

EET Scheme-2
 for no
 TMS
 29/09

 MAHA Maharashtra State Electricity Transmission Co. Ltd.	MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD. (CIN No. U40109MH2005SGC153646) COMPANY SECRETARY DEPARTMENT Phone No. (022) 26595301 Prakashganga, Plot No. C-19, "E" Block, Fax:- (022) 26592316 1 st Floor, Bandra-Kurla Complex, Email: es@mahatransco.in Bandra (E), Mumbai-400 051. Website: www.mahatransco.in
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CERTIFIED TRUE COPY OF THE RESOLUTION PASSED AT THE 121st MEETING OF THE BOARD OF DIRECTORS OF MAHARASHTRA STATE ELECTRICITY TRANSMISSION COMPANY LIMITED HELD ON WEDNESDAY, SEPTEMBER 27, 2017 AT 10.00 A.M. AT HSBC, FORT, MUMBAI-400001

ITEM NO. 4: To consider and approve the proposal for Upgradation of 132kV Palghar S/stn to 220 kV Palghar S/stn, Dist: Thane

Resolution No.121/4

C.E. (PS) placed before the Board proposal to consider and approve the proposal for Upgradation of 132kV Palghar S/stn to 220 kV Palghar S/stn, Dist: Thane.

After deliberations, the Board approved the proposal and passed the following resolutions:

"RESOLVED THAT administrative approval of the Board of Directors be and is hereby accorded for the scheme of **Upgradation of 132kV Palghar S/stn to 220 kV Palghar S/stn** at an estimated cost of **Rs. 7117.58 Lakhs**" (including IDC 402.88 Lakhs) for the following scope of work:

- i. 2X100 MVA, 220/132 kV ICTs with bays
- ii. 220 kV DC line by LILO on 220 kV Nalasopara- Boisar line-0.4 Km
- iii. LILO on one ckt of 132 kV Boisar (MIDC)-Dahanu line-15 Km.
- iv. 220 kV line bays-2 nos
- v. 132 kV line bays-2 nos (at existing 132Kv Palghar S/stn)
- vi. 132 kV DC interconnection by underground cable-0.3Km

RESOLVED FURTHER THAT the Board of Directors be and hereby directed that the scheme will be processed for MERC approval and financial assistance from REC / PFC or any other financial institute/ bank and turnkey contracting procedures will be started after sanction of the scheme;

RESOLVED FURTHER THAT the Board of Directors be and hereby directed that sufficient budget provision shall be made to complete the scheme within two years after financial tie up;

RESOLVED FURTHER THAT the Board of Directors be and hereby directed that the budget provisions will be mapped appropriately in ERP system preferably LOA wise and similarly loan processing be done LOA wise;


Executive Engineers
M.S.E.T. Co. Ltd.
E.H.V. Projects Dn. Kalyan


Director

RESOLVED FURTHER THAT the Board of Directors be and hereby directed that the time period for issue of LoA under this administrative approval is 24 months from the date of issue of Board Resolution and thereafter fresh administrative approval will be required to be taken from Board;

RESOLVED FURTHER THAT the Board of Directors be and hereby directed that to cancel the scheme sanctioned vide BR 60/13, dt-07.02.2011;

RESOLVED FURTHER THAT the Board of Directors be and hereby directed to explore the possibility for interconnection by overhead line at the time of execution and accordingly tenderization to be done as the 132kV Bus interconnection is done by underground cable;

RESOLVED FURTHER THAT Hon. Chairman & Managing Director of MSETCL be and is hereby empowered to do all such acts, deeds & things necessary to give effect to the above resolution."

For Maharashtra State Electricity Transmission Co. Ltd.

Date :28.09.2017
Place: Mumbai


Vineeta Shriwani
CS, MSETCL

- i. Instead of 132kV line interconnection by overhead line, interconnection by underground cable may be done.
 - ii. Instead of 2 nos of 132kV bays at proposed 220kV palghar S/stn & 2 nos of 132kV bays at existing 132kV Palghar, all 4 nos of 132kV bays will be constructed at 132kV palghar S/stn.
 - iii. Instead of 220kV single bus arrangement, double bus arrangement to be done.
- The Chief Engineer, Vashi Zone was requested to confirm the scope with reference to STU plan & changes suggested by DC&M section. (Letter no. MSETCL/CO/Project scheme/Scheme-I/5440, dt-23.05.2017)
- The above scope is confirmed by field office with following remark on changes suggested by DC&M section vide letter no. CE/EHV/CCO&M/Zone/VSH/Tech/1765, dt-24.08.2017.
 - i. 132 kV interconnection line by underground cable is feasible. However it is felt that we can put up layout in such a manner that the existing 132 kV S/Stn can be connected on overhead by connecting two (existing and proposed) gantry.
 - ii. As per site condition, only 2 nos of 132 kV line bays can be accommodated at existing 132 kV Palghar S/stn, the layout of existing 132 kV Palghar S/stn is attached herewith
- In the STU plan LILO on one ckt of 132 kV Boisar (MIDC)-Dahanu line was proposed, however as seen from the network if both ckts are LILOed, 132 kV Dahanu S/stn will have proposed 220 kV Palghar S/stn as the only source. As such it was proposed to LILO only one ckt.
- Accordingly a meeting was held at Corporate office on dtd 31.08.2017 with CE(STU), CE(Project Scheme), SE (Project Circle, Kalwa) & DC&M representative & it was decided to LILO only one ckt & to construct proposed 132 kV bays in the existing 132 kV switchyard & for 220 kV S/stn 2 bus arrangement was finalized. The following scope was finalized for proposed 220kV Palghar S/stn.
 - i. 2X100 MVA, 220/132kV ICTs with bays
 - ii. 220kV DC line on DC tower by LILO on 220 kV Nalasopara- Boisar line-0.4 Km
 - iii. LILO on one ckt of 132 kV Boisar (MIDC)-Dahanu line-15 Km.
 - iv. 220 kV line bays-2 nos
 - v. 132 kV line bays-2 nos (at existing 132 kV Palghar S/stn)
 - vi. 132 kV DC interconnection by underground cable-0.3Km
- The proposed S/stn will be erected on the land which is in the possession of MSEDCL adjacent to existing 132kV Palghar S/stn. The matter for sparing the land for this proposed S/stn is taken up with Hon. CMD, MSEDCL vide D.O.No. CMD MSETCL/CO/9617, dt 31.08.2017.
- The STU is requested to forward the load flow/system study vide Office note No.CE (Project scheme)/364, dt-28.08.2017 & the same is awaited.

Issue for Consideration:

Upgradation of 132kV Palghar S/stn to 220 kV Palghar S/stn, Dist. Thane

A. Background of scheme

- The establishment of 220/132 kV Palghar S/stn is already sanctioned vide MBR No. 60/13, dt. 07.02.2011, amounting to Rs. 3309 Lakhs (including IDC of Rs. 162 Lakhs), with following scope:
 - i. Installation of 2X100 MVA, 220/132 kV ICT with bays.
 - ii. 220 kV DC line on DC tower LILO on 220 kV Nalasopara- Boisar line-0.6 Km.
 - iii. 132 kV DC line for reorientation-2 Km.
 - iv. 220 kV line bays-2 nos.
 - v. 132 kV line bays- 4 nos
- As per resolution no. 92/20, it is directed that all administrative approval needs to be revalidated after the lapse of 5 years from the date of administrative approval & in such cases the revalidation/ fresh approval will be done by the competent authority.
- STU proposed establishment of 220/100/22 kV Palghar S/stn in STU five year plan for the year 2018-19 with following scope.
 - i. 2 X 100 MVA, 220/100 kV ICT
 - ii. 2 X 50 MVA, 220/22 kV T/Fs with bays
 - iii. LILO ON 220 kV Boisar - Nalasopara line with bays- 10 Kms
 - iv. LILO on both ckts of 132 kV Boisar MIDC - Dahanu DC line - 60 ckt kms
 - v. 12 X 22 kV outlets
- The Chief Engineer, Vashi Zone vide letter no. CE/EHV/CCO&M /Zone/VSH/Tech/801, dt. 17.04.2017 submitted revalidation proposal, feasibility report & estimate for following scope by considering single bus arrangement.
 - i. 2X100 MVA, 220/132 kV ICTs with bays
 - ii. 220 kV DC line on DC tower by LILO on 220 kV Nalasopara- Boisar line-0.4 Km
 - iii. 132 kV DC interconnecting line (OH)-0.3Km
 - iv. 220 kV line bays-2 nos
 - v. 132 kV line bays- 4 nos (2 nos at proposed 220 kV Palghar & 2 nos at existing 132 kV Palghar)
 - vi. 132 kV DC LILO on Boisar (MIDC)-Dahanu line-15 Km.
- The matter was discussed with DC&M section & they suggested following changes in above scope

4	132/33kV Dahanu S/S	50 MVA, 132/33kV	23.77	132kV MIDC-Dahanu L.I	32.20
		50 MVA, 132/33kV	23.77	132kV MIDC-Dahanu L.II	32.20
				132kV Gholwad Rly.Line I	25.17
				132kV Gholwad Rly.Line II	31.52

Justification:

- The load demand of this area is increasing day by day. The last five year maximum load data of these S/stns is given as below.

Name of Stn	Year wise maximum load in MW				
	2012-13	2013-14	2014-15	2015-16	2016-17
220 kV Boisar - II S/stn	607	567	624	720	687
132/33 kV Palghar S/stn	66.1	68.32	71.79	73.93	79.66
132/33kV Dahanu S/stn	40.69	50.29	67.20	70.86	69.49
132/33/11kV MIDC Boisar I S/stn	155.40	169.10	163.40	179.40	184.00

From above it is seen that load is increases in Boisar, Palghar & Dahanu region.

By establishing 220 kV level at Palghar, 132 kV Dahanu, 132 kV Boisar & 132 kV Palghar S/stn will have 2nd 220 kV Source.

- This will strengthen the existing & proposed 132 kV network.
- Due to interlinking of 132Kv lines Palghar, Dahanu, Boisar will come in ring.

Benefits:

- This will strengthen the existing & proposed 132 kV network.
- 132kV Palghar, 132 kV Dahanu & 132 kV Boisar will get 2nd source.
- Saving in losses & voltage improvement added after receipt of system study & load flow study from STU section.

B. Whether Fresh proposal or modification of earlier Board Resolution?

Fresh proposal.

Presently 220 kV Boisar-II is feeding 132 kV Boisar-I (MIDC) & 132 kV Palghar S/stn. The 132 kV Dahamu S/stn is fed from 132 kV Boisar-I (MIDC) S/stn & extended upto 132 kV TSS Ghofwad S/stn. Further 132kV Dahamu S/stn will feed proposed MMREDA S/stn (Suryanagar & Kavdas) for water supply & proposed 132kV Jawhar S/stn. The 132 kV Palghar S/stn is currently feeding 132 kV Palghar TSS. Details about existing EHV substations with installed capacity and corresponding loading (System security report of October-16 is taken) is given below:

Sr. No.	Name of substation	Capacity of existing ICT	Loading in MVA	Existing Line	Loading in MW
1.	220/132/33kV Boisar-II	200 MVA, 220/132kV	132.31	220 kV Tarapur-Boisar Line	200.26
		150 MVA, 220/132kV	81.37	220 kV Boisar-Ghodbunder line	201.77
		200 MVA, 220/132kV	133.73	220kV PGCIL Line I	231.94
		100MVA, 220/33kV	60.61	220 kV PGCIL L.II	128.98
		100 MVA, 220/33kV	33.82	220 kV PGCIL L.III	173.86
				220kV Dahamu Line	149.07
				220kV Varsova Line	94.12
				132 kV IOL L.I (Viraj)	200.26
				132kV Lupin	201.77
				132 kV PLGR I	49.05
2	132/33kV Palghar S/stn	50 MVA, 132/33kV	39.25	132 kV PLGR II	49.05
		50 MVA, 132/33kV	33.90	132 kV PLGR RLY FDR I	41.29
				132 kV PLGR RLY FDR II	37.51
				132kV MIDC-DAHANU L.NO.I	30.27
3	132/33/11kV MIDC BOISAR I S/S	50 MVA, 132/33kV	35.70	132kV MIDC-DAHANU L.NO.II	30.27
		50 MVA, 132/33kV	43.71	132kV MIDC-IOL	93.07
		25 MVA, 132/11kV	11.16	132 KV MIDC-Lupin	105.40
		25 MVA, 132/11kV	6.87	132kV Boisar II -Viraj	147.56
		25 MVA, 132/11kV	12.23	132kV Viraj-Jindal	116.84
		25 MVA, 132/11kV	9.66	132kV Jindal-IOL	123.57

Budget provision of Rs. 2089.95 lakhs will be made in the budget provision of EHV program for the year 2017-18.

G. MERC Approval:

This estimated cost of scheme is more than Rs. 1000 lakhs, therefore, approval of MERC is necessary.

H. Any other legal issue involved:

No legal issue involved.

I. Observations:

Director (Project) – Seen on dt. 08.09.2017 & signed.

Director (Finance) – Seen on dt. 08.09.2017 & signed.

C.M.D. (MSETCL) – Approved on dt- 11.09.2017

J. Financial Tie up:

The scheme will be presented to REC / PFC or any other financial institution / bank for financial assistance (loan).

K. Status of Land:

Land is identified (MSEDCL's land near 132kV Palghar S/stn)

L. DRAFT RESOLUTION OF MSETCL BOARD OF DIRECTORS:

The Board of Directors, MSETCL considered the note submitted by Chief Engineer (Project Schemes) and for the reasons mentioned therein "RESOLVED THAT administrative approval of the Board of Directors be and is hereby accorded for the scheme of **Upgradation of 132kV Palghar S/stn to 220 kV Palghar S/stn** at an estimated cost of **Rs. 7117.58 Lakhs**" (including IDC 402.88 Lakhs) for the following scope of work:

- i. 2X100 MVA, 220/132 kV ICTs with bays
- ii. 220 kV DC line by LILO on 220 kV Nalasopara- Boisar line-0.4 Km
- iii. LILO on one ckt of 132 kV Boisar (MIDC)-Dahanu line-15 Km.
- iv. 220 kV line bays-2 nos
- v. 132 kV line bays-2 nos (at existing 132Kv Palghar S/stn)
- vi. 132 kV DC interconnection by underground cable-0.3Km

C. Cost of the Scheme:

The new scheme cost of the proposal is work out to be Rs. 7117.58 lakhs.
(Including IDC component of Rs. 402.88 lakhs)

D. Scope of Work:

1. 2X100 MVA, 220/132 kV ICTs with bays
2. 220 kV DC line by LILO on 220 kV Nalasopari- Boisar line-0.4 Km
3. LILO on one ckt of 132 kV Boisar (MIDC)-Dahanu line-15 Km.
4. 220 kV line bays-2 nos
5. 132 kV line bays-2 nos (at existing 132kV Palghar S/stn)
6. 132 kV DC interconnection by underground cable-0.3Km

E. Abstract of Cost Estimate :

S.N.	Particulars	Amount in Rs. Lakhs
1	2X100 MVA, 220/132 kV ICT with bays	1699.21
2	220 kV D/C line by LILO on 220 kV Nalasopara- Boisar line at 220 kV Palghar S/stn- 0.4Km	126.06
3	132 kV D/C LILO on Boisar (MIDC)-Dahanu line at 220 kV Palghar S/stn-15 Km	954.86
4	132 kV interconnecting line by underground cable-0.3 Km	233.09
5	Civil	895.44
6	OPGW, PLCC, ABT, PV, compensation etc	1279.91
7	Centages	634.58
8	GST	891.55
Total		6714.70
IDC		402.88
Grand Total		7117.58

F. Budget Provision:

Sr. No.	Particulars	Budget Provision for the Year (in Rs. Lakhs)		Total (in Rs. Lakhs)
		2017-18	2018-19	
1	Base cost	2014.41	4700.29	6714.70
2	IDC	75.54	327.34	402.88
3	Total	2089.95	5027.63	7117.58
4	Debt	1567.46	3770.72	5338.19
5	Equity	522.49	1256.91	1779.40
6	Budget provision	2089.95	5027.63	7117.58

MAHARASHTRA STATE ELECTRICITY TRANSMISSION COMPANY LIMITED
CIN No.: U40109MH2005SGC153646

Name of Office: Office of the Chief Engineer (Project Schemes)

Office Address: 'Prakashganga', MSETCL, Plot no. C-19, E-Block, Bandra Kurla Complex, Bandra (E), Mumbai-400051

Contact No.: (O) 022-2659 5131, (P) 022-2659 5130, Fax.: 022-26598587

E-Mail Id: cepd@mahatransco.in

Website: www.mahatransco.in

Date:

Ref: MSETCL/CO/P S/Sch-I/220kV Palghar

DOCKET - SHEET

Subject: Upgradation of 132kV Palghar S/stn to 220kV Palghar S/stn, Dist- Thane

TO WHOM CASE IS SUBMITTED	INWARD/ OUTWARD DETAILS				REMARKS IF ANY	
	INWARD		OUTWARD			
	NO.	DATE	TO WHOM CASE FORWARDED	DATE		
Director (Operation)	MSETCL/Dir (OP) No. 1383	Inward Dt: 08/9/17	CE (Proj. Schemes) 392	Date: 7/9/2017		
	Outward Dt: —					
Director (Finance)	Dir (F) No. 986	Date: 8/9/17				
C.M.D., M.S.E.T.C.L.	CMD/MSETCL/NO. 929	Date of Inward 8/9/17				
	Date of Outward					

RESOLVED THAT The scheme will be processed for financial assistance from REC / PPC or any other financial institute/ bank and turnkey contracting procedures will be started after sanction of the scheme. Sufficient budget provision shall be made to complete the scheme within two years after financial tie up.

The budget provisions will be mapped appropriately in ERP system preferably LOA wise and similarly loan processing be done LOA wise.

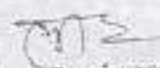
RESOLVED FURTHER THAT all the required NOC from Forest department, PCC department, PWD & Electrical department & Railway department to be obtained before placement of LOA.

RESOLVED FURTHER THAT the scheme sanctioned vide BR 60/13, dt-07.02.2011 stands cancelled.

RESOLVED FURTHER THAT the 132kV Bus interconnection is done by underground cable. However possibility for interconnection by overhead line to be explored at the time of execution. Accordingly the tenderization to be done.

RESOLVED THAT Board of Directors directed that the time period for issue of LoA under this administrative approval is 24 months from the date of issue of Board Resolution and thereafter fresh administrative approval will be required to be taken from Board.

AND RESOLVED FURTHER THAT the C.M.D. of MSETCL be and is hereby empowered to do all such acts, deeds and things necessary to give effect to the above RESOLUTION."


Chief Engineer
(Project Scheme)

Sl. No. 392
Date 7/9/2017

PROJECT SCHEMES DEPARTMENT
MSETCL/CO/Project Schemes/Scheme-1/220kV Palghar

Note To The Board:

1. Name of the sponsoring section
2. Subject
3. Estimated cost
4. MVA to be Added
5. Ckt. Km to be Added
6. Proposal type
(Fresh/ Revalidation/ Modification)
7. Scope of Work

Project Schemes

Upgradation of 132kV Palghar S/stn to 220 kV
Palghar S/stn Dist. Thane

Total cost Rs. 7117.58 Lakhs (Including IDC
Rs. 402.88 Lakhs)

200 MVA

220kV- 0.8Km

132kV- 30Km

Fresh

Upgradation of existing 132kV Palghar S/stn to
220 kV Palghar S/stn.

S.N.	Particulars	Amount in Rs. Lakhs
1	2X100 MVA, 220/132 kV ICT with bays	1699.21
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