



MAHARASHTRA ELECTRICITY REGULATORY COMMISSION

13th Floor, Centre No. 1, World Trade Centre, Cuffe Parade, Colaba, Mumbai - 400 005.
Tel.: 022-2216 3964/2216 3965/2216 3969 ♦ Fax : 022-2216 3976 ♦ Website : www.mercindia.org.in
E-mail : mercindia@mercindia.org.in

MERC

MERC/TECH-VII/CAPEX/20122013/01644

Date: 22 October, 2012

✓ The Managing Director,
Tata Power Company Ltd,
Bombay House, 24, Homi Modi Street,
Fort, Mumbai-400001.

*Vidyaadhar
Wagle*

Subject- In-principle clearance of Investment scheme submitted by TPC-T for "Stringing of second 110 kV line in the existing 110 kV Transmission line between Khopoli and Bhihpuri generating stations".

Ref- TPC letter No.: REG/MERC/12/214 Dated 11 July, 2012.

Sir,

This has reference to the Detailed Project Report for the captioned scheme submitted by TPC-T vide letter no. REG/MERC/12/214 Dated 11 July, 2012.

1. The scheme has been evaluated with reference to the guidelines circulated by the Commission on 9th Feb. 2005. I am directed to convey In-principle clearance of this scheme. The particulars of the scheme as approved in principle are outlined in the Annexure and the breakup of the project cost is given in Appendix A.
2. Please note that this In-principle clearance should not be construed as final approval for ARR purpose and the scheme will be open for scrutiny during the tariff determination process / ARR review, particularly in the context of actual cost incurred, scope and objective achieved etc. ex-post after implementation of the scheme. TPC-T will be required to submit the status of implementation of the scheme with cost incurred till date, likely completion date etc. along with their ARR petition or during the tariff determination process at the appropriate time.
3. TPC-T should submit quarterly progress report by 20th day of the first month of next quarter giving the status of implementation of the schemes in terms of expenditure incurred and item wise physical progress achieved during the implementation of the schemes.
4. As per the Directives of the Commission vide Order dated 3rd September 2010 (Case No 97 of 2009 of TPC-T, Page no. 39, Para 3.5) TPC-T as well as all other Transmission Utilities in Maharashtra State should submit all the relevant details in the case of replacement schemes for all years from FY 2005-06 onwards for the Commission to ensure that the impact of such asset replacement is passed on in the desired manner to the consumers, and taken into consideration by the Commission in the next Order.



5. *Since, this is a replacement scheme, TPC-T to ensure that the equity component of the original cost of the replaced asset is knocked off from the equity base.*
6. Asset created after execution of the schemes should be maintained separately in the Asset register.
7. Immediately after completion / commissioning of the scheme, TPC-T should communicate to the Commission the date of completion of the scheme, actual cost incurred, escalation in cost, if any with reasons, the scope and objectives of the scheme and to what extent they have been achieved, etc so as to facilitate a comparison between the In-principle clearance and the actual.



Sincerely,

(Kuldip N. Khawarey)
Secretary, MERC

Encl: Annexure, Appendix A
Cc to:

The General Secretary,
Thane Belapur Industries Association,
Plot No. P-14, MIDC,
Rabale Village, PO Ghansoli,
Navi Mumbai - 400 701.

Prayas Energy Group,
Amrita Clinic, Athawale Corner,
Lakdipool-Karve Road Junction,
Deccan Gymkhana, Karve Road,
Pune - 411 004.

The President,
Mumbai Grahak Panchayat,
Grahak Bhavan,
Sant Dnyaneshwar Marg,
Behind Cooper Hospital,
Vile Parle (W), Mumbai - 400 056.

The President,
Vidarbha Industries Association,
1st Floor, Udyog Bhawan,
Civil Lines,
Nagpur - 440 001.

Appendix-A
“Stringing of second 110 kV line in the existing 110kV
Transmission line between Khopoli and Bhivpuri Generating Stations”
Detailed Cost Estimate

Sr No.	Description	Unit	Quantity	Rate Rs in Lakhs	Total Rs in Lakhs
Bay at Khopoli					
1.	Material(for Bus PT &LA shifting)				
1.	110 kV Lightning Arrestor	No.	3	0.5	1.5
2.	110 kV Potential Transformer	No.	3	3.6	10.8
3.	Structures for existing LA-1 & PT-1		6	0.6	3.6
4.	110 kV Isolator without earth switch-1250 Amp.	No.	1	3	3.0
5.	Structure for 110 kV Isolator 1250 A	No.	1	1.5	1.5
Sub Total-A					20.4
Material for (CRSE line shifting)					
1.	110 kV cable sealing End(630 sq mm XLPE) cable	No.	6	5.5	33.0
2.	110 kV single phase XPLE cable between CRSE#2 isolator to PASS Bay(630 sq mm)	Mtrs	450	0.1	45.0
3.	145 kV Pass	No.	1	132.0	132.0
4.	96 kV LA	No.	3	0.5	1.5
5.	110 kV Potential Transformer		1	3.6	3.6
6.	Structures for Cable sealing end, LA & PT		10	0.6	6.0
7.	Protection Panel	No.	1	10.0	10.0
Sub Total-B					231.1
Material(for New Khop-Bhiv line Bay)					
1.	110 kV cable sealing End(1600sq mm)	No.	6	5.5	33.0
2.	110 kV single phase XPLE(1600 sq mm)cable between T#108 to CRSE#2Bay	Mtrs	750	0.17	127.5
3.	96 kV LA	No.	3	0.5	1.5
4.	110 kV Potential Transformer	No.	1	3.6	3.6
5.	Structures for Cable sealing end, LA & PT	No.	10	0.6	6.0
6.	RADSS Bus Fault Relay	No.	1	15.0	15.0
7.	110 kV Isolator without earth switch-1250 Amp.	No.	2	3	6.0
8.	110 kV Isolator with earth switch-1250 Amp.	No.	1	3.9	3.9



Sr. No.	Description	Unit	Quantity	Unit Rate	Total Cost
9.	Bus support,CT,PT,Isolator & Breaker clamps	Lot	1	5.0	5.0
10.	11/4 inch IPS heavy duty copper bus for Bays	Lot	1	5.0	5.0
11.	Control Cables	Lot	1	5.0	5.0
Sub Total-C					211.5
Sub Total A+B+C(Material Cost)					463.0
Services at Khopoli					
1.	Foundation for PASS,PT,Cable termination & LA structures	Lot	1	10.0	10.0
2.	Installation,Testing,Commissioning services for PASS,PT,Cable termination & LA	Lot	1	25.0	25.0
3.	Installation,Testing,Commissioning services for cable laying & protection panels	Lot	1	5.0	5.0
4	Installation,Testing,Commissioning services for Bus fault relay& commissioning of entire station	Lot	1	10.0	10.0
5.	Service for SCADA integration at Khopoli & Load control centre,Trombay	Lot	1	5.0	5.0
Total of Services(At Khopoli)					55.0
Total of Material & Service for Bay at Khopoli					518.0



Sr No.	Description	Unit	Quantity	Rate Rs in Lakhs	Total Rs in Lakhs
Bay at Bhivpuri					
1.	110 kV Isolator between BS IV-V & BS V-VI for Bus section -2500 Amps	No.	2	3.0	6.0
2.	110 kV Bus fault relay	No.	1	15.0	15.0
3.	Protection Panel	No.	1	10.0	10.0
4.	110 kV Isolator without earth switch-1250 Amp.	No.	2	3.0	6.0
5.	110 kV Isolator with earth switch-1250 Amp.	No.	1	3.9	3.9
6.	110 kV breaker-3150 Amp.	No.	1	10.0	10.0
7.	110 kV CT-200-1200-800/5A	No.	3	2.5	7.5
8.	110 kV line PT	No.	1	3.6	3.6
9.	GI structure for CT,PT	No.	4	0.6	2.4
10.	GI structure for Isolators	No.	5	1.5	7.5
11.	2.5 inch IPS heavy duty copper Bus for main Bus extension	Lot	1	10.0	10.0
12.	2 inch IPS heavy duty copper Bus for transfer Bus extension	Lot	1	8.0	8.0
13.	1 1/4 inch IPS heavy duty copper Bus for Bays	Lot	1	5.0	5.0
14.	Control cables	Lot	1	5.0	5.0
15.	Bus support structures	No.	12	0.2	2.4
16.	Bus support insulators	No.	12	0.2	2.4
17.	Bus support,CT,PT,isolator & breaker clamps	Lot	1	10.0	10.0
18.	A2 structure for line	No.	1	10.0	10.0
Total of Material at Bhivpuri					124.7
Service at Bhivpuri					
1.	Foundation for Breaker, CT, PT, Isolator, Bus support structures	Lot	1	10.0	10.0
2.	Installation, Testing, Commissioning services for Breaker, CT, PT, Isolator, Bus support insulators along with structures for all equipments	Lot	1	15.0	15.0
3.	Installation,Testing,Commissioning services for cable laying & protection panels	Lot	1	5.0	5.0
4.	Installation,Testing,Commissioning services for Bus fault relay& commissioning of entire station	Lot	1	10.0	10.0



5.	Service for SCADA integration at Bhivpuri & Load control centre, Trombay	Lot	1	5.0	5.0
	Total of Services				45.0
	Total of Material & Services for Bay at Bhivpuri				169.7
	Total of Material & Services for Bay at Khopoli				518.0

Sr. No.	Description				Total Cost
1.	Total of Material & Services for Bay at Khopoli				518.0
2.	Total of Material & Services for Bay at Bhivpuri				169.7
Total of Material & Services for Bays at Khopoli & Bhivpuri				687.7	
Sr. No.	Description	Unit	Quantity	Unit rate Rs. in Lakhs	Total Cost Rs. in Lakhs
Transmission Line					
Material					
1.	220 kV DF type tower at Bhivpuri end	MT	60	1.0	60.0
2.	Modification to tower # 108 at Khopoli	Mt	10	1.0	10.0
3.	Conductor 0.15 Wolf ACSR	Km	180	1.61	289.8
4.	Insulators 11 kV 90 KN anti fog ball & socket	No.	6000	0.007	42.00
5.	Suspension hardware assembly for Wolf ACSR	Set	210	0.10	21.0
6.	Tension hardware assembly for Wolf ACSR	Set	300	0.15	45.0
7.	0.15 Wolf ACSR mid span joint	No.	100	0.002	0.20
8.	0.15 Wolf ACSR repair sleeve	No.	60	0.001	0.06
9.	0.15 ACSR spacers	No.	500	0.001	0.50
10.	Vibration damper for 0.15 Wolf ACSR	No.	1500	0.001	1.50
11.	Conductor 0.2 Panther ACSR	Km	30	2.0	60.0
12.	Insulators 11 kV 90 KN antifog ball & socket	No.	2000	0.007	14.0
13.	Suspension hardware assembly for PantherACSR	Set	70	0.10	7.0
14.	Tension hardware assembly for PantherACSR	Set	100	0.15	15.0
15.	0.2 Panther ACSR mid span joint	No.	35	0.002	0.07
16.	0.15 Wolf ACSR repair sleeve	No.	20	0.001	0.02
Total of Material					566.15



Services for Transmission Line					
Sr. No.	Description	Unit	Quantity	Unit Rate Rs. In Lakhs	Total Cost Rs. In Lakhs
1.	Stringing of 2X0.15 Wolf ACSR and removal of one phase of 0.2 ACSR Panther	Ckt km	29	2.5	72.50
2.	Stringing of 0.2 ACSR one Phase conductor	km	29	1.0	29.0
Sub-Total					101.50
Total of Material & Services for Transmission Line					667.65
Consultancy @2%					23
Staff Cost@5% of Material & Services					68
EPC Cost @10% of Material & Services					137.8
Add Contingency@2%					29
IDC-Interest During Construction					114
Total Project Cost(Rs. in Lakh)					1727

