



भारत सरकार/ Government of India
 विद्युत मंत्रालय / Ministry of Power
 केंद्रीय विद्युत प्राधिकरण/ Central Electricity Authority
 प्रणाली योजना एवं परियोजना मूल्यांकन प्रभाग
 System Planning & Project Appraisal Division
 सेवा भवन, आर.के .पुरम, नई दिल्ली - 110066
 Sewa Bhawan, R.K. Puram, New Delhi - 110066



[ISO : 9001 : 2008]

No. 54/1/ 2014 -SP&PA/.....- 1216-17

Date: 20-May-2015

To

The Chief Engineer /Electricity,
 Planning & Co-ordination,
 Karnataka Power Transmission Corporation Ltd,
 Kaveri Bhawan, Bangalore-9

FAX No. - 080-22292204

Subject: Modification in scope of transmission schemes of KPTCL for renewable energy generation projects to be taken up for KfW funding - Minutes of Meeting held on 15-May-2015 in CEA

Reference: (i) KPTCL letter no CEE (P&C)/SEE(Plg)/EE(PSS)KCO-97/16074/2014-15/14386-391 dated 13-03-2015
 (ii) KPTCL letter no CEE (P&C)/SEE(Plg)/KCO-97/34319/2015-16/1090 dated 07-05-2015
 (iii) CEA letter no. 54/1/ 2014 -SP&PA/2056-57 dated 07-Nov -2014

Sir,

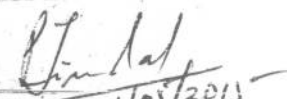
1. This has reference to KPTCL letter dated 13-03-2015, wherein some modifications have been proposed in the scope of transmission schemes to be taken up under the Green Energy Corridor for KfW funding. Earlier CEA vide letter dated 07-11-2014 has agreed/approved KPTCL transmission schemes for evacuation of power from renewable energy (RE) sources that are to be implemented through funding from KfW.
2. To deliberate the modifications as proposed by KPTCL, a meeting was held in CEA on 15-May-2015 with officials from KPTCL, KfW and CEA (list of participants is given at Annex-I).
3. In the meeting KPTCL provided details of transmission elements in each of the eight schemes that they have now proposed. The cost estimates of each element were also provided.

4. KPTCL also informed that considering the progress of renewable energy generation projects and the transmission schemes, they would like to award some of the schemes by December 2015, others by June 2016 and one scheme by June 2017. Accordingly, the proposed transmission schemes were divided in three groups as summarized below. The details of these schemes are given at Annex-II.

Sl. No.	Transmission Scheme	Estimated Cost (Rs Crore)	To be awarded by date
<u>Group – I</u>			
1.	Establishing 2 x 500 MVA, 400/ 220 kV Sub station at Gadag(Doni) in Mundaragi Taluk, Gadag District	132.49	Dec 2015
2.	Construction of 220 kV SC line from 400kV Hiriyur (PGCIL) sub station to 220/66/11kV Hiriyur sub station and Construction of 220kV DC line from 220/66/11kV Chitradurga sub station to 220/66/11kV Hiriyur sub station in existing corridor in Chitradurga District	32.72	Dec 2015
3.	Establishing 2 x 500 MVA, 400/220 kV Sub station at Jagalur in Jagalur Taluk, Davanagere District	484.36	Dec 2015
4.	Construction of 220kV DC line for a length of 26kms from 220kV Bidnal substation to LILO one of the circuits of 220kV Narendra-Haveri DC line, in Haveri and Dharwad districts	15.44	Dec 2015
Sub- total (Group – I)		665.01	
<u>Group – II</u>			
5.	Establishing 2x100MVA 220/66 kV and 1x8MVA 66/11kV sub station at Shivanasamudra, Malavalli taluk, Mandya district.	94.01	June 2016
6.	Establishing 2 x 100 MVA, 220/110 KV & 1x10 MVA, 110/11 KV Sub station at Mughalkod in Raibag Taluk, Belgaum District	72.49	June 2016
Sub- total (Group – II)		166.50	
<u>Group – III</u>			
	Establishing 2x100MVA 220/66 kV and 1x12.5MVA 66/11kV sub station at Hosadurga, Hosadurga taluk, Chitradurga district.	74.68	June 2017
Sub- total (Group – III)		74.68	
Total Cost of Schemes		906.19	

5. The proposed transmission schemes, as given above, were found to be in order. KPTCL agreed to furnish the DPR of these schemes to KfW for further necessary action, with a copy to CEA.

Yours faithfully,


21/05/2013
(Pardeep Jindal)
Director (SP&PA)

Copy to:

1. Ramya Parijat,
Senior Specialist,
KfW office, 21 Jor Bagh,
New Delhi-3.

Fax:24641203

Annex - I

List of Participants:

Sl. No.	Name of Officer	Designation	Organization	Email / Mobile
1.	K. K. Arya	Chief Engineer	CEA	kkarya_2001@rediffmail.com
2.	Pardeep Jindal	Director	CEA	jindal_pardeep@yahoo.co.in / 9818768460
3.	Shivani Sharma	Dy. Director	CEA	shivani0004@gmail.com / 9717686780
4.	A. J. Hosamani	Chief Engineer	KPTCL	ceepnc@gmail.com / 9448363092
5.	Chetan D.	Executive Engineer	KPTCL	eeppskptcl@gmail.com / 9448090283
6.	Divya P.	Engineer	KPTCL	9448998075
7.	Ramya Parijat	Senior Specialist	KfW	ramya.parijat@kfw.de / 9871961372

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

Establishing 2 x 500 MVA, 400/220 kV Sub station at Gadag(Doni) in Mundaragi Taluk, Gadag District

GENERAL ABSTRACT

Sl. No.	Particulars	Amount in Rs. Lakhs
1	Establishing 2 x 500 MVA, 400/220 kV Sub station at Gadag(Doni) in Mundaragi Taluk, Gadag District	9149.56
2	Construction of 400 kV LILO line with Twin Moose ACSR conductor from 400 kV Guttur-Guddadahalli SC line to Proposed 400/220 kV S/S at Gadag(Doni) for a distance of 26.798 kms in Gadag District	3474.23
3	Construction of 220 kV DC LILO line from 220 kV Gadag-Lingapur DC line to proposed 400/220 kV Gadag(Doni) S/S for a distance of 2.775 Kms in Mundaragi Taluk, Gadag District	625.48
TOTAL		13249.28

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

Establishing 2x100MVA 220/66 kV and 1x8MVA 66/11kV sub station at Shivanasamudra, Malavalli taluk, Mandya district.

GENERAL ABSTRACT

Rs in Lakhs

1	Construction of 220kV DC line for a distance of 1.5kms to link to 220kV line connecting 220kV T.K.halli substation at the cost of Rs.60.00Lakhs per km	90.00
2	Construction of 220kV DC line for a distance of 1.5kms to link to 220kV line connecting 220kV Madhuvanahalli substation at the cost of Rs.60.00Lakhs per km	90.00
3	Construction of 220kV DC Drake ACSR line for a length of 76kms in the existing 220kV Hootagally-Vajamangala-T.K.Halli SC line corridor including LILO to 220/66/11kV Vajamangala substation at the cost of Rs.60.00 Lakhs per km	4560.00
4	Construction of 220kV line terminal bays-4Nos (one each at 220kV Hootagally and T.K.halli and two nos at Vajamangala) at the cost of Rs.150.00 Lakhs per TB	600.00
5	Construction of 5kms of 66kV DC coyote ACSR lines to link M2 line, T.K.halli line, SFC line, Kollegala line, Madhuvanahalli lines to proposed 220/66/11kV Shivanasamudram substation near existing SFC substation at the cost of Rs.30.00Lakhs per kms	150.00
6	Establishing 2x100MVA 220/66 kV and 1x8MVA 66/11kV sub station at Shivanasamudra, Malavalli taluk, Mandya district.	3910.91
7	Total project cost	9400.91

KARNATAKA POWER TRANSMISSION CORPORATION LTD

Establishing 2 x 500 MVA, 400/220 kV Sub station at Jagalur in Jagalur Taluk, Davanagere District

GENERAL ABSTRACT

Sl. No.	Particulars	Amount in Rs. Lakhs
1	Establishing 2 x 500 MVA, 400/220 kV GIS Sub station at Jagalur in Jagalur Taluk, Davanagere District	25435.96
2	Construction of 400kV Multi circuit Quad Moose ACSR line for a length of 40kms from proposed 400/220kV Jagalur substation to LILO the proposed BTPS-CNHalli DC line at the rate of Rs.350.00Lakhs per km	14000.00
3	Construction of 220kV Drake ACSR line for a length of 40kms from proposed 400/220kV Jagalur substation to 220/66kV Thallak substation at the cost of Rs.60.00Lakhs per km	2400.00
4	Construction of 220kV Drake ACSR line for a length of 50kms from proposed 400/220kV Jagalur substation to proposed 220/66/11kV Kudligi substation at the cost of Rs.60.00Lakhs per km	3000.00
5	Construction of 4Nos of 220kV line terminal bays(2 Nos each at 220/66kV Thallak and prop 220/66/11kV Kudligi substations) at the cost of Rs:150.00 Lakhs per TB	600.00
6	Construction of 220kV DC line for a route length of 50kms from Jagalur to Chitradurga at the cost of Rs.60.00 Lakhs per km	3000.00
7	TOTAL	48435.96

~~Estimated Cost~~
Total Project Cost
Rs.

~~48435.96~~
48435.96

Lakhs

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

Construction of 220 kV SC line from 400kV Hiriyyur (PGCIL) sub station to 220/66/11kV Hiriyyur sub station and Construction of 220kV DC line from 220/66/11kV Chitradurga sub station to 220/66/11kV Hiriyyur sub station in existing corridor in Chitradurga District

GENERAL ABSTRACT

Rs in Lakhs

Sl. No.	Particulars	Amount in Rs. Lakhs
Part-A (Capital work) :		
1	Construction of 220 kV SC line on DC towers from existing 400kV PGCIL station Beerenahalli to existing 220/66/11kV SRS at Hiriyyur in Chitradurga Dist in existing corridor of 220kV SC line from Hoysalakatte to 220/66/11 kV sub station Hiriyyur (partly in new corridor i.e from PGCIL point to link 220 kV S/C line from Hoysalakatte to 220/66/11kV SRS at Hiriyyur)	905.19
2	Construction of 220 kV DC line on DC towers from existing 220/66 kV Sub-Station Chitradurga to existing 220/66 kV Sub-Station Hiriyyur in Chitradurga Dist in existing corridor (partly in new corridor from LILO point to 220 kV sub station Chitradurga) for a distance of 37.461Kms	1865.21
3	Construction of Two Nos of 220 kV Terminal bays at 220/66/11 kV Chitradurga Sub-Station in Chitradurga Taluk and District.	241.35
4	Construction of Two Nos of 220 kV Terminal bays at 220/66/11 kV Hiriyyur Sub-Station in Hiriyyur Taluk and Chitradurga District.	252.67
Part-B (Revenue work) :		
1	Releasing of towers in Existing 220kV Hoysalakatte SC line for stringing of proposed 220 kV SC line from 400/220kV Beerenahalli to 220/66/11kV Hiriyyur in Chitradurga Dist	
2	Dismantling of 220 kV SC line from Location No 247 i.e at Doddasiddavvanahally limits near 220/66/11kV Chitradurga sub station to 220/66 kV sub station Hiriyyur in Chitradurga Dist.	7.60
	Total Cost of Project:	3272.01

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED**Establishing 2 x 100 MVA, 220/110 KV & 1x10 MVA,
110/11 KV Sub station at Mughalkod in Raibag Taluk,
Belgaum District****GENERAL ABSTRACT**

Sl. No.	Particulars	Amount in Rs. Lakhs
1	Establishing 2 x 100 MVA, 220/110 KV & 1x10 MVA, 110/11 KV Sub station at Mughalkod in Raibag Taluk, Belgaum District	3049.12
2	Construction of 110kV DC for a length of 5kms to link 220/110/11kV Mughalkod to 110/11kV Itnal substation at the rate of Rs.40 Lakhs per km	200.00
3	Construction of 110kV DC for a length of 10kms to link 220/110/11kV Mughalkod to link to lines connecting Hidkal and Sultanpur substations at the rate of Rs.40 Lakhs per km	400.00
4	Construction of 110kV DC for a length of 15kms to link 220/110/11kV Mughalkod to lines connecting Mudalagi and Hunsyal substations at the rate of Rs.40 Lakhs per km	600.00
5	Construction of 110kV DC for a length of 15kms to link 220/110/11kV Mughalkod to lines connecting Kuligod and Saidapur substations at the rate of Rs.40 Lakhs per km	600.00
6	Construction of 220kV DC line LILO Ghataprabha- Chikkodi for a route length of 40kms at a cost of Rs.60.00Lakhs per km	2400.00
7	TOTAL	7249.12

Total Project Cost Rs. **7249.12**
Lakhs

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

Establishing 2x100MVA 220/66 kV and 1x12.5MVA 66/11kV sub station at Hosadurga, Hosadurga taluk, Chitradurga district.

GENERAL ABSTRACT

		Rs in Lakhs
1	Construction of 220kV DC line for a length of 45kms from proposed 220/66/11kV Hosadurga substation to 400/220kV CN Halli substation at the cost of Rs.60.00Lakhs per km	2700.00
2	Construction of 220kV line terminal bays-2Nos at 400/220kV CN Halli substation at the cost of Rs.150.00 Lakhs per TB	300.00
3	Construction of 66kV DC line for a length of 2kms from proposed 220/66/11kV Hosadurga substation to LILO 66kV SC Bagur-Ramagiri SC line at the cost of Rs.30.00Lakhs per km	60.00
4	Construction of 66kV DC line for a length of 10kms from proposed 220/66/11kV Hosadurga substation to 66/11kV Hosadurga substation in existing corridor at the cost of Rs.30.00Lakhs per km	300.00
5	Construction of 66kV DC line for a length of 15kms from proposed 220/66/11kV Hosadurga substation to 66/11kV Halurameshwara substation in existing corridor at the cost of Rs.30.00Lakhs per km	450.00
6	Establishing 2x100MVA 220/66 kV and 1x12.5MVA 66/11kV sub station at Hosadurga, Hosadurga taluk, Chitradurga district.	3587.69
7	Construction of 2Nos 66kV TBs at 66/11kV Halurameshwara(2Nos) at the cost of Rs.35Lakhs per TB	70.00
8	Total project cost	7467.69

Annex - 22.1

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

Telephone: 080-22210416
Fax : 080-22292204



Office of the
Chief Engineer Electy.,
Planning & Co-ordination,
Kaveri Bhavan, Bangalore-9

No. CEE (P&C)/SEE(Plg)/EE(PSS)KCO-97/34319/2015-16
1780-85

Date: 23rd May '2015

23 MAY 2015

M.S. Shrivastava, b Mani/ed
Pl. study, see if we can include of SC PSSR
P. Jety
4/6/15

The Member (Power systems),
Central Electricity Authority,
Sewa Bhavan, R.K.Puram,
New Delhi-110 066.

M (PSS)
CB (SPPA)
3/6/15

shy P7
Dir
K.P. Jety
3/6

Sir,

Sub: Evacuation of additional 660 MW proposed generation of M/s JSW Energy Ltd.
Ref: T.O Letter no: CEE (P&C)/SEE (Plg)/EE (PSS)/KCO-94/15923/F-8899/9/14745
Dt.20.3.2015 addressed to you.

M/s. JSW Energy Ltd., had come up with a proposal for evacuating additional 660 MW generation recently (to be connected at 400 kV voltage level) together with the existing capacity of 4x300 MW (connected at 400 kV voltage level) and 2x130 MW (connected at 220 kV voltage level). The evacuation for this additional 660 MW has been considered on the Transmission scheme already approved comprehensively for 'YTPS', 'ETPS', '3rd unit of BTPS' and that for 'JSW Energy Ltd', in the Joint Meeting of Standing Committee of Power System Planning of Southern Region and Western Region held on 26th December-2013 at SRPC, Bangalore. However, due to addition of this 660 MW, four circuits of 400 KV line was approved (two circuits with twin Moose and two circuits with quad Moose) instead of earlier approved two circuits of quad Moose to connect M/s. JSW Energy Ltd., plant with the 400 KV Ballari pooling station. The evacuation scheme so approved by KPTCL was brought to the notice of CEA in letter no. cited under reference.

Detailed study was carried out for 2017-18 time frame for the feasibility of evacuation of 660 MW additional generation of M/s JSW Energy Ltd., considering the already approved Transmission scheme for the 'YTPS', 'ETPS', '3rd unit of BTPS' and that for 'JSW Energy Ltd'.

1091/M/PS/1117
2/6/15

!?!

From the studies it could be observed that;

- 1) with the additional 660 MW generation of M/s. JSW Energy Ltd., and with outage of 400 kV DC Quad Moose line between 'Ballari Pooling Station' and 'Madhugiri new' (under N-1-1 contingency), the existing 400 kV DC twin Moose line between 'BTPS' and 'Hiriyur' gets loaded beyond its thermal limits.
- 2) also, the fault level at 'BTPS' is nearing 40 KA due to ingress of additional 660 MW by M/s. JSW Energy Ltd., in to the Grid.

In view of these, slight modification is proposed to the already approved Transmission scheme as appended below;

- 1) to retain the LILO to 'BTPS' only, from the existing 400 KV SC line running between 'RTPS-BTPS-JSW-Guttur (total line length-300 KM). This will help in cutting the existing line in to two equal halves in terms of line length thus reducing the reactive flow and also would provide additional evacuation facility to the 'BTPS' plant in terms of contingency requirement.
- 2) to drop the 400 KV DC quad line link (approximately 8 KM in length) between 'Ballari Pooling station' and 'BTPS' as this link is of hardly of any help as power flow on this link is very meagre (in terms of few hundred MW only during normal condition) and also will contribute for increased fault level at 'BTPS'.

The results of Load flow study is placed as Annexure.

Further, it may be noted that 400 kV switching station at Chikkanayanahalli is already approved under the comprehensive evacuation scheme for 'YTPS', 'ETPS', '3rd unit of BTPS' and that for 'JSW Energy Ltd., Now it is proposed to convert the proposed switching station in to a step down station with 2x315 MVA, 400/220 kV ICT's in order to connect 220 KV network to this particular station.

Further, under stage-II of approved comprehensive evacuation scheme for 'YTPS', 'ETPS', '3rd unit of BTPS' and that for 'JSW Energy Ltd', it was proposed to put up either one of the 400 KV DC lines noted below under KPTCL's scope of works;

- a) 400 KV DC quad Moose Line to connect the proposed 400 KV switching station at 'Chikkanayakanahalli' with 400/220 KV station at 'Mysuru'.
- b) 400 KV DC quad Moose Line to connect the 765/400/220 KV Receiving station at 'Madhugiri new' with 400/220 KV station at 'Mysuru'.

It is requested that the 400 KV line noted at (b) above be taken up under southern region system strengthening as it would be connecting two ISTS stations.

In the light of the above, it is kindly requested to place the proposed modifications in the ensuing Standing Committee meeting of Power System Studies of Southern region.

Yours faithfully


Chief Engineer Electy.,

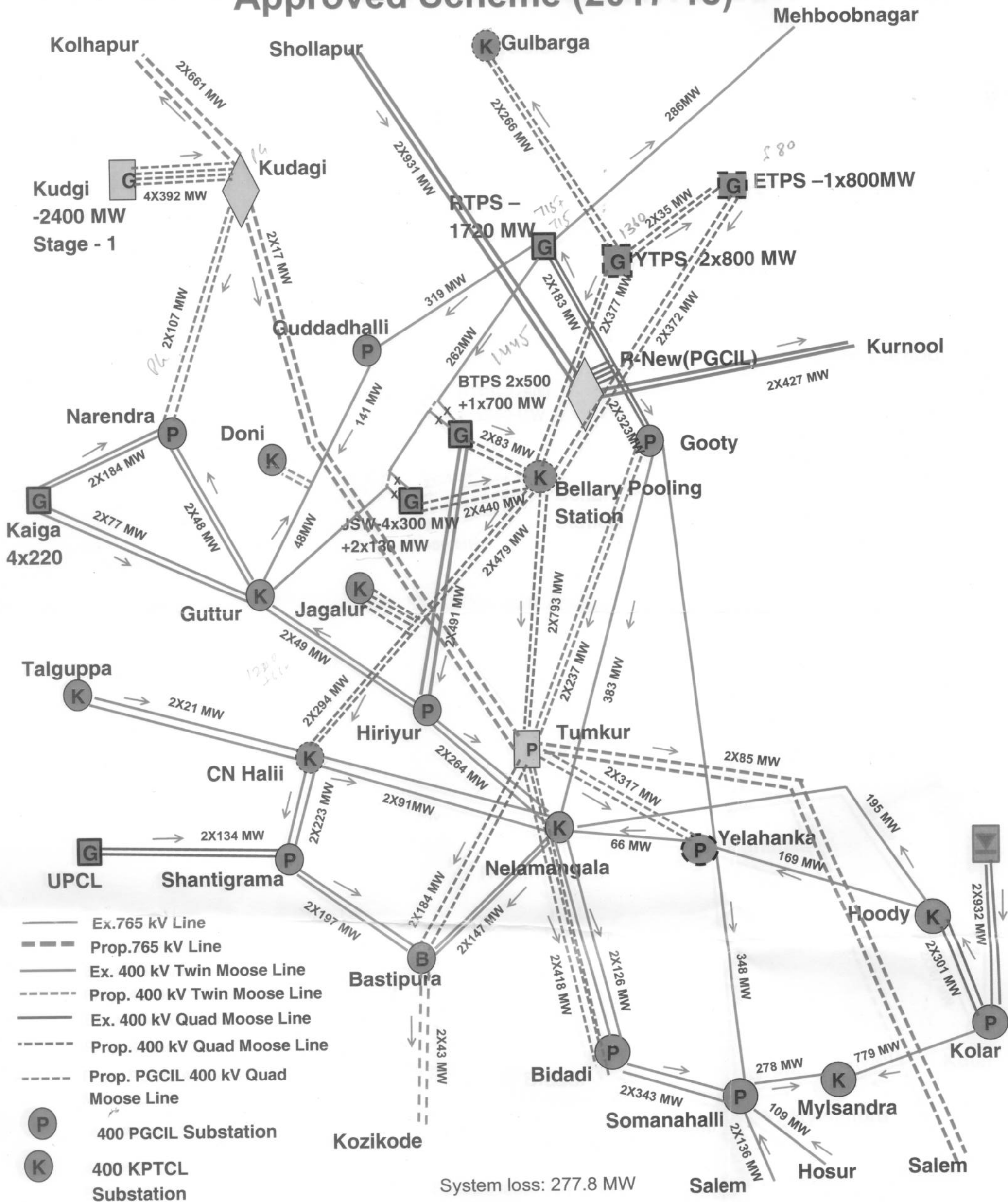
(Planning & Co-ordination)

Copy to the:

1. Chief Engineer (SP&PA), Central Electricity Authority, Sewa Bhavan, R.K Puram, New Delhi-110066.
2. Director (SP&PA), Central Electricity Authority, Sewa Bhavan, RK Puram, New Delhi-110066.
3. Chief Operating officer (CTU-planning), PGCIL, Saudamini, Plot No.2, Sector 29, Gurgaon-122001.
4. E.A to Director (Transmission), KPTCL, Kaveri Bhavan, Bangalore to place it before The Director (Transmission).
5. P.S to the Chairperson, CEA, to place it before the Chairperson, CEA.

In-principle
CN Haleri - Basse
Tumkur (New Madhugiri)
Mysuru
CN Haleri
Daberpur

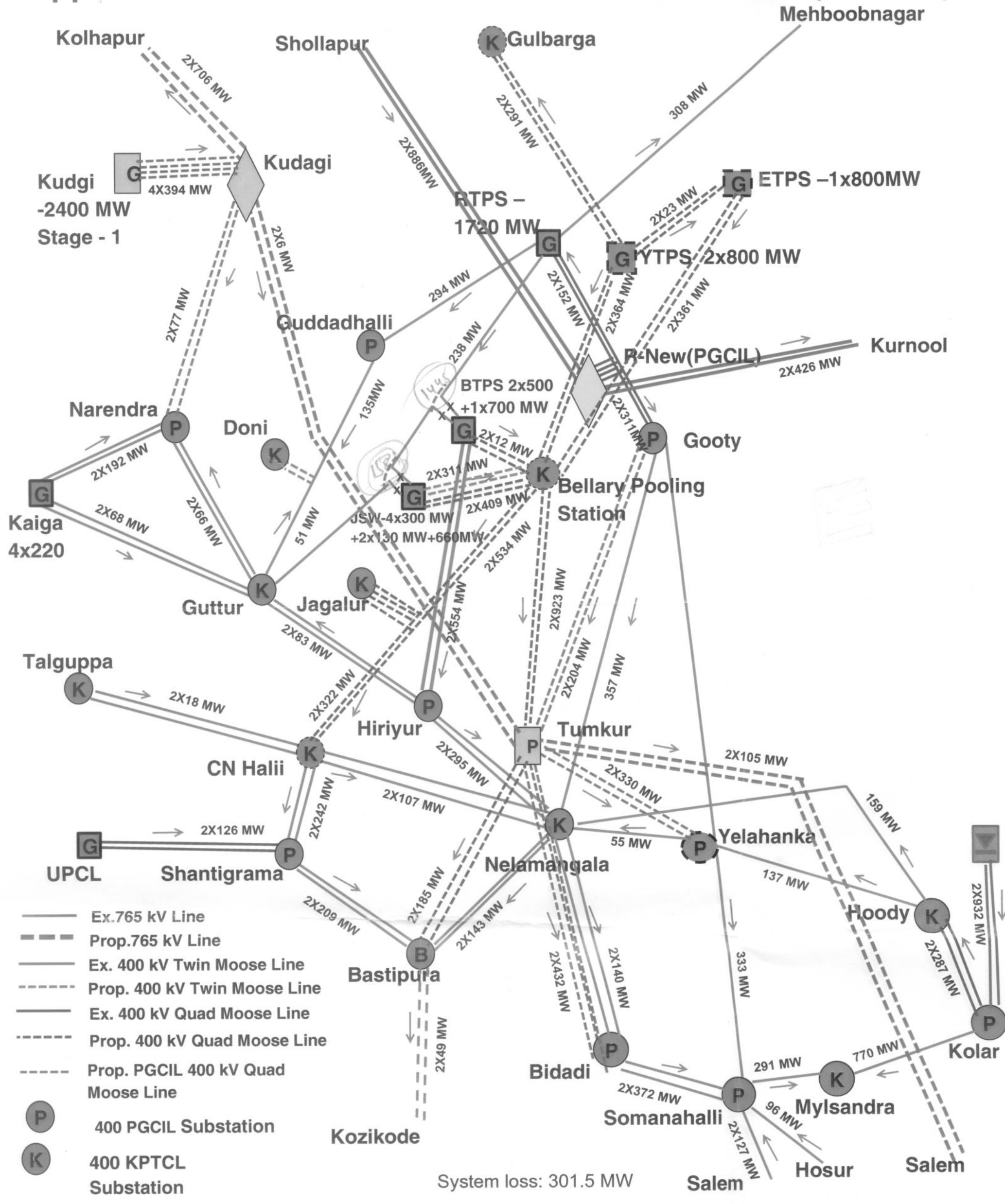
Approved Scheme (2017-18)



T.V. Srinivasa
T.V. SRINIVASA
 EEE (PSS)

Dipak Panchay
 ABB, PSS

Approved Scheme with additional 660 MW of JSW (2017-18)

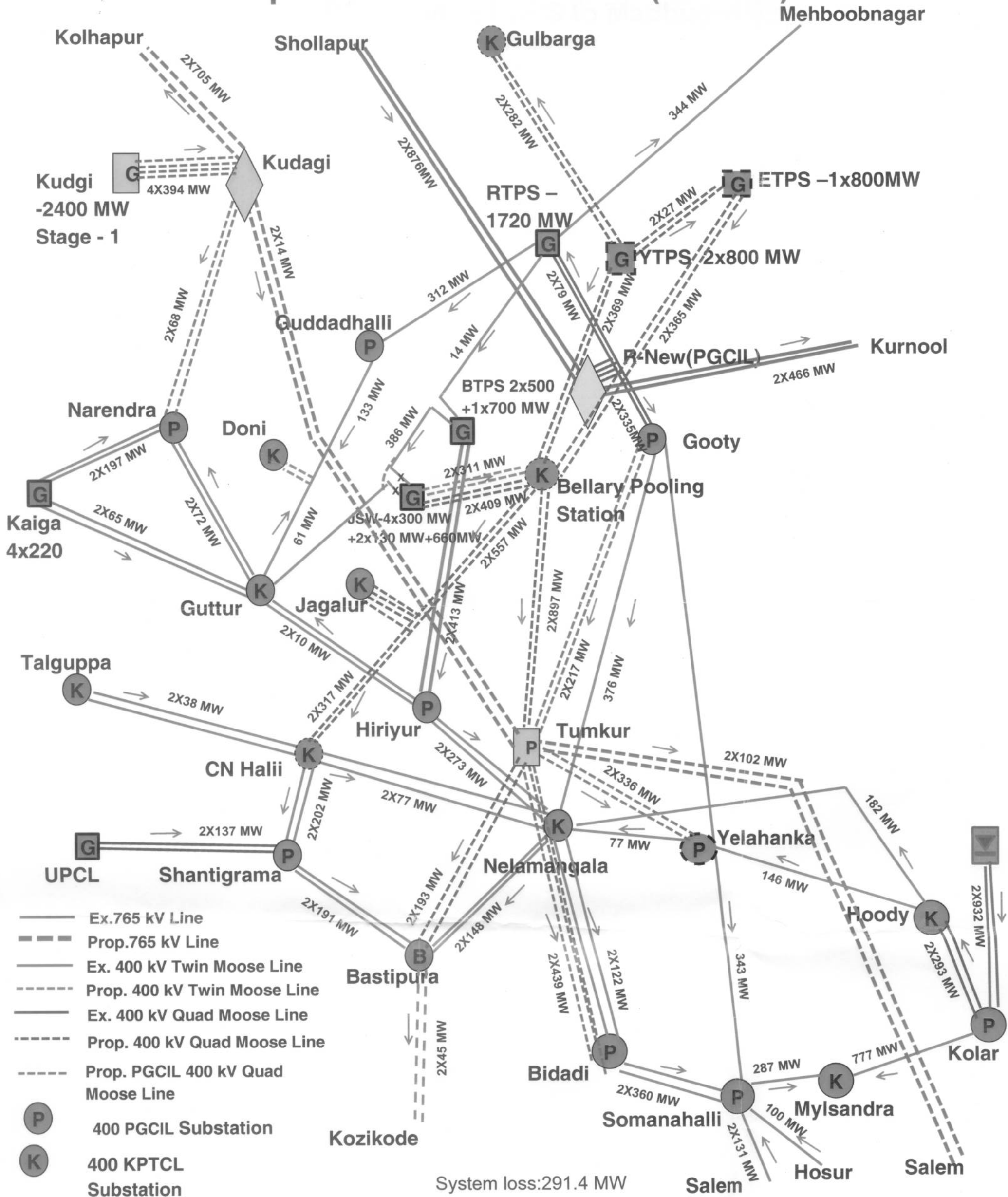


- Ex. 765 kV Line
- - - Prop. 765 kV Line
- Ex. 400 kV Twin Moose Line
- - - Prop. 400 kV Twin Moose Line
- Ex. 400 kV Quad Moose Line
- - - Prop. 400 kV Quad Moose Line
- - - Prop. PGCIL 400 kV Quad Moose Line
- (P) 400 PGCIL Substation
- (K) 400 KPTCL Substation

T.V. SRINIVASA
EEE (PSS)

Dir. P. Office
AEB, PES

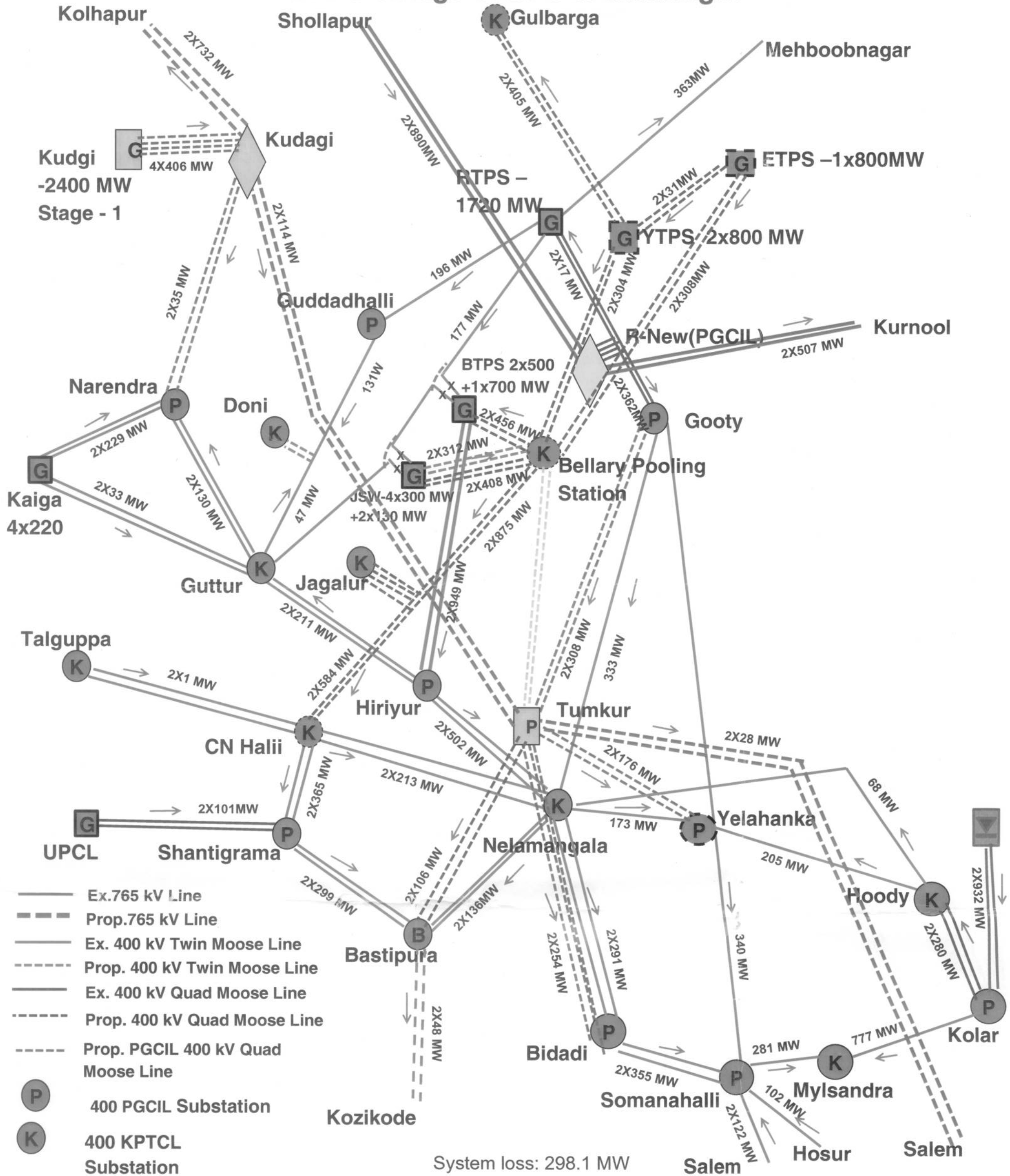
Proposed Modified scheme (2017-18)




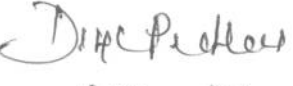
T.V. SRINIVASA
EEE (PSS)

Director
A-66, PSS

Approved Scheme with additional 660 MW of JSW (2017-18) With DC outage of BPS to Madhugiri




T.V. SRINIVASA
 EEE (PSS)


 Director
 ABB, PS

From: Thiagarajan V {वी. त्यागराजन}
Sent: 15-Nov-2015 18:25
To: 'jindal_plan@hotmail.com'; 'jindal_pardeep@yahoo.co.in'
Cc: Mukesh Khanna {मुकेश खन्ना}; Seema Gupta {सीमा गुप्ता}
Subject: Establishment of 400kV Madhugiri substation under SRS-XIII – at Tumkur

Sir,

The 400kV Madhugiri substation under SRSS-XIII has been agreed in the 28th SCM and 10th SRPC meeting. For establishing the substation, the land identified by M/s. KPTCL in Madhugiri was not accepted as it was very undulating with wide level differences. Subsequently, KPTCL suggested a land at Kempanadodderi near Tumkur (which was already acquired by KIDAB (Karnataka Industrial Area Development Board)) which was being developed as industrial area and also their 220kV bays are planned at the same place. As the land was suitable for establishing substation and was also along the route of Gooty – Madhugiri – Yelahanka line, same was selected by POWERGRID for establishing substation. Accordingly, the location of the substation has been changed from Madhugiri to Tumkur. The same has been informed in the 113rd OCC meeting of SRPC and OCC had concurred for locating station at Tumkur. Accordingly, it is proposed that the Madhugiri 765/400kV substation inter alia under the scope of SRSS-XII may be changed to Tumkur 765/400kV substation at the above suggested site located near Tumkur.

Please take up in the next SCM.

Regards,
V.Thiagarajan

पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)



केन्द्रीय कार्यालय : "सौदामिनी" प्लॉट सं. 2, सैक्टर-29, गुडगाँव-122 001, हरियाणा
फोन : 2571700 - 719 फैक्स : 2571760, 2571761 तार 'नेटग्रिड'
Corporate office : "Saudamini" Plot No. 2, Sector-29, Gurgaon-122 001 Haryana
Tel. : 2571700 - 719, Fax : 2571760, 2571761 Gram : 'NATGRID'

संदर्भ संख्या /Ref. Number C\CTU-PIg\S\Tirunelveli-Edamon

Date: 20th April, 2015

Shri K.K Arya

Chief Engineer (SP & PA),
Central Electricity Authority
SewaShawan, RK Puram
New Delhi - 110 066.

Subject: Utilization of Tirunelveli-Edamon portion of Tirunelveli-Cochin 400kV Quad D/c line— reg.

Sir,

995/SP BPA
Tirunelveli-Cochin 400kV Quad D/c line (routed via Edamon on multi circuit towers upto Edamon) under the scheme "Transmission system associated with Kudankulam APP" is held up due to severe ROW issues faced in Edamon-Cochin section and would take some more time for completion. Considering the severe power crisis scenario in Kerala, it would be prudent to utilize the already completed Tirunelveli-Edamon portion of Tirunelveli-Cochin 400kV Quad D/c line by charging the line at 220kV level in Triunelvel-Edamon portion for catering power requirement of Kerala. The following benefits are envisaged with the above proposal:

- Provides additional feed to Kerala, thereby enhancing the import capability of Kerala. For calculating the exact quantum of import capability, joint studies needs to be carried out involving Southern Region constituents.
- The over loading on Palakkad-Udumalpet 400kV D/c line gets relieved to some extent which is the limiting constraint for import capability of Kerala.
- Utilization of stranded assets which are left out idle from a long time.

In light of the above facts it is requested to grant In-principle approval for the above proposal and same may also be taken up in the next SCPSPSR.

Thanking you,

shri PJ
Director
Kerala
22/4

Yours faithfully,
Mukesh Khanna
20/4/15
(Mukesh Khanna)
AGM (CTU-Planning)

to Kerala

पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)



केन्द्रीय कार्यालय : "सौदामिनी" प्लॉट सं. 2, सेक्टर-29, गुरुगाँव-122 001, हरियाणा
फोन : 2571700 - 719 फैक्स : 2571760, 2571761 तार 'नेटग्रिड'

Corporate office : "Saudamini" Plot No. 2, Sector-29, Gurgaon-122 001 Haryana
Tel. : 2571700 - 719, Fax : 2571760, 2571761 Gram : 'NATGRID'

संदर्भ संख्या /Ref. Number C\CTU-Plg\STirunelveli-Edamon

Date: 20th April, 2015

Shri K.K Arya

Chief Engineer (SP & PA),
Central Electricity Authority
SewaShawan, RK Puram
New Delhi - 110 066.

Subject: Utilization of Tirunelveli-Edamon portion of Tirunelveli-Cochin 400kV Quad D/c line- reg.

Sir,

Tirunelveli-Cochin 400kV Quad D/c line (routed via Edamon on multi circuit towers upto Edamon) under the scheme "Transmission system associated with Kudankulam APP" is held up due to severe ROW issues faced in Edamon-Cochin section and would take some more time for completion. Considering the severe power crisis scenario in Kerala, it would be prudent to utilize the already completed Tirunelveli-Edamon portion of Tirunelveli-Cochin 400kV Quad D/c line by charging the line at 220kV level in Tirunelveli-Edamon portion for catering power requirement of Kerala. The following benefits are envisaged with the above proposal:

- Provides additional feed to Kerala, thereby enhancing the import capability of Kerala. For calculating the exact quantum of import capability, joint studies needs to be carried out involving Southern Region constituents.
- The over loading on Palakkad-Udumalpet 400kV D/c line gets relieved to some extent which is the limiting constraint for import capability of Kerala.
- Utilization of stranded assets which are left out idle from a long time.

In light of the above facts it is requested to grant In-principle approval for the above proposal and same may also be taken up in the next SCPSPSR.

Thanking you,

Yours faithfully,

Mukesh Khanna
20/4/15

(Mukesh Khanna)
AGM (CTU-Planning)

पंजीकृत कार्यालय : बी-9, कुतब इंस्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली-110016 दूरभाष : 26560121 फैक्स : 011-26560039 तार 'नेटग्रिड'
Registered Office : B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi-110016 Tel. : 26560121 Fax : 011-26560039 Gram : 'NATGRID'

स्वहित एवं राष्ट्रहित में ऊर्जा बचाएं

Save Energy for Benefit of Self and Nation

CIN : L40101DL1989GOI038121

No. D(T&SO)/PSE/CEA/400kV/14-15/263

Date: 20.03.2015

To

The Member (PS),
Central Electricity Authority,
Sewa Bhawan, R.K. Puram,
New Delhi -110066.CE (SP&PA)KIA
31.03

Sir,

Sub: Relieving S1-S2 congestion - Transmission system in Northern Kerala -
reg.

- Ref: 1. 30
- th
- SCSP SR meeting held on 13-04-2010
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2. 34
- th
- SCSP SR meeting held on 16-04-2012
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3. 35
- th
- SCSP SR meeting held on 04-01-2013
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4. 38
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- SCSP SR meeting held on 07-03-2015

Kind attention is invited to the discussion in the 34th SCSP SR meeting held on 16-04-2012 where KSEB had proposed 400kV D/C link from NPCL(Uddupi) to Kozhikode 400kV S/s and setting up a new 400kV S/S at Kasargode by LILO of one ckt of above link to avoid congestion in S1-S2 corridor. In the 35th SCSP SR meeting, Member(PS), CEA said that the proposed line from Udupi(UPCL) to Areacode is a good proposal to avoid S1-S2 congestion and the Udupi 400kV switchyard is an ISTS point. He further said that the Udupi(UPCL) to Areacode line could be built as an ISTS line. The matter was deliberated and following schemes were agreed:

Mangalore(Uddupi PCL) - Kasargode - Kozhikode 400kV Link

- (i) Mangalore (Uddupi PCL) - Kasargode, 400kV quad D/c line
(ii) Kasargode - Kozhikode(Areacode), 400kV quad D/C line
(iii) Establishment of 2x500 MVA, 400/220kV GIS substation at Kasargode
(Load flow studies for the above system were also furnished)

In the 36th meeting of SCSP SR held on 04-09-2013, Director(SP&PA),CEA stated that the scheme 'Mangalore (UPCL) - Kasargode - Kozhikode 400 kV line' was approved in the 35th meeting of the Standing Committee on Power System Planning Southern Region held on 04.01.2013 for implementation through tariff based competitive bidding (TBCB). Subsequently, the scheme was put up before the Empowered Committee on Transmission in its 31st meeting held on 18.02.2013 for

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recommending it to the Government for implementation through TBCB. The Chairperson, CEA said that the proposed ISTS line was important for SR grid and for supplying power to northern part of Kerala, so all efforts should be made to realize this line.

Subsequently, a team of officers from CEA, PGCIL, KSEB and KPTCL visited Kozhikode, Kasargod and Uddupi PCL during 4-7 October, 2014 to examine space availability for accommodating 400 kV D/c line at UPCL switchyard and also broadly inspecting possible route of the proposed UPCL-Kasargod- Kozhikode transmission line. During site visit to UPCL generation switchyard, it was observed that there is space for additional two nos. of 400 kV line bays. These line bays can be construed by extending the existing generation switchyard and dismantling some of the civil structures for creating gantry for the proposed 400 kV DC transmission line. It was also pointed out in the 38th SCSP SR meeting held on 07-03-2015 that the proposed Uddupi-Kasargode (Mylatty)-Kozhikode line shall improve the reliability of power evacuation from Udupi generation. The line shall help in meeting the present reliability Criteria of (n-1) contingency. The line would also act as a parallel path to the Hasan-Mysore corridors and thereby improve the reliability of power supply in the Mysore and Kozhikode area. The revised Load flow studies were also attached.

In addition to the above, during the 30th SCSP SR meeting held on 13.04.2010, all the members agreed for taking up the Madakkathara-Areakode (Kozhikode) 400kV Quad D/C line as regional system strengthening scheme of Southern Region. Regarding using Right of Way (RoW) of existing Madakkathara – Areakode (Kozhikode) 220kV S/C line of KSEB for implementation of this line Member (Transmission), KSEB said that the load in North Kerala cannot be met during the construction phase and if the RoW of KSEB line is to be used, the same can be considered after the commissioning of Areakode (Kozhikode) 400kV substation and Mysore – Areakode (Kozhikode) 400kV DC line. As per the present indications, the work of Mysore – Areakode (Kozhikode) line is expected to be completed by July 2015 and hence the construction of this link can be taken up immediately afterwards.

It may be noted that the proposed 400kV lines have become essential for meeting the demand of Northern Kerala. Hence early commissioning of these links is of utmost importance. In consideration of the apprehension by PGCIL in constructing the transmission lines in Kerala, KSEBL proposes to construct the following 400kV lines using the right of way of the existing 220kV/110kV lines with 400/220kV multi-voltage, multi-circuit lines. It may be appreciated that for enabling the construction of the link from Areakode(Kozhikode) to Kasaragod (Mylatty), the Uddupi-Kasaragod (Mylatty) line and 400/220kV substation at Kasaragod (Mylatty) is a precondition. The Northern Kerala transmission system does not meet the (N-1) criterion even now. Outage of any of the feeders results in significant loss of load and POSOCO has raised the issue in several forums. Hence the construction of Uddupi – Kasaragod (Mylatty) DC is of critical nature.

The matter may please be discussed in the next SCPSP SR meeting for deciding the following.

1. The construction of Udipi – Kasaragod (Mylatty) DC may be taken up by PGCIL on account of emergency nature under compressed time scheduled through regulated tariff basis.
2. The construction of Madakkathara – Areakode and Areakode – Mylatty 400kV DC using the RoW of existing 220kV/110kV feeders as 400/220kV multi-voltage multi circuit feeders be taken up by KSEB Ltd.

Yours faithfully,

Jansany

Chairman & Managing Director.

Copy to:

Er. Pardeep Jindal,
Director (SP&PA),
Central Electricity Authority,
System Planning & Project Appraisal Division,
Sewa Bhawan, R.K. Puram,
New Delhi – 110066.

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

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Office of the
Chief Engineer Electy.,
Planning & Co-ordination,
Kaveri Bhavan, Bangalore-9

No. CEE (P&C)/SEE(Plg)/EE(PSS)KCO-97/34319/2015-16

Date: 0 JUN 2015

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The Member (Power Systems),
Central Electricity Authority
Sewa Bhavan, R.K.Puram,
New Delhi-110 066.

Sub: Construction of 400kV DC line with Quad Moose ACSR from UPCL (Karnataka) to Kasargode(Kerala) – reg.

Ref: Proceedings of 38th Standing Committee Meeting on Power System Planning for Southern Region held at PGCIL, Gurgaon, New Delhi on 7th March, 2015.

This has reference to the proceedings of 38th Standing Committee Meeting on Power System Planning for Southern Region held at PGCIL, Gurgaon, New Delhi on 7th March, 2015 wherein the subject of construction of 400kV DC line with Quad Moose ACSR from UPCL(Karnataka) to Kasargode(Kerala) was placed for discussion. After deliberations it was decided that the implementation of UPCL – Kasargode 400kV DC line can be initiated after considering views of Karnataka ESCOMs. In this connection letter was addressed to M/s Power Company of Karnataka Ltd., (PCKL) to obtain the comments/opinion of all the ESCOMs of Karnataka.

M/s PCKL on behalf of ESCOMs of Karnataka has stated as follows,

“The proposed 400 kV DC line will draw power from UPCL to Kasargod and the existing UPCL to Hassan 400kV Quad DC line will have reduced power flow and this will have cascading effect on Beeranahally (Hiriyur) and Nelamangala line. Since power to Mysore will be drawn from Nelamangala resulting in overloading of this line. Further 90% of UPCL power is contracted to Karnataka and if this power flows to Kerala then Karnataka is compensated by displacement method which results in additional losses to the system. You will appreciate that for improving power supply to one state, the internal transmission lines of other states should not be overloaded.

Further, Kerala does not have any contract to off take UPCL power and Karnataka is already drawing 90% of installed capacity of UPCL and 10% installed capacity allotted to Punjab

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13/7/15

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13/7/15


is also being drawn by Karnataka. Hence, requirement of UPCL-Kasargod-Kozhikode line does not arise.

The Mysore-Kozhikode line which is under construction will strengthen the S1 & S2 corridor and the Edamon-Kochin line between Tamil Nadu and Kerala which is under construction will strengthen the power supply to Kerala within the S2 region. Hence, priority may be given for Edamon-Kochin line and Mysore-Kozhikode line.

Further, converting the existing 220kV single circuit Kadakola-Kaniyampetta line to double circuit will strengthen the power supply to Kerala and the need for UPCL-Kasargod 400kV Quad DC line does not arise more so at the cost of other constituents States."

This is for your kind information and further needful.

Yours faithfully


Chief Engineer Electy.,

(Planning & Co-ordination)

Copy to:

1. The Chief Engineer (SP&PA), Central Electricity Authority, SewaBhavan, RK Puram, New Delhi-110066.
2. The Director(SP&PA), Central Electricity Authority, SewaBhavan, RK Puram, New Delhi-110066.
3. E.A to Director (Transmission), KPTCL, Kaveri Bhavan, Bangalore to place it before The Director (Transmission).
4. P.S to Managing Director, KPTCL, Kaveri Bhavan, Bangalore to place it before The Managing Director.
5. P.S to Additional Chief Secretary to Government , Energy Department, GoK, Vikas Soudha, Bangalore to place it before The Additional Chief Secretary to Government.

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Office of the
Chief Engineer Electy.,
Planning & Co-ordination,
Kaveri Bhavan, Bangalore-9

No. CEE (P&C)/SEE(Plg)/EE(PSS)KCO-97/34319/2015-16

Date: 20 JUN 2015

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✓
The Member (Power Systems),
Central Electricity Authority
Sewa Bhavan, R.K.Puram,
New Delhi-110 066.

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O/o Member (Power System)
Dy. No. : 1285
Date : 17/15

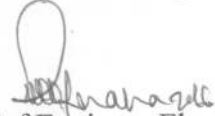
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This is for your kind information and further needful.

Yours faithfully



Chief Engineer Electy.,

(Planning & Co-ordination)

2016/01/11 10:00 AM
2016/01/11 10:00 AM
2016/01/11 10:00 AM



KERALA STATE ELECTRICITY BOARD LIMITED

Office of the Director (Transmission & System Operation)
 Vidyuthi Bhavanam, Pattom, Thiruvananthapuram - 695 004, Kerala
 Phone: +91 471 2514576, 2446885, 9446008884 Fax: 0471 2444738
 E-mail: mtkseeb@ksebnnet.com

No.: D(T&SO)/PSE/SRPC/SCPSP/2014-15/ 240.

Date: 02.03.2015

To,

- 1) **Sri. Pardeep Jindal**
Director
System Planning & Project Appraisal Committee
Central Electrical Authority
Sewa Bhavan, R.K Puram
New Delhi - 110066.
- 2) **The Director (Projects)**
Power Grid Corp. of India Ltd
"Saudamini", Plot no.2, Sector - 29
Gurgaon 122001, Haryana.

Sir,

Sub: Additional agenda Points for discussion in the 38th Standing Committee on Power System Planning - Proposals for strengthening the Kerala Grid to meet the expected demand - Reg.

Ref: Nil.

As per the demand projections done by the 18th EPS, a demand of 5155MW is expected in Kerala during the 2018-19 scenario. In order to meet such a demand intra-state transmission corridors along with ISTS dispersal points needs to be strengthened by way of implementation of new EHT substations and corridors.

With the current generation and demand scenario existing in Kerala, the internal generation has become highly inadequate to meet the growing demand. Further considering the generation additions expected inside the State, it is estimated that an additional import capability of around 2000MW by year 2018 will become quite essential for meeting the above forecasted demand. For effective dispersal of this power throughout the State, the intra-state ISTS drawal points and corridors needs to be strengthened.

At present the North Kerala demand is met from 400/220kV Substation Madakathara through three 220kV feeders and through 220kV Kadakola - Kaniyampeta S/c link. These corridors are highly stressed already. For the

Sri. P. Jindal

effective utilization of power from UPCL and to relieve the acute power shortage in North Malabar area, which is expected to aggravate in the coming years, it is proposed to construct a 400kV substation at Kanhirode by LILO-ing of the Kasargode (Mylatti) – Kozhikode D/c feeder section of the already sanctioned 400kV Uduppi – Kasargode (Mylatti) – Kozhikode D/c feeder.

Similarly the demand in Central Kerala is also showing an exponentially growing trend where the major share of the load is at present met through 220kV Substation Pooventhuruthu. For improving the reliability and availability of power in the Central region of Kerala it is proposed to construct a 400kV substation at Ettumanoor by LILO-ing of the under construction 400kV Thirunelveli – Cochin East inter-state feeder, which is passing through the area.

Hence approval may please be accorded for taking up the following schemes as a part of the Regional System Strengthening Schemes.

1. 400kV substation at Kanhirode with a transformer capacity of 2 X 315MVA, 400/220kV by LILO-ing the proposed 400kV Uduppi – Kasargode (Mylatti) – Kozhikode D/c feeder.
2. 400kV substation at ^(Kottayam) Ettumanoor with a transformer capacity of 2 X 315MVA, 400/220kV by LILO-ing the proposed 400kV Edamon – Cochin East DC feeder.

Yours faithfully,


Director

Transmission & System Operation

