existing 33/11 s/s at Tamin)		From existing 33/11 s/s at Tamin	15
35	Lower Subansiri	Gerukamukh	2x2.5 MVA	1 (for proposed 132/33 kV s/s at Gerukamukh)	In campus of proposed 132/33 kV s/s at Gerukamukh		
36	Papumpare	AP Secretariate	2x5 MVA	1 (for 132/33 kV existing S/s at Chimpu)	Chimpu to Hill top S/C on tower (5kms) and from Hill Top to Secretariate on cable (4 kms)	From 132/33 kV existing S/s at Chimpu	9
37	Papumpare	Raj Bhawan	2x5 MVA	1 (for 132/33 kV existing S/s at Chimpu)	Chimpu to Hill top Point S/C on tower (6 kms) and from Hill Top Point to Rajbhawan on cable (2 kms)	From 132/33 kV existing S/s at Chimpu	8
38	Papumpare	Gohpur Tinali	2x2.5 MVA	2 (for 132/33 kV existing S/s at Chimpu & 1 for 33/11 kV proposed at Jote))		From 132/33 kV existing S/s at Chimpu	5
39	Papumpare	Jote	2x5 MVA	1 (for 33/11 kV proposed s/s at Gohpur Tinali)		From 33/11 kV proposed s/s at Gohpur Tinali	22

Chief Engg.
Transmission, Plg. & Mktg.
Vidyut Bhawan, DoP, Itanagar

Sl No	District	Name of Substation	Capacity	Details of 33kV feeders	Remarks	Feeding arrangement	Length
40	Papumpare	Pappu Nallah	2x5 MVA	1 (for proposed 132/33 kV s/s at Naharlagun)		From proposed 132/33 kV s/s at Naharlagun	10
41	Papumpare	Doimukh	2x5 MVA	1 (for proposed 132/33 kV s/s at Naharlagun)		From proposed 132/33 kV s/s at Naharlagun	10
42	Papumpare	Leporiang	2x2.5 MVA	existing 33/11 kV S/s at Sagali		From existing 33/11 kV S/s at Sagali	28
43	Tawang	Klimtao(Bumla)	2x2.5 MVA	1 (for 132 kV Tawang S/s which is u/c by DOP)		from 132 kV Tawang s/s (under construction by DOP under NLCPR)	40
44	Tawang	Thimbu	2x2.5 MVA	1 (for Jang existing 33 kV s/s)		from Jang existing 33 kV s/s	45
45	Tawang	Mukta	2x2.5 MVA	1 (for Jang existing 33 kV s/s)		from Jang existing 33 kV s/s	20
46	Tawang	Lumla	2x2.5 MVA	1 (for existing 132/33 kV Tawang s/s)		Proposed 132 kV line (Tawang - Lumla) will be charged at 33 kV	
47	Tirap	Deomali	2x5 MVA		Replacement of existing 2x1.6 MVA transformer and other switchgear as required ALL EXCEPT LINE IS REQD.	From connectivity point of view, it is an existing s/swith 1 trf.of of 1.6 MVA capacity. Hence no line is required.	
48	Tirap	Kanubari	2x2.5 MVA	1 (for existing 220/132/33 kV Deomali s/s)		from existing 220/132/33 kV Deomali s/s	50
49	Tirap	Khonsa	2x5 MVA		in campus of proposed 132/33 kV Khonsa s/s	from proposed 132/33 kV Khonsa S/s	
50	Tirap	Longding	2x2.5 MVA	1 (for proposed 132/33 kV s/s at Khonsa)		From proposed 132/33 kV s/s at Khonsa	45
51	Upper Siang	Geku	2x2.5 MVA	1 (for proposed 132/33 kV s/s at Yingkyong)		from proposed 132/33 kV s/s at Yingkyong	45
52	Upper Siang	Jeying	2x2.5 MVA	1(for old 132/33 passighat s/s)		from existing 132 kV s/s at Passighat	40
53	Upper Siang	Tuting	2x2.5 MVA	1 (for proposed 132/33 kV s/s at Yingkyong)	Being along the international border with China, it will be an important line. The terrain is also tough. Therefore, it is suggested that this line **may be a 132 kV line** which will be charged on 33 kV	propposed 132 kV line from proposed 132/33 kV Yingkyong S/s will be charged at 33 kV	
54	Upper Siang	Maryang	2x2.5 MVA	1 (for proposed 132/33 kV s/s at Yingkyong)		from proposed 132/33 kV s/s at Yingkyong	35
55	Upper Siang	Jengging	2x2.5 MVA	1 (for proposed 132/33 kV s/s at Yingkyong)		from proposed 132/33 kV s/s at Yingkyong	30
56	Upper Subansiri	Maro	2x2.5 MVA	1 (for132 kV existing Daporijo s/s)		from 132 kV existing Daporijo s/s	45
57	Upper Subansiri	Sippi	2x2.5 MVA	3 (1 each forexisting 132 kV Daporijo and 1 each for proposed 33/11 kV s/s at Tahlia & Giba)		Sippli-Deporijo (18) & Sippli - Thalia (35 kms)	
58	Upper Subansiri	Thalia	2x2.5 MVA	1 (for proposed 33/11 kV S/s at Sippi)		from proposed 33/11 kV S/s at Sippi	35
59	Upper Subansiri	Giba	2x2.5 MVA	1 (for proposed 33/11 kV S/s at Sippi)		from proposed 33/11 kV S/s at Sippi	30

Chief Engineer,
Transmission, Plg. & Mtg. Zone
Vidyut Bhawan, DoP, Nanagar

Sl No	District	Name of Substation	Capacity	Details of 33kV feeders	Remarks	Feeding arrangement	Length
60	Upper Subansiri	Nacho	2x2.5 MVA	1 (for existing 132/33 kV s/s at Deporijo)	proposed 132 kV line from Deporijo to Nacho will be charged at 33 kV	From existing 132/33 kV s/s at Deporijo	
61	Upper Subansiri	Murimugli	2x2.5 MVA	From existing 132/33 kV s/s at Deporijo		From existing 132/33 kV s/s at Deporijo	30
62	West Kameng	Thriziono	2x2.5 MVA	1 (for existing 33 kV Khupi s/s)		from existing 33 kV Khupi s/s	50
63	West Kameng	Balemu	2x2.5 MVA	1 (for 132/33 kV Tenzing Gaon S/s)		132 kV Tenzing Gaon S/s proposed by DoP	60
64	West Siang	Mechuka	2x2.5 MVA		in the campus of 132/33 kV Mechuka S/s which will be charged at 33 kV	From proposed 132/33 kV s/s at Mechuka (charged at 33 kv)	
65	West Siang	Tirbin	2x2.5 MVA	1 (for proposed 132/33 kV s/s at Basar)		from proposed 132/33 kV s/s at Basar	35
66	West Siang	Likabali	2x2.5 MVA		In campus of proposed 132/33 kV Likabali s/s	From proposed132/33 kV kv s/s at Lihabali	
67	West Siang	Kaying	2x2.5 MVA	1 (for proposed 132/33 kV s/s at Kambang)		from proposed 132/33 kV s/s at Kambang	40
68	West Siang	Gensi	2x2.5 MVA	1 (for proposed 33/11 kv s/s at Igo)		From proposed 33/11 kv s/s at Igo	35
69	West Siang	Rumgong	2x2.5 MVA	1 (for existing 132/33 kV s/s at Along)		From existing 132/33 kV s/s at Along	25
70	West Siang	Igo	2x2.5 MVA	2(1 for proposed 132/33 kV s/s at Basar & 1 for proposed 33/11 kV s/s at Gensi)		From proposed 132/33 kV s/s at Basar	32

Summary :

Capacity of S/s	Nos. of S/s	MVA Capacity
2x2.5 MVA	55	275
2x5 MVA	15	150
Total		**425**
Descriptio n	**No. of feeders**	**Length (Km.)**
S/C Line	52	1606
D/C Line	3	12

Chief Engineer
Transmission, Plg. & Mtrg. Zone
Vidyut Bhawan, DoP, Nanagar

Augmentation of existing 33/11 kV Substation & Lines proposed for Arunachal Pradesh

A. S/s Augmentation:

S.No.	S/s Name	Existing Capacity	New Capacity	Remarks
1	Roing	2x1.6	2x5	Replace both 1.6 MVA existing trf. with new 5 MVA trf.
2	Tezu	2x2.5	2x 2.5 +1x5	add 1x5 MVA trf.
3	33/11 kV Miao	1x1.6	2x2.5	Add 2x2.5 MVA trf.
4	33/11 kV Simari	1x1.6	2x5	Add 2x2.5 MVA trf.
5	33/11 kV Wakro	1x1.6	2x5	Add 2x5 MVA trf.
6	33 kV Hayuliang S/s	1x1.6	2x2.5	Add 2x2.5 MVA trf.
	Total		**45 MVA**	

B. Lines Required for strengthening of network for enhanced reliability:

S.No.	From	To	Length (kms)	Bay requirement	Remarks
1	132 kV Tezu s/s (under construction by PGCIL)	33 kV existing Tezu s/s	10	2 bays required at existing 33/11 kV Tezu s/s	D/C
2	132/33 kV Roing (U/const. by PGCIL)	33 kV existing Simari s/s	7	bays reqd.	D/C
3	132 /33 kV Tezu s/s (under construction by PGCIL)	33 kV existing Warko s/s	15	bays reqd.	S/C
4	Kush HEP	proposed 132/33 kV Koloriang S/s	25	Bay available at Kush	S/C
5	proposed 132/33 Niglok S/s	proposed 33/11 Ruksin S/s	10	Bays at both ends	S/C
6	Liromoba HEP	proposed 33/11 Tirbin S/s	12	bay available at Liromoba HEP	S/C
7	proposed 33/11 Koyu S/s	proposed 33/11 Igo S/s	65	both end bays reqd	S/C
8	proposed 132/33 kV Likabali s/s	proposed 33/11 Igo S/s	55	both end bays reqd	S/C
9	proposed 132/33 kV Halaipani S/s	33 kV existing Hayuliang s/s	35	both end bays reqd	S/C
	Line Details	**For Srtgtn.**			
	Single ckt	217			
	Double ckt.	17			

Chief Engineer (P)
Transmission, Plg. & Mtg. Zone
Power Bhawan, DoP, Itanagar

Report on ... strengthening ... Pradesh

Annexure - 2A

Comprehensive Scheme for Strengthening of Transmission & Distribution System in NER

Sl. No.	Name of proposed 132/33kV S/s	Proposed capacity	Reasons for Addition /Deletion	what is the existing newtork in the area, pl. provide	What is the existing peak load	What is the expected peak load by 2017	How the proposed N/w will help (Justification for proposal)	Remarks
1	Rilo	4x5 MVA	Need base to link Southern area of East Kameng District.	33 KV S/C line from Seppa, 1 x 1 MVA, 33/11 KV Sub Station at Rilloh under RGGVY, all the adjoining villages is being connected by 11 KV feeder line.	If all the villages under RGGVY are charged, the expected Peak load will be 2 MVA approx.	5MVA approx.	From the proposed Sub Station, separate 33 KV express line for Seppa, Pakke Kessang, Pijirang and Sagalee can be drawn. This line shall provide construction power to 48 MW Pappu, 21 MW Sepla and 90 MW to Pappu Hydro Electric Projects.	
2	Holongi	2x10 MVA	Addition is required on account of fast growth of industrial and residential load including proposed Greenfield Airport in the area.	33/11 KV	3.9 MW	12.00 MW	This will facilitate the rapid growth of industrial, commercial and residential expansion of the state. The lone Airport is coming up in Holongi. This will also provide construction power to 21 MW Papum Pam Hydro Electric Project.	
3	Kambang	4x5 MVA	Needs connectivity to Mechuka side of the District	33 KV System, network map enclosed	1 MW	1.5 MW	This would provide construction power to 58 MW Siri Korong, 30 MW Hritik Korong Hydro Electric Projects.	

Chief Engineer
Transmission, Plg. & Mng. Zone
Vidyut Bhawan, DoP, Itanagar

Sl. No.	Name of proposed 132/33kV S/s	Proposed capacity	Reasons for Addition /Deletion	what is the existing newtork in the area, pl. provide	What is the existing peak load	What is the expected peak load by 2017	How the proposed N/w will help (Justification for proposal)	Remarks
4	Ziro New	4x5 MVA	High load demand	33/11 KV	8 MW	14 MW	The proposed 33/11 KV, 2x5 MVA S/S at Yazali shall help in coping up the high power demand due to modernisation of town, industrilisation of area and other commercial and domestic power demand due to expansion of town and other villages in Lower Subansiri	
5	Dambuk	4x5 MVA	Need Base in the area	None	Not yet be connected	2.5 MW	Link all the RGGVY, APDRP networking with Grid line. This would also provide construction power to Sissiti Multi Purpose Hydro Electric Project.	
6	Seijosa	4x5 MVA		Seijosa is presently fed through 11 KV feeder line from Jamuguri (Assam) 2 x 3.15 MVA, 33/11 KV Sub Station, all adjoining villages is being connected by 11 KV feeder line under RGGVY.	4 MVA approx.	10 MVA approx	From the proposed Sub Station, separate 33 KV express line for Dissing Passo Circle, Tarasso and Balijan can be drawn in future. Tea processing unit, Rubber processing unit & Paper Mill Industries are presently under construction. So load demand may increase in future accordingly.	

Chief Engineer (P)
Transmission, Plg. & Mng Zone
Vidyut Bhawan, GoP, Itanagar

Sl. No.	Name of proposed 132/33kV S/s	Proposed capacity	Reasons for Addition /Deletion	what is the existing newtork in the area, pl. provide	What is the existing peak load	What is the expected peak load by 2017	How the proposed N/w will help (Justification for proposal)	Remarks
7	Bameng	4x5 MVA		Bameng EAC HQ shall be fed through 11 KV feeder line from 1x1 MVA, 33/11 KV Sub Station at Pakke (under construction in RGGVY scheme). All adjoining villages of Sawa, Gaywepurang, Lada & Khenwa CO HQ shall also be fed from Pakke Sub Station after completion of RGGVY works.	2.5 MW approx.	3 MW approx.	From the proposed Sub Station separate 33 KV line can be drawn for Gyawepurang, Sawa, Lada & Khenewa CO HQ and Chayangtajo ADC HQ in future. This line shall also provide construction power to 84 MW Pachuk, 60 MW Marjingla, 56 MW Phanchum, 41 MW Lachung, 40 MW Pakke Bou Hydro Electric Projects.	
8	Niglok	2x31.5 MVA		33 KV & 11 KV System	3.5 MW	20 MW	Niglok has been declared as Industrial Load Centre with immediate requirement of 15 MW. This line shall provide necessary Grid connectivity around the area which is active in Agrobase Industries like Rubber, Tea, Coffee, Ginger, Rice Mustered etc. etc.	
9	Pasighat New (Napit)	2x10 MVA		33 KV & 11 KV System	4.5 MW	8.0 MW	Pasighat township is gradually growing into a city. Power demand is growing radidely. The system would not only provide power to new establishment but also provide connectivity to rural feeders and 2 MW Rin Micro Hydro Electric Project.	

Chief Engineer (P)
Transmission, Plg. & Mng. Zone
Vidyut Bhawan, Doimukh, Itanagar

Sl. No.	Name of proposed 132/33kV S/s	Proposed capacity	Reasons for Addition /Deletion	what is the existing newtork in the area, pl. provide	What is the existing peak load	What is the expected peak load by 2017	How the proposed N/w will help (Justification for proposal)	Remarks
10	Seppa	4x5 MVA		33 KV & 11 KV System	3.5 MW	5.0 MW	Seppa beig the district Head Quarter of East Kameng has not been provided grid connectivity. In order to provide power to district, the town requires a Sub Station for providing reliable power supply.	
11	Sagalee	4x5 MVA		33 KV & 11 KV System	2.0 MW	5.0 MW	This would provide construction power to 54 MW Par, 63 MW Turu, 48 MW Pappu Relli, 100 MW Putung, 25 MW Adung Panyer Hydro Electric Projects apart from feeding to rural feeders and Seppa township.	
12	Naharlagun	2x31.5 MVA		33 KV & 11 KV System	10.0 MW	15.0 MW	This would provid Grid quality power to part Capital Complex at Naharlagun.	
13	Gerukhamukh	4x5 MVA		11 KV	1.0 MW	3.0 MW	This would provide connectivity to 2000 MW Subansiri Lower Hydro Electric Project and distribution system of that area.	
14	Likabali	4x5 MVA		11 KV	2.0 MW	5.0 MW	This would provide connectivity to towns and villages of the entire new district of Lower Siang district. Proposed new district card out of West Siang.	
15	Khonsa	4x5 MVA		33 KV & 11 KV System	3.5 MW	7.0 MW	Theis system would provide the necessary Grid connectivity to present Tirap Distrit.	
16	Changlang	4x5 MVA		33 KV & 11 KV System	3.0 MW	5.0 MW	This would provide grid connectivity to entire distribution from where the entire district will fetch power.	
17	Jairampur	4x5 MVA		33 KV & 11 KV System	2.5 MW approx.	5.0 MW	It will provide grid quality power to the area. 10 MW Tirap Stage - II, 40 MW Tirap Hydro Electric Project would be linked to this project for construction power as well as evacuation from Hydro Electric Project.	
18	Miao	4x5 MVA		33 KV & 11 KV System	2.5 MW approx.	5.0 MW	It will provide grid quality power to the nearby areas. This will also provide connectivity to Gas based Kharshang Power Project.	

Chief Engineer (P
Transmission, Plg. & Mng.
Vidyut Bhawan, DoP, Itan

Sl. No.	Name of proposed 132/33kV S/s	Proposed capacity	Reasons for Addition /Deletion	what is the existing newtork in the area, pl. provide	What is the existing peak load	What is the expected peak load by 2017	How the proposed N/w will help (Justification for proposal)	Remarks
19	Halaipani	4x5 MVA		33 KV & 11 KV System	2.0 MW	5.0 MW	This would provide grid connectivity to Anjaw District linking with the RGGVY system and construction power to 60 MW Halaipani Hydro Electric Project. This would also provide construction power for 68 MW Tidding, 1080 MW Dimwe, 280 MW Anjaw, 99 MW Gimilia, 1200 MW Kalai Stage - II, 1352 MW Kalai Stage - I Hydro Electric Projects.	
20	Banderdewa	2x31.5 MVA		33 KV & 11 KV System	5.0 MW	10.0 MW	Banderdewa is growing into a Industrial area being the commercial gateway to Itanagar. The system would provide grid quality power to area for further growth.	
21	Palin	4x5 MVA		33 KV & 11 KV System	3.5 MW	8.0 MW	This would provide construction power and connectivity to 24 MW Panyi Hydro Electric Project.	
22	Koloriang	4x5 MVA		33 KV & 11 KV System	2.5 MW approx.	5.0 MW	This would provide connectivity to 31 MW Rebbi, 70 MW Badao for construction power and evacuation apart from connectivity of the RGGVY villages around the area.	
23	Basar	4x5 MVA		33 KV & 11 KV System	2.5 MW approx.	5.0 MW	The entire T & D system developed under RGGVY under Basar Sub Division shall get grid connection. This would also provide connectivity to 2 MW Liromoba Hydro Electric Project.	
24	Yingkiong	4x5 MVA		33 KV & 11 KV System	4.0 MW	8.0MW	45 MW Sipit Hydro Electric Project and the district Head Quarter and its neighbouring villages around Yingkiong will get grid quality power supply. This line shall further be extended to Tuting.	

Chief Engr.
Transmission, Plg. & Mktg. Zone
Vidyut Bhawan, DoP, Itanagar

Annexure - 2B

132 KV LINES TO BE INITIALLY CHARGED AT 33 KV

Sl. No.	Name of proposed 132kV line	Proposed capacity	Reasons for Addition /Deletion	what is the existing newtork in the area, pl. provide	What is the existing peak load	What is the expected peak load by 2017	How the proposed N/w will help (Justification for proposal)	Remarks
1	Roing-Anini	190 Kms		Anini has not been connected from grid network. It has got local 11 KV system from small HEP.	0.8 MW	8.3 MW	3097 MW Etalin, 500 MW Attunli, 500 MW Emni, 390 MW Emra - II, 275 MW Emra - I, 420 MW Amulin would get construction power from this system. Apart from that 20 MW Ethipani, 25 MW Ethun - I, 20 MW Ethun - II small Hydro Electric Project will also be connected to it.	33 kv Sub Station at Anini
2	Kambang - Mechuka	170 Kms			1.5 MW	5.0 MW	C/o 33 KV lines not feasible due to tough & hilly terrain, deep forest. 90 MW Selphu, 80 MW Ropum, 145 MW Pank, 186 MW Tato - I, 700 MW Tato - II, 500 MW Erong, 1000 MW Naying Hydro Electric Project would get construction power from this project.	33 kv Sub Station at Mechuka
3	Yingkiong - Tuting			Enclosed	0.5 MW	5.0 MW	Grid power will be available to the entire system of RGGVY. Connectivity and construction power shall be available tfor 96 MW Sippi, 24 MW Pulsi, 96 MW Pango and 1000 MW Siang Upper.	33 kv Sub Station at Tuting
4	Tawang - Lumla			33 KV & 11 KV system	0.800 MW	5.0 MW	Nyum Jungchu 780 MW and 800 MW Tawang - II will get construction power from this project. This will also provide grid connectivity to strategically installation and distribution network developed under RGGVY.	33 kv Sub Station at Lumla
5	Deporijo - Nacho			None	Not yet connected	2 MW	Link all the RGGVY, APDRP networking with Grid line. 700 MW Oju - I, 1000 MW Oju - II, 800 MW Niare, 1000 MW Naba, 360 MW Nalo, 552 MW Dengser, 22 MW Siddi to get connectivity and construction power from this system. The entire network of RGGVY will also get power from this line.	33 kv Sub Station at Nacho
6	Khonsa - Longding	42 Kms		11 KV	2.0 MW	4.5 MW	Longding has been declated as a new District. The entire district would get grid quality power supply linking the RGGVy network in this system.	33 kv Sub Station at Longding
7	Paasighat Old-Mariyang			33 KV & 11 KV system	1.5 MW	3.5 MW	90 MW Yamene stage - I, 96 MW Yamene stage - II shall get connectivity and construction power from this system. This would also provide grid quality power supply to Mariyang Sub Division and near by villages.	33 kv Sub Station at Mariyang

Chief Engr.
Transmission, Plg. & Mng.
Vidyut Bhawan, DoP, Ita

Annexure - 2C

Comprehensive Scheme for Strengthening of Transmission & Distribution System in NER

Sl. No.	District	Name of proposed 33/11 kV S/s	Proposed capacity	Whether presently, the power is being supplied in the area or Not	If yes then what is the existing newtork, pl. provide network map	What is the existing peak load	What is the expected peak load by 2017	How the proposed N/w will help (Justification for proposal)	existing /proposed network at 11 kV & below	Query	Remarks
1	Anjaw	Halaipani	2x2.5 MVA	Yes	Enclosed	0.325 MW	2.75 MW	With electrification of many adjoining villages under RGGVY scheme and likely heavy demand of construction power for Hutong - I & II Projects, peak load demand is likely to increase sharply. Hence, the proposed augmentation will cater to the increased load demand of the area.	Enclosed		33 KV HT line (75.25 Kms) from Tezu to Khupa has been constructed under RGGVY scheme and another 10 Kms from Halaipani to Dhanbari is being constructed under SPA during this financial year and 33 KV line from Dhanbari to Khupa (20Kms) is expected to be constructed in the next financial year and further, 33 KV line from Halaipani to Walong via Hawai (70 Kms) is proposed to be constructed under NLCPR scheme so as to improve the overall power supply system in Anjaw District.
2	Anjaw	Hawai	2x2.5 MVA	Yes	Enclosed	0.450 MW	3.50 MW	Hawai being the District HQ of Anjaw District, its peak load demand is likely to increase substantially in the next few years particularly due to the upcoming Polytechnic College in its vicinity. Further, electrification of many adjoining villages under RGGVY scheme and construction power for Kalai - I & II projects are also likely to add to th eincreased peak load demand of the area.	Enclosed		
3	Anjaw	Walong	2x2.5 MVA	Yes	Enclosed	0.375 MW	3.50 MW	With electrification of many adjoining villages under RGGVY cheme and due to proposed Advance Landing Ground at Walong and Army Brigade at Tilam is likely to account for increase in peak load demand in the area.	Enclosed		
4	Changlang	Changlang	2x5 MVA	Yes	11 KV & 33 KV	3.06 MW	5.50 MW	The proposed network will meet the load demand of existing & new creation of villages, Tea factory, Coal based industries & Tourism sector of the areas & future demand of these establishment. Voltage regulation will also improve.	Proposed 11 KV line = 12 Kms.	some line must be existing	
5	Changlang	Diyun	2x2.5 MVA	Yes	11 KV	1.20 MW	3.10 MW	The proposed network will meet the load demand of existing & new creation of villages, Tea factory, Coal based industries & Tourism sector of the areas & future demand of these establishment. Voltage regulation will also improve.	Proposed 11 KV line = 8 Kms.	is 15 kms for both lines	
6	Changlang	Kharsang	2x2.5 MVA	Yes	33 KV	3.00 MW	4.15 MW	The proposed network will meet the load demand of existing & new creation of villages, Tea factory, Coal based industries & Tourism sector of the areas & future demand of these establishment. Voltage regulation will also improve.	Proposed 11 KV line = 25 Kms.		
7	Changlang	Khimiyong	2x2.5 MVA	Yes	11 KV	1.00 MW	2.60 MW	The proposed network will meet the load demand of existing & new creation of villages, Tea factory, Coal based industries & Tourism sector of the areas & future demand of these establishment. Voltage regulation will also improve.	Proposed 11 KV line = 14 Kms.		

Chief Engineer (P)
Transmission Proj. & Mtng. Zone

No.	District	Name of proposed 33/11 kV S/s	Proposed capacity	Whether presently, the power is being supplied in the area or Not	If yes then what is the existing newtork, pl. provide network map	What is the existing peak load	What is the expected peak load by 2017	How the proposed N/w will help (Justification for proposal)	existing /proposed network at 11 kV & below	Query	Remarks
8	Changlang	Manmao	2x2.5 MVA	Yes	11 KV	1.02 MW	2.80 MW	The proposed network will meet the load demand of existing & new creation of villages, Tea factory, Coal based industries & Tourism sector of the areas & future demand of these establishment. Voltage regulation will also improve.	Proposed 11 KV line = 10 Kms		
9	Dibang Valley	Anini	2x2.5 MVA	Yes but from SHPs	Only 11kV Distributions line	1.50 MW	4.0MW	Grid connections			
10	Dibang Valley	Etalin	2x2.5 MVA	Yes but from SHPs	Only 11kV Distributions line	1.10 MW	4.0 MW	Grid connections			
11	East Kameng	Bana	2x2.5 MVA	Yes	Proposed Sub Station will be fed power from Central Sector Power from Khuppi Sub Station through existing 33 KV line.	3 MVA approx.	5 MVA approx.	Besides existing power consumption at District HQ Seppa, additional power will be drawn to Bana EAC HQ, Richukhorong CO HQ & all the villages under Seppa Elect. Sub Division, electrified under RGGVY Scheme.	From the proposed Sub Station 11 KV Spur line will be constructed to Bana EAC HQ & Richukhorung CO HQ.		1) 11 KV Richukhorung feeder = 25 Kms. 2) Bana feeder = 2 Kms. Total = 27 Kms.
12	East Kameng	Seijosa	2x5 MVA	Yes	Seijusa is presently fed through 11 KV feeder line from Jamuguri (Assam) 2 x 3.15 MVA, 33/11 KV Sub Station at Jamuguri	4 MVA approx.	10 MVA approx.	From the proposed Sub Station separate 33 KV express line for Dissing Passo Circle, Tarasso and Balijan can be drawn in future. Tea processing unit, Rubber processing unit & Paper Mill Industries are presently under construction. So load demand may increase infuture accordingly	Seijusa is presently fed through 11 KV feeder line from Jamuguri (Assam) 2 x 3.15 MVA, 33/11 KV Sub Station at Jamuguri.		1) 11 KV Line IRBN feeder (Monai) = 12 KMs. 2) Goloso feeder = 10 Kms. 3) Darlang = 4 Kms. 4) Dissing Passo = 40 Kms. Total = 66 Kms.
13	East Kameng	Rilo	2x2.5 MVA	No		If all the villages under RGGVY are charged. The expected Peak load will be 2 MVA approx.	5 MVA approx.	From the proposed Sub Station separate 11 KV express line for Pakke Kessang, Pijirang and Sagalee can be drawn in future.	All the near by villages under Rillob Circle is connected through 11 KV feeder line under RGGVY and yet to be charged.		1) 11 KV Pijirang feeder = 50 Kms. 2) Pakke Kessang feeder = 45 Kms. 3) Ngoleko feeder = 8 Kms. 4) Taja Happa feeder = 18 Kms. Total 121 Kms.
14	East Kameng	Khenwa	2x2.5 MVA	No		1 MVA approx.	3 MVA approx.	From the proposed Sub Station 11 KV express line can be constructed for far flung villages to avoid un-interrupted power supply in future.	All most all the nearby villages are connected through 11 KV line		1) 11 KV Jokio Jomoh feeder = 25 Km, 2) Marjungla feeder = 15 Kms., 3) Sawa feeder = 35 Kms., 4) Lada feeder = 50 Kms.

Chief Engineer (P)
Transmission, Plg. & Mtg. Zone
Vidyut Bhawan, DoP, Itanagar

Sl. No.	District	Name of proposed 33/11 kV S/s	Proposed capacity	Whether presently, the power is being supplied in the area or Not	If yes then what is the existing network, pl. provide network map	What is the existing peak load	What is the expected peak load by 2017	How the proposed N/w will help (Justification for proposal)	existing /proposed network at 11 kV & below	Query	Remarks
15	East Kameng	Pipu	2x2.5 MVA	No		1.5 MVA approx.	3 MVA approx.	From the proposed Sub Station 11 KV express line can be constructed to Guyawepurang CO HQ and near by villages under Pipu & Guyawepurang Circle	All most all the vilages under Pipu & Guyawepurang Circle are connected through 11 KV line under RGGVY scheme.		1) 11 KV Guyawepurang feeder = 20 Kms., 2) Flago fedder = 10 Kms.
16	East Siang	Koreng	2x2.5 MVA	Yes		0.790 MW	3.0 MW	This proposed Sub Station will cater power supply to the areas of the Pangin, Kebang & Rebo Perging administrative circle. Due to creation of Siang District huge infrastructure development will come in this area. In addition many horticulture and small industries are coming up in these areaas in anticipation of successful laying of trans-Arunachal Pradesh NH-229 gtom Pashighat to Pangin.	11 KV = 5 Kms, LT line = 7 Kms.		
17	East Siang	Boleng	2x2.5 MVA	Yes		0.942 MW	4.0 MW	Proposed Sub Station will cater power supply to areas of the Boleng Rebo - Perging (partly) & Pegging Bote administrative circle. Due to creation of Siang District these areas will under go huge infrastructure development requiring additional power supply. In addition due to laying of border road highway by the GREF, a division coming up with station at Boleng.	11 KV line = 14 Kms, LT line = 7 Kms.		
18	East Siang	Mebo	2x5 MVA	Yes	Enclosed	0.525 MW	3 MW	Enclosed	11 KV line = 8 Kms, LT line = 6.5 Kms	Confirm bay availability	
19	East Siang	Ngopok	2x2.5 MVA	Yes	Enclosed	0.7 MW	2 MW	Enclosed	11 KV line = 6 Kms, LT line = 6.5 Kms	Confirm bay availability	
20	East Siang	All India radio, Passighat	2x2.5 MVA	Yes	Enclosed	0.5 MW	3.5 MW	Enclosed	11 KV line = 11 Kms, LT line = 16 Kms	Confirm bay availability	
21	East Siang	Oyan	2x2.5 MVA	Yes	Enclosed	0.75 MW	3.5 MW	Enclosed	11 KV line = 2 Kms, LT line = 2 Kms	Confirm bay availability	
22	East Siang	Koyu	2x2.5 MVA	Yes	Enclosed	0.5 MW	3.5 MW	Enclosed	11 KV line = 5 Kms, LT line = 1 Kms		
23	East Siang	Napit	2x5 MVA	Yes	Enclosed	0.2 MW	1.5 MW	Enclosed	11 KV line = 16 Kms, LT line = 6 Kms	Confirm bay availability	
24	East Siang	Nari	2x2.5 MVA	Yes	Enclosed	1 MW	4 MW	Enclosed	11 KV line = 2 Kms, LT line = 1 Kms		
25	East Siang	Ruksin	2x2.5 MVA	Yes	Enclosed	1.4 MW	7 MW	Enclosed	11 KV line = 2 Kms, LT line = 2 Kms		

Chief Engineer
Transmission, Plg. & Mng. Zone
Nirjuli Bhawan, DoP, Itanagar

No.	District	Name of proposed 33/11 kV S/s	Proposed capacity	Whether presently, the power is being supplied in the area or Not	If yes then what is the existing newtork, pl. provide network map	What is the existing peak load	What is the expected peak load by 2017	How the proposed N/w will help (Justification for proposal)	existing /proposed network at 11 kV & below	Query	Remarks
26	Kurung kumey	Tali	2x2.5 MVA	Yes	Network map is provided	0.4 MW	2.5 MW	The proposed network shall be utilised for providing electricity to 32 No. of villages which are being electrified under RGGVY Project under Tali area and its adjoining villages.	11 KV = 5 Kms, LT line = 4 Kms, 11/0.4 KV, 100 KVA = 1 No., 11/0.4 KV, 63 KVA = 2 Nos.		Proposed
27	Kurung kumey	Nyapin	2x2.5 MVA	Yes	Network map is provided	1.2 MW	4 MW	The proposed network shall be utilised for supplying power to ADC HQ at Nyapin & Circle HQ at Phassang and 50 No. of villages which are being electrified under RGGVY Project.	11 KV line = 10 Kms, LT line = 5 Kms, 11/0.4 KV, 100 KVA = 2 Nos., 11/0.4 KV, 63 KVA = 3 Nos.		Proposed
28	Lohit	Choukham	2x5 MVA	Yes, Partly		2.5 MW	6.0 MW	Evacuation of Power Supply from 132/33 KV Sub Station to proposed area & radial distribution of power to adjoining areas.	33 KV line = 37 Kms, 11 KV line = 85 Kms, & LT line 59 Kms.		For the extension of 11 KV / LT network, DTs are to be required for extension of network, since in the proposed format scope of DTs have not been included, therefore, proposed estimated cost of DTs have not been incorporated.
29	Lohit	Namsai	2x5 MVA	Yes, Partly		5.0 MW	9.0 MW	Evacuation of Power Supply from 132/33 KV Sub Station to proposed area & radial distribution of power to adjoining areas.	33 KV line = 39 Kms, 11 KV line = 13 Kms & LT line = 305 Kms.		For the extension of 11 KV / LT network, DTs are to be required for extension of network, since in the proposed format scope of DTs have not been included, therefore, proposed estimated cost of DTs have not been incorporated.
30	Lower Dibang valley	Bijari	2x2.5 MVA	Yes from PED on 11kV level	New 33kV line of 30km proposed and has to be tapped from existing 33kV line at Bomjir	0.5 MW	3.0 MW	Grid connections			
31	Lower Dibang valley	Bolung	2x2.5 MVA	Yes from Roing and Chapakowa at 11kV level	New 33kV line of 20km proposed and has to be tapped from existing 33kV line at Meka Tinali near Roing.	0.8 MW	3.5 MW	Grid connections			

Chief Engineer (P)
Transmission, Plg. & Mtg. Zone

Sl. No.	District	Name of proposed 33/11 kV S/s	Proposed capacity	Whether presently, the power is being supplied in the area or Not	If yes then what is the existing newtork, pl. provide network map	What is the existing peak load	What is the expected peak load by 2017	How the proposed N/w will help (Justification for proposal)	existing /proposed network at 11 kV & below	Query	Remarks
32	Lower Subansiri	Hapoli	2x5 MVA	Yes	33 KV line from Dillo to Old Ziro, 33/11 KV S/S & various 11 KV feeders to distribute power	5 MW	10 MW	The proposed 33/11 KV, 2 x 5 MVA Sub Station at Hapoli shall help in coping up the high power demand due to modernisation of town, industrialisation of area and other commercial and domestic power demand due to expansion of town and other villages in Lower Subansiri.	11 KV line = 40 Kms		
33	Lower Subansiri	Yazali	2x5 MVA	Yes	33 KV lines from Dillo to Yachuli 33/11 KV S/S & various 11 KV feeders to distribute power.	1 MW	1.65 MW	The proposed 33/11 KV, 2x5 MVA S/S at Yazali shall help in coping up the high power demand due to modernisation of town, industrilisation of area and other commercial and domestic power demand due to expansion of town and other villages in Lower Subansiri.	11 KV line = 20 Km		
34	Lower Subansiri	Raga	2x2.5 MVA	Yes	33 KV lines from Dillo to Yachuli 33/11 KV S/S & various 11 KV feeders to distribute power.	0.6 MW	1.5 MW	The proposed 33/11 KV, 2x5 MVA S/S at Yazali shall help in coping up the high power demand due to modernisation of town, industrilisation of area and other commercial and domestic power demand due to expansion of town and other villages in Lower Subansiri.	11 KV line = 15 Kms		
35	Lower Subansiri	Gerukamukh	2x2.5 MVA	Yes		0.2 MW	0.8 MW	The proposed 33/11 KV, 2x5 MVA S/S at Yazali shall help in coping up the high power demand due to modernisation of town, industrilisation of area and other commercial and domestic power demand due to expansion of town and other villages in Lower Subansiri.	11 KV line = 10 Kms.		
36	Papumpare	AP Secretariate	2x5 MVA	Yes	11 KV (Map enclosed)	7.00 MW	7.50 MW	The under construction A. P. Civil Secretariat and Assembly building with huge connected load approximately 7.5 MW shall connected with quality power supply.			
37	Papumpare	Raj Bhawan	2x5 MVA	Yes	11 KV (Map enclosed)	2.70 MW	5.65 MW	The Raj Bhawan, being located at the tail end of the 11 KV line shall get quality power supply in particular and shall reduce T & D losses in general.			
38	Papumpare	Gohpur Tinali	2x2.5 MVA	Yes	11 KV (Map enclosed)	0.060 MW	3.50 MW	The under construction MLA appartment with connected load of 3 MW, coming up of many educational institutions, Commercial and residential buildings in the area shall be provided with quality power supply. This will suffice the growth of development of the state.	Existing 11 KV line = 13 Kms., LT Line = 22 Kms. Proposed 11 KV line = 2 Kms., LT line 3 Kms.		
39	Papumpare	Jote	2x5 MVA	Yes	11 KV (Map enclosed)	0.500 MW	1.75 MW	This will help the rapid growth of developmental activities in all sectors in the area.			
40	Papumpare	Pappu Nallah	2x5 MVA	yes	11 KV Papu feeder from 2 x 5 MVA, 33/11 KV Sub Station Naharlagun (Map enclosed)	3.6 MW	8 MW approx	Apart from feeding papu feeder, Barapani and 'C' sector feeders will be back fed from the proposed new 33/11 KV Sub Station, this will help relieve the already overloaded 2 x 5 MVA, 33/11 KV Naharlagun Sub Station. Also since this feeder was heavily overloaded, there was low voltage problem in the entire Papu Nallah and Pachin Colony areas which will be regulated. By sectioning the feeder at different 11 KV feeders, good quality power supply can be fed to the consumers which will help realisation of more revenue.	Enclosed		

Chief Engineer (P)
Transmission, Plg. & Mtg. Zone
Vidyut Bhawan, DoP, Itanagar

No.	District	Name of proposed 33/11 kV S/s	Proposed capacity	Whether presently, the power is being supplied in the area or Not	If yes then what is the existing newtork, pl. provide network map	What is the existing peak load	What is the expected peak load by 2017	How the proposed N/w will help (Justification for proposal)	existing /proposed network at 11 kV & below	Others	Remarks
41	Papumpare	Doimukh	2x5 MVA	Yes	11 KV OH line from 2 x 5 MVA 33/11 KV Sub Station Nirjuli (Map enclosed)	2.75 MW	7.5 MW	Voltaage regulation will improve because the present entire load 2 MW of the area is carried by 11 KV line. 2) To meet the increasing load demand due to vast expansion of RGU Central University, establishment of New Govt. College at Midpu. Creation of New colonies due to urbanisation and establishment of Power Project and construction of Arunachal Trans Highway and NF Railways	Existing 11 KV line = 55 Kms, LT line = 53 Kms. Proposed 11 KV line = 12 Kms, LT line = 15 Kms		
42	Papumpare	Leporiang	2x2.5 MVA	Yes	11 KV	0.8 MW	3.5 MW	With the construction of proposed power Sub Station at Load centre Voltage Regulation will improve. Also supply reliability will increase as the feeder management efficacy increase.	Existing 11 KV line = 55 Kms, LT line = 53 Kms. Proposed 11 KV line = 14 Kms, LT line = 18.5 Kms.		
43	Tawang	Klimtao(Bumla)	2x2.5 MVA	No	Not applicable	0.5 MW	3.5 MW	Necessity of the proposal is that the entire targeted area is near international border with China and presently there is no any power supply available. The proposal shall cover Klemta Army Unit, Nagula Communication Det, Bumla Check Post, Assam Hill, etc. in BUMLA sector tothe north of Tawang HQ and Thimbu Administrative Circle HQ, Mago, Lugutang, Chuna, Topgay [illegible] Shalungchi, Dushing army camp. Ramasafar Army and CRPF camp etc. in the East of Tawang HQ all of which are near Indo - China Border. Due to strategic locations in terms of national security the Indian Army is expanding its presence at a large scale and demand for power is growing in a very fast and steady manner and expected to grow exponentially in next immediate future. Apart from Indian Army other paramilitary forces like SSB and ITBP have also a vast presence and demand for power is coming from them as well. Apart from army power requirements three Hydro Projects of 50 MW each along the Tawang Chu River and its main tributaries between Mago and New India Bridge near Jang are to developed by SEW ENERGY LIMITED. It's expected that the construction power has to be met from the	Proposed 11 KV line = 40 Kms, LT line 3 Phase = 20 Kms and DTs = 7 Nos.	bay to be made available by DoP, Arunachal Pradesh	
44	Tawang	Thimbu	2x2.5 MVA	Yes	Map enclosed separately	0.5 MW	3.5 MW		Proposed 11 KV line = 37 Kms, LT line 3 Phase = 6.5 Kms and DTs 100 KVA = 2 Nos., 25 KVA = 1 No	bay to be made available by DoP, Arunachal Pradesh	
45	Tawang	Mukta	2x2.5 MVA	[illegible]	Map enclosed separately	0.6 MW	4.5 MW	The proposed 33 KV line connectivity from Jang existing Sub Station to Mukto with 2 x 2.5 MVA, 33/11 KV Sub Station at Mukto is required to provide 11 KV voltage level supply to all border villages along Indo - Bhutan border. Indian Army and SSB establishments along the borders with reliable and quality power supply with better voltage regulations. Mukto is also an upcoming township with Hydro power developers putting in their investments. One Engineering College is being established by the NHPC in Jang - Mukto area.	Proposed 33 KV line = 20 Kms. 11 KV line = 14.5 Kms. DTs 100 KVA = 1 NO. & LT Line = 4 KMs	bay to be made available by DoP, Arunachal Pradesh	

[illegible]
Transmission, Plg. & Mng. Zone
Vidyut Bhawan, DoP Itanagar

o.	District	Name of proposed 33/11 kV S/s	Proposed capacity	Whether presently, the power is being supplied in the area or Not	If yes then what is the existing newtork. pl. provide network map	What is the existing peak load	What is the expected peak load by 2017	How the proposed N/w will help (Justification for proposal)	existing /proposed network at 11 kV & below	Query	Remarks
16	Tawang	Lumla	2x2.5 MVA	Yes	Map enclosed separately	0.8 MW	10 MW	Various Hydro Projects in Lumla - Zemithang areas are expected to be coming soon which all shall require construction power. Apart from that Lumla being the newly created independent ADC administrative centre the expansion of developmental activities, such as construction of private buildings, quarters, office buildings, schools etc. are swiftly in progress and accordingly the load demand is increasing day by day. With Indo - Bhutan road connectivity under construction an Indo - Bhutan trade centre at Dodumghar circle which is under active consideration for establishment. The proposed Indo - Bhutan trade centre site which is located at Bhutan border of India side is at vergin place which requires set up of fresh / new transmission and distribution infrastructures. Further this administration centre is bordering two international borders viz - China and Bhutan and as such presence of Indian Army, SSB, and ITBP are increasing day by day. So, the power demand is expected to rise much above the capacity of the existing (33/11) KV power sub station within a couple of years in which the presently 2 x 1.6 MVA.	Proposed 11 KV line = 10 Kms, LT line	bay to be made available by DoP, Arunachal Pradesh	
17	Tirap	Deomali	[illegible] MVA		[illegible]	[illegible]	[illegible]	It will help to meetup the load growth in near future, as the existing 33/11 KV Power Tranformer is over loaded and would not be able to cater future load expected to come up. Hence to save the existing Transformer from over loading and to provide power supply to all the needy consumers this scheme is very much required.	Existing a. 11KV line [illegible] Km b. LT line = 126 Km c. DTS = 3250 KVA **Proposed** a. 11KV line = 20Km b. LT line = 15 Km c. DTS = 2026 KVA i. 25 KVA = 4 Nos ii. 63 KVA = 2 Nos iii. 100 KVA = 4 Nos iv. 200 KVA = 2 Nos v. 500 KVA = 2 Nos		Network map is enclosed as Annexure - A
18	[illegible]	[illegible]				[illegible]	[illegible]	It will help to meetup the load growth in near future. At present power supply for Kanubari Township is being fed through 11 KV network from [illegible] point of ASEB and also a 33 KV line for Deomali to Kanubari has already being proposed under NLCPR Scheme which is under consideration [illegible] quality and uninterrupted power supply to Kanubari Township and [illegible] villages this scheme is very much required.	Existing a. 11KV line =150 Km b. LT line = 75 Km c. DTS = 1300 KVA **Proposed** a. 11KV line = 15Km b. LT line = 20 Km c. DTS = 2015KVA i. 25 KVA = 8 Nos ii. 63 KVA = 5 Nos iii. 100 KVA = 4 Nos iv. 200 KVA = 3 Nos v. 500 KVA = 1 Nos		Network map is enclosed as Annexure - A

Chief E... Transmission, Plg. & Mng. Zone
...Bhawan, DoP, Itanagar

	District	Name of proposed 33/11 kV S/s	Proposed capacity	Whether presently, the power is being supplied in the area or Not	If yes then what is the existing network, pl. provide network map	What is the existing peak load	What is the expected peak load by 2017	How the proposed S/s will help (Justification for the proposal)	existing /proposed network at 11 kV & below	Query	Remarks #
49	Tirap	Khonsa	2x5 MVA	Yes	33kV Network	4.5 MVA	10.0 MW	It will help to meetup the load growth in near future as the existing 33/11 KV Power Tranformer is over loaded and would not be able to bear future load expected to come up. Hence to save the existing Transformer from over loading and to provide power supply to all the needy consumers this scheme is very much required	Existing a. 11KV line = 283Km b. LT line =286 Km c. DTS = 3650 KVA **Proposed** a. 11KV line = 25 Km b. LT line = 30 Km c. DTS = 2515 KVA i). 25 KVA = 12 Nos ii). 63 KVA = 5 Nos iii). 100 KVA = 5 Nos. iv) 200 KVA = 2 Nos. v). 500 KVA = 2 Nos.	Line must be existing	Network map is enclosed as Annexure - A
50	Tirap	Longding	2x2.5 MVA	Yes	33KV Network	1.5 MW	2.5 MW	It will help to meetup the load growth in near future as the existing 33/11 KV Power Tranformer is unable to bear future load expected to come up. Hence to save the existing Transformer from over loading and to provide power supply to all the needy consumers, this scheme is very much required	Existing a. 11KV line = 260Km b. LT line =190 Km c. DTS = 2000 KVA **Proposed** a. 11KV line = 40 Km b. LT line = 30 Km c. DTS = 2015 KVA. i. 25 KVA = 12 Nos ii. 63 KVA = 5 Nos iii. 100 KVA = 5 Nos iv. 200 KVA = 2 Nos. v. 500 KVA = 1 Nos.	which line ? It is a charged s/s	Network map is enclosed as Annexure - A
51	Upper Siang	Geku	2x2.5 MVA	Yes	Enclosed	0.75 MW	2.5 MW	Overloading of DTs will be minimised	11 KV line = 60 Kms, Geku -Jeying	where will this D/c line terminate?	
52	Upper Siang	Jeying	2x2.5 MVA	Yes	Enclosed	0.5 MW	1 MW	Overloading of DTs will be minimised		Confirm bay availability	
53	Upper Siang	Tuting	2x2.5 MVA	Yes	Enclosed	1 MW	2 MW	Overloading of DTs will be minimised	11 KV line = 10 Kms		
54	Upper Siang	Mariyang	2x2.5 MVA	Yes	Enclosed	0.75 Lakh	2.5 MW	Overloading of DTs will be minimised	11 KV line = 10 Kms		
55	Upper Siang	Jengging	2x2.5 MVA	Yes	Enclosed	1.5 MW	2.75 MW	Overloading of DTs will be minimised	Exist 33 KV line = 5 Kms		
56	Upper Subansiri	Maro	2x2.5 MVA	Yes	11 KV	0.6 MW	1 MW	To reduce losses	33 KV line - 35 Kms		Proposed 33 KV
57	Upper Subansiri	Sippi	2x2.5 MVA	Yes	11 KV	0.8 MW	1.5 MW	To reduce losses	33 KV line = 18 Kms		Proposed 33 KV
58	Upper Subansiri	Taliha	2x2.5 MVA	Yes	11 KV	1.5 MW	2.5 MW	To reduce losses	33 KV line = 40 Kms		Proposed 33 KV
59	Upper Subansiri	Giba	2x2.5 MVA	Yes	11 KV	0.1 MW	0.5 MW	To reduce losses	33 KV line = 30 Kms		Proposed 33 KV

	District	Name of proposed 33/11 kV S/s	Proposed capacity	Whether presently, the power is being supplied in the area or Not	If yes then what is the existing newtork, pl. provide network map	What is the existing peak load	What is the expected peak load by 2017	How the proposed N/w will help (Justification for proposal)	existing /proposed network at 11 kV & below	Query	Remarks
60	Upper Subansari	Nacho	2x2.5 MVA	Yes	11 KV	0.7 MW	1.5 MW	To reduce losses	33 KV line = 40 Kms		Proposed 33 KV
61	Upper Subansari	Murmugh	2x2.5 MVA	Yes	11 KV	0.6 MW	1 MW	To reduce losses	33 KV line = 30 Kms		Proposed 33 KV
62	West Kameng	Thrizino	2x2.5 MVA	Yes	33 KV	0.8 MW	1.8 MW	At present Thrizino is drawing power from Khuppi Switch Yard at 33 KV line. But after implementation of RGGVY there are many villages enroute from Khuppi to Thrizino particularly from Palan villages towards. Due to non availability of 11 KV line these villages could not be electrified. Besides this one whole circle called Dirikong in East Kament district will benefit from this Sub Station if constructed. Every thing like 11 KV lines, LT lines and Distribution Sub Station is constructed and ready, but not yet charged due to want of 11 KV line. Its approx. load is 500 KW	11 KV = 45 Km		
63	West Kameng	Balemu	2x2.5 MVA		11 KV	500 KW	2.5 MW	With so much of power potential and so many mega projects coming up Arunachal Pradesh would be handling huge power in next ten years time. Therefore, it will be necessary for Arunachal to develop an adequate and reliable transmission and distribution system for its domestic consumption and inter state transfer of power through regional or national grid.	11 KV = 45 Kms		
64	West Siang	Mechuka	2x2.5 MVA	Yes, only within Mechuka township	Map enclosed	0.3 MW	1 MW	Reliable power supply from the grid shall be ensured	Map enclosed		
65	West Siang	Tirbin	2x2.5 MVA	Yes	Map enclosed	0.5 MW	1.2 MW	Will improve voltage regulation thereby minimising AT&C losses	Map enclosed		
66	West Siang	Likabali	2x2.5 MVA	Yes	Map enclosed	0.8 MW	2 MW	Will improve voltage regulation thereby minimising AT&C losses	Map enclosed	1 Bay available for Igo, Gensi & Likabali at Basar. Pl confirm bay at Basar	
67	West Siang	Kaying	2x2.5 MVA	Yes	Map enclosed	1.581 MW	3.834 MW	9th Bihar regiment has already demanded 1 MVA load officially No. of private power developer (Hydro Power) have already started construction of Hydro power project beyond Kaying towards Menchuka which will require sufficient power supply for the purpose. Due to rapid expansion of GREF camp at Rumbin under Kaying circle, there has been escalation in load demand and ue to establishment of CO HQ Payum and upgradation of Circle HQ to EAC HQ at Kaying No. of office establishment and population have increased.			

Chief Engineer (P)
Transmission, Plg. & Mng. Zone
Akad Bhawan, DoP, Itanagar

	District	Name of proposed 33/11 kV S/s	Proposed capacity	Whether presently, the power is being supplied in the area or Not	If yes then what is the existing newtork, pl. provide network map	What is the existing peak load	What is the expected peak load by 2017	How the proposed N/w will help (Justification for proposal)	existing /proposed network at 11 kV & below	Query	Remarks
68	West Siang	Gensi	2x2.5 MVA	Yes	Map enclosed	0.5 MW	1.5 MW	Will improve voltage regulation thereby minimising AT&C losses.	Map enclosed	1 Bay available for Igo, Gensi & Likabali at Basar.	
69	West Siang	Rumgong	2x2.5 MVA	Yes	Enclosed	0.633 MW	1.562 MW	8 Nos. of un-electrified villages are to be electrified villages are to be electerfied leading to growth in load demand. Since Rumgong is an ADC HQ, many infrastructures and Govt. establishment is coming up due to which load demand at ADC HQ will increase in days to come. Moreover, many small scale industries private industries private institutions like school are being established in and around Domong Parun areas.	33 KV line = 1.5 KMs. 11 KV line = 40 Kms. LT line = 40 Kms		
70	West Siang	Igo	2x2.5 MVA	Yes	Map enclosed	0.4 MW	1 MW	Will improve voltage regulation thereby minimising AT&C losses.	Map enclosed	1 Bay available for Igo, Gensi & Likabali at Basar.	

Chief Engineer (P)
Transmission, Plg. & MM Zone
Arunachal Bhawan, Doimukh, Itanagar

ATTENDANCE SHEET

Sub:- **Discussion on COMPREHENSIVE SCHEMES / PROJECTS in respect of Power Sector, Arunachal Pradesh**

Venue:- **Office Chamber, Chief Engineer (Power), Transmission, Planning & Monitoring Zone, Vidyut Bhawan, Itanagar**

Date : - 19th June 2013

Sl. No.	Name & Designation	Address	Contact No.	Signature
1	Er. Anup Pesing	CE(P) T, PM		[signature]
2	K K ARYA	CE(SP&PA) CEA	9810955760	[signature]
3	ARUN KUMAR	COO(PL&BPD) POWERGRID	9650899999	[signature]
4	SANJEEV SINGH	Power Grid Gurgaon	9910378012	[signature]
5	SUDHIR MITTAL	GM - BDD POWERGRID	9910377757	[signature]
6	ASHOK PAL	AGM - CTU POWERGRID	9910378105	[signature]
7	Atul Agarwal	DGM (DMS) Power Grid	9910378057	[signature]
8	Somnun Das	Manager (Engg) NERTS/POWERGRID	9436335240	[signature]
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				