KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

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Bengaluru – 560 009.

No. No. CEE (P & C)/SEE(Plg)/EEE(Plg-S)/KCO-95/F-81270/2017-18/TCCM/ 8819-39

Date: 28 AUG 2017

Encl: Proceedings Copy.

822056 18.09.17

The Directors (Technical),
BESCOM/MESCOM/HESCOM/GESCOM/CESCo.

Sir,

Sub: Proceedings of 74th Technical Co-ordination Committee Meeting held on 20-06-2017.

Please find in herewith enclosed a copy of the Proceedings of the **74th Technical Co-ordination Committee Meeting** held on 20-06-2017 in the Conference hall, KPTCL Corporate office, Kavery Bhavan, Bengaluru. for kind information and needful.

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ಪ್ರಸರಣ ವಲಯ ಬಾಗಲಕೋಟೆ
ಸಂಖ್ಯೆ: 5699
7 SEP 2017

Yours Faithfully,

Convenor
Technical Co-ordination Committee,
Superintending Engineer (Ele),
Planning

Copy to:

1) The Chief Engineer Elecy., Transmission Zones, KPTCL, **Bagalkot/Bengaluru/ Hassan/ Kalaburgi/Mysore/Tumkur.**
2) The Chief Engineer Elecy **(P&C)/T&P/TA&QC,** KPTCL, Kaveri Bhavan, Bengaluru-560009.
3) The Chief Engineer Elecy, **SLDC,** KPTCL, Ananda Rao Circle, Bengaluru.
4) The Deputy General Manager (Technical), KPTCL, Kaveri Bhavan, Bengaluru-560009.
5) The Superintending Engineer Elecl., **Technical/ Project Monitoring,** KPTCL, Kaveri Bhavan, Bengaluru-560 009.
6) The Executive Assistant to the Director Transmission, **KPTCL** with a request to place this before the Director Transmission.
7) The Executive Engineer Elecy., (Planning-North)/(Planning-South)/(PSS).

AEE-4

CYS-47 Dated 11 SEP. 2017

[illegible] CEE / TZ / SEE(O) / AEE-4 / F-3 /

[illegible] along with 74th TCCM proceedings extract, for information and with a instructions to [illegible] the detailed estimates / revised estimates / status of the subject proposal approved / [illegible] deferred / already deferred in the present / previous TCCMs, to this office :

(1) The Superintending Engineer, Elec., Transmission (W&M), KPTCL, Bagalkot
(2) The Superintending Engineer, Elec., Transmission (W&M), KPTCL, Belgaum.
(3) The Superintending Engineer, Elec., Transmission (W&M), KPTCL, Hubli.

Copy on :

(1) The SEE(Office)'s Table.
(2) The EE(Civil)'s Table.

Copy for further needful action to :

(1) AEE-1 / AEE-2 / AEE-3 / AEE-5 / AEE-6 / AEE-7 / AEE-8.
(2) AE-1 / AE-2.
(3) MF / OC.

11/09

Chief Engineer, Electricity,
Transmission Zone, KPTCL,
Bagalkot

Subject 10: Establishing 1x10 MVA, 110/11 kV sub-station at Kanasur in Siddapura Taluk, Uttara kannada District.

Proposed by: CEE, Bagalkot Transmission Zone. **Sketch-BGKT-3**

Preamble:

Presently, Kanasur, Herur, Heggarani, Ajjibala, Marigadde and their surrounding areas are being fed from 2 numbers of 11 kV feeders each emanating from 110 kV Sirsi sub-station and 110 kV Siddapura sub-station.

The installed capacity of 110/11 kV Sirsi sub-station is 1x10 MVA, 110/12.1 kV(PL-7.2 MW, LF-0.84) & 1x10 MVA, 110/11 kV(Pl-7.2 MW, LF-0.84) Transformers and is being fed from 220/110/11 kV Esle sub-station by 110 kV DC line with Dog & Coyote conductor for a distance of about 10 kms, the peak load recorded on this DC line is 75.8 MW. The total connected load of 110 kV Sirsi sub-station is 55496 kVA on 11 kV reference.

The installed capacity of 110/11 kV Siddapura sub-station is 1x10 MVA & 1x5 MVA 110/11 kV (PL-6.8 MW, LF-0.8)Transformers and is being fed from MGHE Jog generating station by LILOing one circuit of 110 kV Jog-Sirsi DC line with Dog & Coyote conductor, the peak load recorded on this DC line is 61 MW. The total connected load of 110 kV Siddapura sub-station is 63740 kVA on 11 kV reference.

The installed capacity of 220/110/11 kV Esle sub-station is 1x50 MVA, 220/110 kV(PL-43.8 MW, LF-1.0)Transformer and is being fed from MGHE power station by 220 kV DC line with Drake conductor for a distance of about 54 kms, the peak load recorded on this line is 336 MW.

The 11 kV feeders emanating from 110 kV Sirsi & 110 kV Siddapura sub-stations are overloaded. The length of 11 kV feeders is upto 64 kms. The power supply to these areas is being arranged in spells. The 11 kV feeders are having Rabbit & Weasel conductor and passing through forest area.

The details of 11 kV feeders feeding Kanasur, Herur, Heggarani, Ajjibala, Marigadde and their surrounding areas is as follows

SL No.	Name of the sub-station	Name of 11 kV feeders	Length of the line (in Kms)	Connected Load (kVA)	Peak Load in Amps	AES in MUs	VR %	AEL in MUs
1	110/11 kV Siddapura	Kansur	43.35	5069	81.00	3.78600	21.60	0.34305
		Harsikatta	54.15	6841	85.00	3.01820	30.69	0.80052
2	110/11 kV Sirsi	Marigadde	28.00	1000	30.00	2.49210	9.26	0.18492
		Sampakanda	64.00	6185	74.00	5.13120	24.99	1.01525

The length of 11 kV Harsikatta feeder is about 64 kms (Rabbit-39.05 Kms, Squirrel-15.01Kms). Load on this feeder comes after a distance of 28 Kms from 110/11 kV Siddapura sub-station end. The length of 11 kV Kanasur feeder is about 43.34 kms (Rabbit-37.94 Kms,

Weasel-5.04Kms). Load on this feeder comes after a distance of 25 Kms from 110/11 kV Siddapura sub-station end. Hence, there is no possibility of construction of any new 11 kV feeders and bifurcating to load.

Alternative-1:

11 kV feeders are proposed for reconductoring with Rabbit and express feeders are proposed. The details are as follows.

Sl. No.	Name of the sub-station	Name of 11 kV feeders	Length of the line (in Kms)	Connected Load (kVA)	Peak Load in Amps	AES in MUs	VR %	AEL in MUs
1	110/11 kV Siddapura	Kansur	43.35	5069	81.00	3.78600	21.52	0.33516
		Harsikatta	54.15	6841	85.00	3.01820	29.54	0.62779
2	110/11 kV Sirsi	Marigadde	28.00	1000	30.00	2.49210	9.26	0.18492
		Sampakanda	64.00	6185	74.00	5.13120	18.21	0.66908

Even after reconductoring of existing 11 kV feeders with Rabbit conductor and after construction of new express feeders, the voltage regulation of some 11 kV feeders is not improving. 11 kV Harsikatta, 11 kV Kansur and 11 kV Sampakanda feeders passes through the dense forest area, it is difficult to get the clearance from the forest department to construct another express feeder. Hence, considering the above facts this alternative proposal – 1 is not feasible.

Alternative-2:

Establishing 1x10 MVA, 110/11 kV sub-station at Kanasur by constructing 110 LILO line from one circuit of 110 kV Jog-Sirsi DC line using Lynx conductor for a distance of about 0.5 km

The 11 kV feeder loading and rearrangement is as follows

Sl. No.	Name of the sub-station	Name of 11 kV feeders	Length of the line (in Kms)	Connected Load (kVA)	Peak Load in Amps	AES in MUs	VR %	AEL in MUs
1	Proposed 110/11 kV Kanasur.	New Herur	23.45	2788	34.64	1.54295	5.74	0.04971
2		New Heggarani	24.70	1767	21.96	0.97790	4.12	0.02263
3		New Kansur	19.05	2548	40.72	1.51713	2.94	0.02299
4		New Ajjibala	20.90	1582	18.93	1.31245	2.16	0.02032
5		Marigadde W/S	6.00	1000	30.00	2.4921	1.27	0.02538
1	110/11 kV Sirsi	Residual Sampakanda	63.00	4603	55.07	3.81874	22.79	0.67949

1	110/11 kV Siddapura	Nidgod	18.80	2521	40.28	1.50106	4.95	0.03834
2		Harsikatta	27.85	2286	28.40	1.26513	5.18	0.03676

Summary:

i. Total load on new sub-station will be 9685 kVA.
ii. Annual energy savings will be 1.44811 Mus.
iii. Approximate cost of the project is Rs 462.01Lakhs
iv. BCR will be 1.60.
v. Reduction of load on 110 kV Sirsi sub-station will be 2582 kVA.
vi. Reduction of load on 110 kV Siddapura sub-station will be 7103 kVA.
vii. Forest Land identified, yet to be acquired.

Planning section comments:

1) The work is not included in APW 17-18.

Discussion: *The Director (Technical) HESCOM explained to the committee that, 11 kV feeders feeding to Kanasur and surrounding areas are overloaded, very lengthy and having poor voltage regulation. The power supply is being arranged in spells to Kanasur and surrounding areas.*

The Director (Technical) HESCOM also brought to the notice of the committee that, the length of 11 kV Harsikatta feeder is about 64 kms (Rabbit-39.05 Kms, Squirrel-15.01Kms). Load on this feeder comes after a distance of 28 Kms from 110/11 kV Siddapura sub-station end. The length of 11 kV Kanasur feeder is about 43.34 kms (Rabbit-37.94 Kms, Weasel-5.04Kms). Load on this feeder comes after a distance of 25 Kms from 110/11 kV Siddapura sub-station end. For having better voltage regulation and bifurcation of load, there is no possibility of construction of any new 11 kV feeders. Hence, requested the committee to consider the proposal.

The Committee discussed the subject in detail. The Committee observed that by establishing 110/11 kV sub-station at Kanasur, the Voltage Regulation of 11 kV lines will improve. There will be improvement in tail end voltage. Interruption of power supply will be reduced to maximum extent. Quality and reliability of power supply can be achieved. This area is having concentrated load and existing sub-station feeding this area is over loaded.

Further, the committee also observed that, load to an extent of 2582 kVA from 110 kV Sirsi and 7103 kVA from 110 kV Siddapura sub-stations will be transferred to proposed 110/11 kV sub-station.

*After detailed discussions, Committee approved the proposal of establishing 1x10 MVA, 110/11 kV sub-station at **Kanasur** in Siddapura Taluk, Uttara Kannada District by constructing 110 kV LILO line from one circuit of MGHE Jog-Sirsi DC line with Lynx conductor for a distance of about 0.5 kms. HESCOM has to take up the work of construction of new 11 kV lines with Rabbit conductor and residual feeders should be reconductored with Rabbit conductor.*

Decision: Approved.

Action: CEE TZ Bagalkot.

Subject 11: Replacement of 1x10 MVA, 110/11 kV transformer by 1x20 MVA, 110/11 kV transformer at 110 kV Yalaparahatti sub-station, in Raibag Taluk, Belagavi District.

Proposed by: CEE, Bagalkote Transmission Zone.

1) Incoming Supply Details:

a) **Station:** 220/110 kV Kudachi sub-station, 2x100 MVA, PL-58 MW, 56 MW.

b) **Line:** Kudachi-Yalaparahatti 110 kV SC Line, Lynx conductor, PL-12 MW.

2) Installed capacity of the Sub-station:

Voltage Class in kV	Installed capacity in MVA	Peak Load in MW (for the Year 16-17)	Loading Factor
110/11	10	8.0	**0.94**
110/11	10	8.3	**0.97**

3) Report: 110 kV Yalaparahatti sub-station is being fed from 220 kV Kudachi sub-station by 110 kV SC line on DC towers for a distance of about 9.5 kms with Lynx conductor. The existing 2x10 MVA, 110/11 kV Transformers at 110 kV Yalaparahatti sub-station have recorded a peak load of 8.0 MW & 8.3 MW with loading factor as 0.94 & 0.97 respectively.

The existing 2x10 MVA, 110/11 kV Transformers at 110 kV Yalaparahatti sub-station are having 12 nos of 11 kV feeders. The existing 11 kV feeders are overloaded & tripping frequently. These feeders are proposed for bifurcation by HESCOM, there is no alternate arrangement for 11 kV supply. The sub-station is feeding IP set loads, commercial loads and residential loads. Hence it is very essential to arrange power supply to consumers as per scheduled chart.

The CEE TZ Bagalkot has reported that 11 kV feeders existing at 110 kV Yalaparahatti sub-station are fully loaded, the load cannot be transferred to any nearby sub-stations and requesting to consider the proposal of replacement of 10 MVA, 110/11 kV by 20 MVA, 110/11 kV Transformer.