Tel No. 022 25421373
25434349
Email - dcfthane@gmail.com
dycfthane@mahaforest.gov.in

Government of Maharashtra
Forest Department
Deputy Conservator of Forests, Thane Office
Marethon Circle, Lal Bahadur Shastri marg, NaupadaThane - 400 602

No. Desk -25/A/Survey/FCA/ 1161 /2025-26 Date -04/11/2025

To,

Chief Conservator of Forests (T),
Thane

Sub - Diversion of 12.0225 Ha Forest Land in favour of EHV Project Division, Kalyan for Construction and laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe Wada & Kolshet Wada Tr.line for 400 KV Kudus Sub Station passing through Village Eksal, Chichavali, Kunde, & Dighashi Taluka Bhiwandi District Thane in the State of Maharashtra.

Ref -
1. Government of India, MoEF&CC, IRO Nagpur vide Letter No. FC-II/MH-201/2022-NGP/14610 Dtd.29/08/2025.
2. This office vide letter No. 25/B/Survey/FCA/3474 Dt. 17/10/2025.
3. User Agency vide Letter No. EE/EHV/PR/DN/KLN/No. 004366 Dtd – 31/10/2025.

Government of India, MoEF&CC, IRO Nagpur has accorded Stage - I clearance vide Reference No. 1 for Diversion of 12.0225 Ha Forest Land in favour of EHV Project Division, Kalyan for Construction and laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe Wada & Kolshet Wada Tr.line for 400 KV Kudus Sub Station passing through Village Eksal, Chichavali, Kunde, & Dighashi Taluka Bhiwandi District Thane in the State of Maharashtra.

This Office Vide Reference No. 2 informed User Agency to submit the compliance report of Conditions raised in In-principal Approval letter of Government of India. According to above letter User Agency has submitted Compliance Report vide Reference No. 3 is given below.

Following compliance report is submitted for kind consideration-

1. General Conditions :-

Condition No.	Conditions as mentioned in the In-principle approval	Compliance Report
1.	Legal Status of forest land shall remain unchanged	The legal status of the land shall remain unchanged. An undertaking in this regard attached herewith. **(Annexure - I)**
2.	The diverted forest area shall be fenced and the demarcation of the proposed forest area	In this regards, User agency has made online payment through RTGS. Details as

Condition No.	Conditions as mentioned in the In-principle approval	Compliance Report
	shall be carried out by erecting 4 feet high cement concrete pillars duly numbered at an interval of 20 meters at the cost of the User Agency.	follow : **Cost of Boundary Pillars** of forest land to be diverted under proposal amounting to **Rs. 1908760 /-** has been deposited through RTGS in Maharashtra CAMPA account having its Account No.- 150786448241315 and IFSC code- UBIN0996335 of Union Bank of India on **Dated 29/10/2025** vide **UTR No. SBIN525302291106.** The User Agency has submitted an Undertaking, Certificate and Document regarding payment made available. The same is attached herewith. (**Annexure - II to II/C**)
3.	The State Forest Department shall carryout Compensatory Afforestation (CA) over 25.00 Ha. Degaraded Forest Land identified at Compartment No. 394E, 545, Survey / Gut No. 288 and 58, Village - Palsa, Shikara, Taluka - Mukhed, Hadgaon, District - Nanded, at the cost of the User Agency. The State Government shall ensure to plan 1000 trees oer ha DFL and in case it is not possible to accommodate required number of plants. Then remaning number of trees shall be raised in the nearby Degarded Forest Area as per Working Plan prescription ;	In this regards, User agency has been made online payment through RTGS. Details is as follow : **Cost of Compensatory afforestation** amounting to **Rs. 18231004 /-** has been deposited through RTGS in Maharashtra CAMPA account having its Account No.- 150786448241315 and IFSC code- UBIN0996335 of Union Bank of India on **Dated 29/10/2025** vide **UTR No. SBIN525302291106.** The User Agency has submitted an Undertaking, Certificate and Document regarding payment made available. The same is attached herewith. (**Annexure - III to III/C**)
4.	The land identified and earmarked for compensatory afforestation shall be treated and afforestation plan and the work of compensatory afforestation shall be carried out in time bound manner.	In this regard, User Agency has submitted an undertaking is attached herewith. **(Annexure - IV).**
5.	The degraded forest land identified for CA and the approved CA scheme shall not be changed without prior approval of the Central Government and the State Forest Department shall ensure that the amount realized from the User Agency towards CA Should not be left inspent ;	In this regard, User Agency has submitted an undertaking is attached herewith. **(Annexure - V).**

Condition No.	Conditions as mentioned in the In-principle approval	Compliance Report
6.	Considering the fact that, the proposed area for diversion is already diverted for rehabilitation of 5 villages from Koyna Wildlife Sanctuary (for agricultural and residential plots) and some forest area has been transferred to the Revenue Department for land distribution to landless people. The State Government informed that the area could not be available under the conductor for plantation of dwarf species, preferably medicinal. Hence, the State Forest Department shall raise and maintain dwarf medicinal plants over such extant of area in the nearby degraded forest area at the cost of the UA. Details of such area i.e. map, KML. Scheme etc shall be submitted to the RO Nagpur for record and monitoring purpose;	In this regards, User agency has been made online payment through RTGS. Details is as follow : **Cost of Dwarf species (preferably medicinal plants)** amounting to **Rs. 2941866** /- has been deposited through RTGS in Maharashtra CAMPA account having its Account No.- 150786448241315 and IFSC code- UBIN0996335 of Union Bank of India on **Dated 29/10/2025** vide **UTR No. SBIN525302291106.** The User Agency has submitted an Undertaking, Certificate and Document regarding payment made available. The same is attached herewith. (**Annexure - VI to VI/C)** **The details of Medicinal Plantation Area** i.e. Map, KML File, Plantation Scheme, Suitabilty Certificate etc has been submitted herewith. (**Annexure - VI/D to VI/G)**
7.	The State Government shall charge the Net Present value of the diverted forest land measuring **12.0225 Ha.** from the User Agency as per the orders of the Hon'ble Supreme Court dated 28.03.2008 and 09.05.2008 in IA Nos. 826 in 566 with related IA's in Writ Petition (Civil) No. 202/1995 and Ministry's guideline No.5-3/2011-FC(Vol-I) Dated 06.01.2022 and clearification issued vide letter dated 19.01.2022 and 22.03.2022 ;	In this regards, User agency has been made online payment through RTGS. Details is as follow : **Cost of Net Present Value (NPV)** for the **12.0225 Ha.** of forest land to be diverted under proposal amounting to **Rs. 13427930** /- has been deposited through RTGS in Maharashtra CAMPA account having its Account No.- 150786448241315 and IFSC code- UBIN0996335 of Union Bank of India on **Dated 29/10/2025** vide **UTR No. SBIN525302291106.** The User Agency has submitted an Undertaking, Certificate and Document regarding payment made available. The same is attached herewith. (**Annexure - VII to VII/C)**
8.	The State Government shall realize 5 times the penal NPV over an extent of forest area reported to be under violation. The	In this regards, User agency has been made online payment through RTGS. Details is as per follow :

Condition No.	Conditions as mentioned in the In-principle approval	Compliance Report
	realization of Penal NPV & simple interest shall be recovered as per the provision of ministry's guidelines:	**Cost of Penalty for Violation** amounting to **Rs. 233939 /-** has been deposited through RTGS in Maharashtra CAMPA account having its Account No.-150786448241315 and IFSC code-UBIN0996335 of Union Bank of India on **Dated 29/10/2025** vide **UTR No. SBIN525302291106.** The User Agency has submitted an Undertaking, Certificate and Document regarding payment made available. The same is attached herewith. (**Annexure - VIII to VIII/C)**
9.	**The State Government has reported that, the concerned DFO has already filled case under 3A / 3B under VSSA, 1980 in the jurisdictional court. Hence, the State Government shall ensure to submit detailed report periodically to this office and apprise the case status without fail;**	Noted. We have agreed and undertake that, the State Government will submit detailed report periodically and apprise the case status without fail. **(Annexure - IX).** The User Agency has submitted an undertaking in this regard is attached herewith. **(Annexure - IX/A).**
10.	Additional amount of the Net Present Value (NPV) of the diverted forest land if any, becoming due after revision of the same by the Hon'ble Supreme Court of India in future, shall be charged by the State Government from the User Agency. The User Agency shall furnish and undertaking to this effect.	In this regard, User Agency has submitted an undertaking is attached herewith. **(Annexure - X).**
11.	All the funds received from the User Agency under the project shall be transferred / deposited to CAMPA fund only through e-portal (https://parivesh.nic.in/)	All the funds under the project are deposited to CAMPA fund through e-portal *(https://parivesh.nic.in/)*. Copy of Payment Challan, Copy of Bank Statement, Copy of Payment Status on Parivesh 1.0 and User Agency has submitted Certificate is attached herewith **(Annexure - XI).**
12.	The State Government shall obtain all applicable clearance including that of NBWL, if required.	The User Agency has obtained necessary clearance from Principal Chief Conservator of Forests (HoFF), M.S.Nagpur vide his Office Letter No. Desk-23 (2) / WL / Survey / C.R.65 / 2811 Dtd. 08/10/2024. In this regards, User Agency has submitted

Condition No.	Conditions as mentioned in the In-principle approval	Compliance Report
		an Certificate and Document is attached herewith **(Annexure - XII to XII/H).**
13.	The forest land proposed for diversion shall under no circumstances be transferred / sublet to any other agency, department or person without prior approval of the Central Government.	In this regard, User Agency has submitted an undertaking is attached herewith. **(Annexure - XIII).**
14.	The layout plan of the proposal shall not be changed without prior approval of the Central Government.	In this regard, User Agency has submitted an undertaking is attached herewith. **(Annexure-XIV).**
15.	The User Agency shall provide wood, preferably the alternate fuel to the labourers working at the site to avoid any damage / tree felling ;	In this regard, User Agency has submitted an undertaking is attached herewith. **(Annexure-XV).**
16.	The User Agency shall maintain required RoW and shall comply with all other conditions as per the guidelines issued by the Ministry time to time for the transmission line projects ;	In this regard, User Agency has submitted an undertaking is attached herewith. **(Annexure-XVI).**
17.	Disturbance shall be kept minimal by creating labour camps outside the forest area as far as possible and it will be the responsibility of the User Agency to ensure that the labourers & staff engaged in execution of work do not destruct nearby forest flora & fauna.	In this regard, User Agency has submitted an undertaking is attached herewith. **(Annexure-XVII).**
18.	The total forest area utilized for the project shall not exceed 12.0255 ha and the forest area diverted shall not be used for any purpose other than those shown in the diversion proposal.	In this regard, User Agency has submitted an undertaking is attached herewith. **(Annexure-XVIII).**
19.	The User Agency and the State Government shall ensure compliance to all the Acts, Rules, Regulations and Guidelines of the time being in force, as applicable to the transmission line projects ;	In this regard, User Agency has submitted an undertaking is attached herewith. **(Annexure-XIX).**
20.	Any other condition that the DDG (Central) of Regional Office, Nagpur may impose from time to time in the interest of afforestation, conservation and management of flora and fauna in the area shall be complied by the User Agency.	In this regard, User Agency has submitted an undertaking is attached herewith. **(Annexure-XX).**

Condition No.	Conditions as mentioned in the In-principle approval	Compliance Report
21.	In the event of failure to comply with any of the above conditions the User Agency is liable for penal action as per the provisions of Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 and rules / guidelines / notifications made there under ;	In this regard, User Agency has submitted an undertaking is attached herewith. **(Annexure-XXI).**
22.	The State Government or Union territory Administration and the user agency shall also monitor, at least once every year, the compliance of conditions imposed during 'In-Principle' approval and upload the monitoring report in the online portal;	In this regard, User Agency has submitted an undertaking is attached herewith. **(Annexure-XXII).**
23.	The State Government shall process and submit compliance report on the above conditions through online (http://parivesh.nic,in)	In this regard, We have undertake that we will process and submit compliance report on the above conditions through online (http://parivesh.nic,in). **(Annexure-XXIII).**
24.	The State Government shall issue working permission only after ensuring compliance to all such condition (s) as per the provision of Van (Sanrakshan Evam Samvardhan) Rules 2023 and obtaining all clearance / approval from the all Acts, Rules, Regulation from the competent authorities.	Noted and agreed.

The User Agency has also requested to issue Working Permission as all the necessary documents, certificates and undertaking is submitted. This office is recommended to issue Working Perimission as User Agency has submitted all the required documents regarding In-principal Approval. The compliance report is submitted in 4 sets for further necessary action.

Enclosed as Above

(Sachin Repal)
Deputy Conservator of Forests
Thane Forest Division Thane

Copy Submitted to Additional Principal Chief Conservator of Forests & Nodal Officer, M.S.Nagpur for information.

Copy Forwarded to Yogesh Pachpande, Executive Engineer, E.H.V. Projects Division, Kalyan, 2nd Floor, 'A' Wing, Tejashri Bldg., Jahangir Maidan, Karnik Road, M.S.E.T.Co.Ltd., Kalyan (W) –

-sd-
(Sachin Repal)
Deputy Conservator of Forests
Thane Forest Division Thane

MAHATRANSCO
Office of the Executive Engineer, E.H.V. Projects Division, Kalyan.
IInd floor, 'A' wing, 'Tejashri Bldg.', Jahangir Maidan, Karnik road,
M.S.E.T. Co. Ltd., Kalyan (W) 421 301.
E-mail – ee7620@gmail.com, ee7620@mahatransco.in

Ref. No. EE/EHV/ PR/DN/KLW/No 00 [illegible] **Date :-** 31 OCT 2025

To,
The Deputy Conservator of forest
Thane Forest Division, Thane.

Sub-Diversion of 12.0225 Ha forest land in favor of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe - Wada and Kolshet Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashtra……… **Submission of Stage-I compliance thereof**.

Ref:- 1)Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610 Dated - 29.08.2025.

Sr.No	Conditions	Clarification
1.1	The legal status of forest land shall remain unchanged;	User agency has submitted undertaking is enclosed as **[Annexure -I]**
1.2	The diverted forest area shall be fenced and the demarcation of the proposal forest area shall be carried out by erecting 4 feet high cement concrete pillars duly numbered at an interval of 20 meters at the cost of the User Agency	User agency has deposited total Rs.3,67,43,499/- in Ad-HOC CAMPA A/C no. 150786448241315 Union bank of India IFSC Code --UBIN0996335 Bengaluru through RTGS vide UTR No. SBIN525302291106 Dated 29.10.2025 Which included Rs.19,08,760/- Towards the cost of Boundary Pillar.**[Annexure -II]**
1.3	The State Forest Department shall carryout Compensatory Afforestation (CA) over 25.00 ha. Degraded Forest Land identified at Compartment no. 394E, 545, Survey/Gut no. 288 and 58, Village-Palsa, Shikara, Taluka-Mukhed, Hadgaon, District-Nanded, at the cost of the User Agency The State Government shall ensure to plan 1000 trees per ha of DFL and in case it is not possible to accommodate required number of plants, then remaining number of trees shall be raised in the nearby Degraded Forest area as per the working plan prescription.	User agency has deposited total Rs.3,67,43,499/- in Ad-HOC CAMPA A/C no. 150786448241315 Union bank of India IFSC Code -UBIN0996335 Bengaluru through RTGS vide UTR No. SBIN525302291106 Dated 29.10.2025 Which included Rs.1,82,31,004/- Towards the cost of Compensatory Afforestation. **[Annexure -III]**

1.4	The land identified and earmarked for compensatory afforestation shall be treated and afforested by the State Government as per the approved compensatory afforestation plan and the work of compensatory afforestation shall be carried out in time bound manner.	User agency has submitted undertaking is enclosed as **[Annexure -IV]**
1.5	The degraded forest land identified for CA and the approved CA scheme shall not be changed without prior approval of the Central Government and the State Forest Department shall ensure that the amount realized from the User Agency towards CA should not be left unspent.	User agency has submitted undertaking is enclosed as **[Annexure -V]**
1.6	Considering the fact that, the proposed area for diversion is already diverted for rehabilitation of 5 villages from Koyna Wildlife Sanctuary (for agricultural and residential plots) and some forest area has been transferred to the Revenue Department for land distribution to landless people. The State Government informed that the area could not be available under the conductor for plantation of dwarf species, preferably medicinal. Hence, the State Forest Department shall raise and maintain dwarf medicinal plants over such extant of area in the nearby degraded forest area at the cost of the UA Details of such area i.e. map, KML Scheme etc. shall be submitted to the RO Nagpur for record and monitoring purpose.	User agency has deposited total Rs.3.67.43,499/- in Ad-HOC CAMPA A/C no. 150786448241315 Union bank of India IFSC Code -UBIN0996335 Bengaluru through RTGS vide UTR No. SBIN525302291106 Dated 29.10.2025 Which included Rs.29,41,866/- Towards the cost of Medicinal Plants. **[Annexure -VI]**
1.7	The State Government shall charge the Net Present Value of the diverted forest land measuring 12.0225 ha from the User Agency as per the orders of the Hon'ble Supreme Court dated 28.03.2008 and 09.05.2008 in IA Nos 826 in 566 with related IA's in Writ Petition (Civil) No.202/1995 and Ministry's guideline No. 5-3/2011-FC(Vol. I) dated 06.01.2022 and clarification issued vide letter dated 19.01.2022 and 22.03.2022.	User agency has deposited to Rs.3.67.43.499/- in Ad-HOC CAMPA A/C no. 150786448241315 Union bank of India IFSC Code UBIN0996335 Bengaluru through RTGS vide UTR No. SBIN525302291106 Dated 29.10.2025 Which included Rs.1,34,27,930/- Towards the cost of NPV. **[Annexure -VII]**
1.8	The State Government shall realize 5 times the penal NPV over an extent of forest area reported to be under violation. The realization of Penal NPV & simple interest shall be recovered as per the provision of ministry's guidelines.	User agency has deposited total Rs.3,67,43,499/- in Ad-HOC CAMPA A/C no. 150786448241315 Union bank of India IFSC Code -UBIN0996335 Bengaluru through RTGS vide UTR No. SBIN525302291106 Dated

<table>
<tr><td></td><td></td><td>29.10.2025 Which included Rs.2,33,939/- Towards the cost of Penal NPV . [Annexure -VIII]</td></tr>
<tr><td>1.9</td><td>The State Government has reported that. the concerned DFO has already filled case under 3A 3B under VSSA 1980 in the jurisdictional court. Hence, the State Government shall ensure to submit detailed report periodically to this office and apprise the case status without fail:</td><td>The concerned DFO has already filled case under 3A 3B under VSSA. 1980 in the jurisdictional court. The detailed report are attached. User agency has submitted undertaking is enclosed as [Annexure -IX]</td></tr>
<tr><td>1.10</td><td>Additional amount of the Net Present Value (NPV) of the diverted forest land if any. becoming due after revision of the same by the Hon'ble Supreme Court of India in future. shall be charged by the State Government from the User Agency. The User Agency shall furnish an undertaking to this effect</td><td>User agency has submitted undertaking is enclosed as [Annexure -X]</td></tr>
<tr><td>1.11</td><td>All the funds received from the User Agency under the project shall be transferred deposited to CAMPA fund only through e-portal (https://parivesh.nic.in/).</td><td>User agency has deposited total Rs.3.67,43,499/- in Ad-HOC CAMPA A/C no. 150786448241315 Union bank of India IFSC Code –UBIN0996335 Bengaluru through RTGS vide UTR No. SBIN525302291106 Dated 29.10.2025. Details are as under
<table>
<tr><th>Sr. No</th><th>Particular</th><th>Amount Deposited in Ad-CAMPA</th><th>Details of Amount transferred</th></tr>
<tr><td>1.</td><td>CA Land</td><td>18231004/-</td><td>vide UTR No. SBIN525302291106 Dated 29.10.2025 .</td></tr>
<tr><td>2.</td><td>NPV</td><td>13427930/</td><td></td></tr>
<tr><td>3.</td><td>Medicinal Plant</td><td>2941866/-</td><td></td></tr>
<tr><td>4</td><td>Pillar</td><td>1908760/-</td><td></td></tr>
<tr><td>5</td><td>Cost of penal for violation</td><td>233939/-</td><td></td></tr>
<tr><td></td><td>Grand total</td><td>3,67,43,499/-</td><td></td></tr>
</table>
User agency has submitted undertaking is enclosed as [Annexure -XI]</td></tr>
<tr><td>1.12</td><td>The State Government shall obtain all applicable clearances including that of NBWL if required.</td><td>Approval of SBWL and NBWL letters are attached. User agency has submitted</td></tr>
</table>

		undertaking is enclosed as **[Annexure –XII]**
1.13	The forest land proposed for diversion shall under no circumstances be transferred/sublet to any other agency department or person without prior approval of the Central Government	User agency has submitted undertaking is enclosed as **[Annexure XIII]**
1.14	The layout plan of the proposal shall not be changed without the prior approval of the Central Government.	User agency has submitted undertaking is enclosed as **[Annexure -XIV]**
1.15	The User Agency shall provide fire wood preferably alternate fuel to labourers working at the site to avoid damage/tree felling.	User agency has submitted undertaking is enclosed as **[Annexure -XV]**
1.16	The User Agency shall maintain required Row and shall comply with all other conditions as per the guidelines issued by the Ministry time to time for the transmission line projects.	User agency has submitted undertaking is enclosed as **[Annexure -XVI]**
1.17	Disturbance shall be kept minimal by creating labour camps outside the forest area as far as possible and it will be the responsibility of the User Agency to ensure that the labourers & staff engaged in execution of work do not destruct nearby forest flora & fauna.	User agency has submitted undertaking is enclosed as **[Annexure -XVII]**
1.18	The total forest area utilized for the project shall not exceed 12.0255 ha. and the forest area diverted shall not be used for any purpose other than those shown in the diversion proposal.	User agency has submitted undertaking is enclosed as **[Annexure -XVIII]**
1.19	The User Agency and the State Government shall ensure compliance to provisions of the all Acts, Rules, Regulations and Guidelines, for the time being in force, as applicable to the transmission line projects.	User agency has submitted undertaking is enclosed as **[Annexure -XIX]**
1.20	Any other conditions that the Central Government or DDG (Central) of Regional Office, Nagpur may impose from time to time in the interest of afforestation, conservation and management of flora and fauna in the area, shall be complied by the User Agency;	User agency has submitted undertaking is enclosed as **[Annexure -XX]**
1.21	In the event of failure to comply with any of the above conditions the User Agency is liable for penal action as per provision of Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 and rules/ guidelines / notifications made there under.	User agency has submitted undertaking is enclosed as **[Annexure -XXI]**
1.22	The State Government or Union territory Administration and the user agency shall also monitor, at least once every year, the compliance of conditions imposed during In-Principle	User agency has submitted undertaking is enclosed as **[Annexure -XXII]**

	approval and upload the monitoring report in the online portal.	
1.23	The State Government shall process and submit compliance report on the above conditions through online (https parivesh.nic.in/).	User agency has submitted undertaking is enclosed as **[Annexure -XXIII]**
1.24	The State Government shall issue working permission only after ensuring compliance to all such condition (s) as per the provision of Van (Sanrakshan Evam Samvardhan) Rules 2023 and obtaining all clearance approval from the all Acts. Rules, Regulation from the competent authorities.	User agency has submitted undertaking is enclosed as **[Annexure -XXIV]**

In view of above and considering the importance of the aforesaid project. it is kindly requested to accord the working permission for the said line so that the work can be started immediately and completed as per the target.

The compliance report is submittedherewith in 5 sets for further necessary action please.

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

PLACE:-Kalyan.
DATE :- 31 / 10 /2025

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

Copy to :-1) The Chief Engineer, EHV CC&OM Zone Vashi. for Information
2) The Superintending Engineer EHV Project Circle, Kalwa, for Information

Annexure - 1

UNDERTAKING

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashtra.

Ref:- Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610
Dated - 29.08.2025.

Condition No.1

With reference to above, we the project authority, do hereby undertake that, The legal status of forest land shall remain unchanged.

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

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

PLACE:- Kalyan.
DATE :- 31 /10 /2025

Annexure-II

CERTIFICATE

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashtra.

Ref:- Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610
Dated - 29.08.2025.

Condition No.2

With reference to above, we the project authority hereby agreed and deposited total Rs.3,67,43,499/- in Ad-HOC CAMPA A/C no. 150786448241315 Union bank of India IFSC Code UBIN0996335 Bengaluru through RTGS vide UTR No. SBIN525302291106 Dated 29.10.2025. Which included Rs.19,08,760/- Towards the cost of Boundary Pillar.

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

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

PLACE:- Kalyan.
DATE :- 31/10/2025

Annexure - II/A

UNDERTAKING

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashtra.

Ref:- DDGF (central) MoEF & CC, Regional office Nagpur vide letter no. FP /MH/PWR_TRANS/540676/2025 dated 23.07.2025.

Condition No.2

With reference to above, we the project authority hereby undertake that we are ready to pay the cost towards fencing of diverted forest area and the demarcation of the proposed forest area by erecting 4 feet high cement concrete pillars duly numbered at an interval of 20 meters.

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

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

PLACE:- Kalyan.
DATE :- 31 / 10 /2025

Annexure -II/

AGENCY COPY

यूनियन बैंक Union Bank

NEFT / RTGS CHALLAN for CAMPA Funds

Date : 28-10-2025

Agency Name.	MAHATRANSCO
Application No.	6448241315
MoEF/SG File No.	FC-II/MH-201-2022-NGP
Location.	MAHARASHTRA
Address.	O/O THE EXECUTIVE ENGINEER, MSETCL. EHV CONSTRUCTION DIVISION, KALYANThane
Amount(in Rs)	36743499/-

Amount in Words: Three Crore Sixty-Seven Lakh Forty-Three Thousand Four Hundred and Ninety-Nine Rupees Only

NEFT/RTGS to be made as per following details;

Beneficiary Name:	MAHARASHTRA CAMPA
IFSC Code.	UBIN0996335
Pay to Account No.	150786448241315 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India FCS Centre,21/1, III Floor, Jellita Towers, Mission Road, Bengaluru-560027

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

BANK COPY

यूनियन बैंक Union Bank

NEFT / RTGS CHALLAN for CAMPA Funds

Date : 28-10-2025

Agency Name.	MAHATRANSCO
Application No.	6448241315
MoEF/SG File No.	FC-II/MH-201-2022-NGP
Location.	MAHARASHTRA
Address:	O/O THE EXECUTIVE ENGINEER, MSETCL. EHV CONSTRUCTION DIVISION, KALYAN Thane
Amount(In Rs)	36743499/-

Amount in Words: Three Crore Sixty-Seven Lakh Forty-Three Thousand Four Hundred and Ninety-Nine Rupees Only

NEFT/RTGS to be made as per following details;

Beneficiary Name:	MAHARASHTRA CAMPA
IFSC Code:	UBIN0096335
Pay to Account No.	150786448241315 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India FCS Centre, 21/1, III Floor, Jellita Towers, Mission Road, Bengaluru-560027

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

Note: After making the required payment through challan, if the payment status has not been updated even after 7 working days, then kindly mail a copy of your challan with transaction date and reference id to Email: fcsblr@unionbankofindia.bank , epurse@unionbankofindia.bank, ubin0903710@unionbankofindia.bank

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

Annexure-II/c

Account Statement from 29 Oct 2025 to 29 Oct 2025

Txn Date	Value Date	Description	Ref No./Cheque No.	Branch Code	Debit
29/10/2025	29/10/2025	TO DEBIT THROUGH CHEQUL-SBI 001219FOR MAHARASHTRA CAMPA-804057	/ 804057	399	1,00,00,000.00
29/10/2025	29/10/2025	TO DEBIT THROUGH CHEQUE-SBI 001219FOR MAHARASHTRA CAMPA-804058	/ 804058	399	1,00,00,000.00
29/10/2025	29/10/2025	TO DEBIT THROUGH CHEQUE-SBI 001219FOR MAHARASHTRA CAMPA-804059	/ 804059	399	1,00,00,000.00
29/10/2025	29/10/2025	TO DEBIT THROUGH CHEQUE-SBI 001219FOR MAHARASHTRA CAMPA-804060	/ 804060	399	67,43,546.20
29/10/2025	29/10/2025	CHQ TRANSFER-CHEQUE TRANSFER TO-804056	/ 804056	399	4,75,718.00
29/10/2025	29/10/2025	TO CLEARING-Chq 804048 Sess 3 BHOIR BALU DAMU 0000219000-804048	/ 804048	5076	22,440.00
29/10/2025	29/10/2025	TO TRANSFER-INB NEFT UTR NO: SBIN525302217102-Vilas Padu Patil	NEFT INB: CNAEQOLZG1 TRANSFER TO 4698136044302 / Vilas Padu Patil	99922	51,444.00
29/10/2025	29/10/2025	TO TRANSFER-INB NEFT UTR NO: SBIN525302215404-Dhananjay Maruti Kadam	NEFT INB: CNAEQDLXH5 TRANSFER TO 4698149044309 / Dhananjay Maruti Kadam	99922	21,744.00
29/10/2025	29/10/2025	TO TRANSFER-INB T Balance Sachin Palkar-	CT00WIRWE0 TRANSFER TO 61012081858 Mr. SACHIN SITARAM PA /	99922	366.00

UTR No. SBIN525302291106

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

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Annexure - III

CERTIFICATE

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashtra.

Ref:- Regional office Nagpur vide letter no F.No FC-II/MH-201/2022-NGP/14610
Dated - 29.08.2025.

Condition No.3

With reference to above, we the project authority hereby agreed and deposited total Rs.3,67,43,499/- in Ad-HOC CAMPA A/C no. 150786448241315 Union bank of India IFSC Code –UBIN0996335 Bengaluru through RTGS vide UTR No. SBIN525302291106 Dated 29.10.2025. Which included Rs.1,82,31,004/- Towards the cost of Compensatory Afforestation over 25.00 ha.

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

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

PLACE:- **Kalyan.**
DATE :- 31 /10 /2025

Annexure - III/A

UNDERTAKING

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashtra.

Ref:- Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610
Dated - 29.08.2025

Condition No.3

With reference to above, we the project authority, do here by undertake that, we agrees to pay cost towards raising of Compensatory Afforestation to State Forest Department.

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

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

PLACE:- Kalyan.
DATE :- 31 / 10 /2025

Annexure - III

AGENCY COPY

यूनियन बैंक Union Bank

NEFT / RTGS CHALLAN for CAMPA Funds

Date : 28-10-2025

Agency Name.	MAHATRANSCO
Application No.	6448241315
MoEF/SG File No.	FC-II/MH-201-2022-NGP
Location.	MAHARASHTRA
Address	O/O THE EXECUTIVE ENGINEER, MSETCL, EHV CONSTRUCTION DIVISION, KALYAN Thane
Amount(in Rs)	36743499/-

Amount In Words Three Crore Sixty-Seven Lakh Forty Three Thousand Four Hundred and Ninety-Nine Rupees Only

NEFT/RTGS to be made as per following details;

Beneficiary Name:	MAHARASHTRA CAMPA
IFSC Code	UBIN0996335
Pay to Account No.	150786448241315 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India FCS Centre 21/1, III Floor, Jakitta Towers, Mission Road, Bengaluru-560027

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

BANK COPY

यूनियन बैंक Union Bank

NEFT / RTGS CHALLAN for CAMPA Funds

Date : 28-10-2025

Agency Name.	MAHATRANSCO
Application No.	6448241315
MoEF/SG File No.	FC-II/MH-201-2022-NGP
Location.	MAHARASHTRA
Address:	O/O THE EXECUTIVE ENGINEER, MSETCL, EHV CONSTRUCTION DIVISION, KALYAN Thane
Amount(in Rs)	36743499/-

Amount In Words Three Crore Sixty-Seven Lakh Forty-Three Thousand Four Hundred and Ninety Nine Rupees Only

NEFT/RTGS to be made as per following details;

Beneficiary Name:	MAHARASHTRA CAMPA
IFSC Code:	UBIN0996335
Pay to Account No.	150786448241315 Valid only for this challan amount
Bank Name & Address:	Union Bank Of India FCS Centre, 21/1, III Floor, Jakitta Towers, Mission Road, Bengaluru-560027

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

Note: After making the required payment through challan, if the payment status has not been updated even after 7 working days, then kindly mail a copy of your challan with transaction date and reference id to Email: fcsblr@unionbankofindia.bank , epurse@unionbankofindia.bank, ubin0903710@unionbankofindia.bank

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

Annexure - II/c

Account Statement from 29 Oct 2025 to 29 Oct 2025

Txn Date	Value Date	Description	Ref No./Cheque No.	Branch Code	Debit
29/10/2025	29/10/2025	TO DEBIT THROUGH CHEQUE-SBI 001219FOR MAHARASHTRA CAMPA-804057	/ 804057	399	1,00,00,000.00
29/10/2025	29/10/2025	TO DEBIT THROUGH CHEQUE-SBI 001219FOR MAHARASHTRA CAMPA-804058	/ 804058	399	1,00,00,000.00
29/10/2025	29/10/2025	TO DEBIT THROUGH CHEQUE-SBI 001219FOR MAHARASHTRA CAMPA-804059	/ 804059	399	1,00,00,000.00
29/10/2025	29/10/2025	TO DEBIT THROUGH CHEQUE-SBI 001219FOR MAHARASHTRA CAMPA-804060	/ 804060	399	67,43,546.20
29/10/2025	29/10/2025	CHQ TRANSFER-CHEQUE TRANSFER TO-804056	/ 804056	399	4,75,718.00
29/10/2025	29/10/2025	TO CLEARING-Chq 804048 Sess 3 BHOIR BALU DAMU 0000219000-804048	/ 804048	5076	22,440.00
29/10/2025	29/10/2025	TO TRANSFER-INB NEFT UTR NO: SBIN525302217102-Vilas Padu Patil	NEFT INB: CNAEQDLZG1 TRANSFER TO 4698138044302 / Vilas Padu Patil	99922	51,444.00
29/10/2025	29/10/2025	TO TRANSFER-INB NEFT UTR NO: SBIN525302215404-Dhananjay Maruti Kadam	NEFT INB: CNAEQDLXH5 TRANSFER TO 4698149044309 / Dhananjay Maruti Kadam	99922	21,744.00
29/10/2025	29/10/2025	TO TRANSFER-INB Ti Balance Sachin Palkar-	CT00WIRWE0 TRANSFER TO 61012081668 Mr. SACHIN SITARAM PA /	99922	366.00

UTR No. SBIN 525302291106

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

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Annexure - IV

UNDERTAKING

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashtra.

Ref:-Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610
Dated - 29.08.2025.

Condition No.4

With reference to above, we the project authority, do hereby agrees and undertake the land identified and earmarked for compensatory afforestation shall be treated and afforested by the State Government as per the approved compensatory afforestation plan and the work of compensatory afforestation shall be carried out in time bound manner.

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

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

PLACE:- Kalyan.
DATE :- 31/10/2025

Annexure - V

UNDERTAKING

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet - Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashrta.

Ref:- Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610
Dated - 29.08.2025.

Condition No. 5

With reference to above, we the project authority, do hereby agrees and undertake the degraded forest land identified for CA and the approved CA scheme shall not be changed without prior approval of the Central Government.

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

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

PLACE:- **Kalyan.**
DATE :- 31 /10 /2025

Annexure- VI

CERTIFICATE

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashtra.

Ref:-Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610
Dated - 29.08.2025

Condition No. 6

With reference to above, we the project authority hereby agreed and deposited total Rs.3,67,43,499/- in Ad-HOC CAMPA A/C no. 150786448241315 Union bank of India IFSC Code UBIN0996335 Bengaluru through RTGS vide UTR No. SBIN525302291106 Dated 29.10.2025.Which included Rs.29,41,866/- Towards the cost of Medicinal Plants.

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.
Executive Engineer,
M.S.E.T. Co. Ltd.
E.H.V. Projects Dn. Kalyan

PLACE:- Kalyan.
DATE :- 31 / 10/2025

Annexure - VI./A

UNDERTAKING

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashtra.

Ref:-Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610
Dated - 29.08.2025.

Condition No. 6

With reference to above, we the project authority, do hereby undertake that, plantation of dwarf species, preferably medicinal plants.

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

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

PLACE:- Kalyan.
DATE :- 31/10/2025

Annexure-IV/B

AGENCY COPY

यूनियन बैंक Union Bank

NEFT / RTGS CHALLAN for CAMPA Funds

Date : 28-10-2025

Agency Name.	MAHATRANSCO
Application No.	6448241315
MoEF/SG File No.	FC-II/MH-201-2022-NGP
Location.	MAHARASHTRA
Address.	O/O THE EXECUTIVE ENGINEER, MSETCL, EHV CONSTRUCTION DIVISION, KALYANThane
Amount(In Rs)	36743499/-

Amount in Words : Three Crore Sixty-Seven Lakh Forty-Three Thousand Four Hundred and Ninety-Nine Rupees Only

NEFT/RTGS to be made as per following details;

Beneficiary Name:	MAHARASHTRA CAMPA
IFSC Code:	UBIN0996335
Pay to Account No.	150786448241315 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India FCS Centre,21/1, III Floor, Jolitta Towers, Mission Road, Bengaluru-560027

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

BANK COPY

यूनियन बैंक Union Bank

NEFT / RTGS CHALLAN for CAMPA Funds

Date : 28-10-2025

Agency Name.	MAHATRANSCO
Application No.	6448241315
MoEF/SG File No.	FC-II/MH-201-2022-NGP
Location.	MAHARASHTRA
Address:	O/O THE EXECUTIVE ENGINEER, MSETCL, EHV CONSTRUCTION DIVISION, KALYAN Thane
Amount(In Rs)	36743499/-

Amount in Words : Three Crore Sixty-Seven Lakh Forty-Three Thousand Four Hundred and Ninety-Nine Rupees Only

NEFT/RTGS to be made as per following details;

Beneficiary Name:	MAHARASHTRA CAMPA
IFSC Code:	UBIN0996335
Pay to Account No.	150786448241315 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India FCS Centre, 21/1, III Floor, Jolitta Towers, Mission Road, Bengaluru-560027

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

Note:After making the required payment through challan, if the payment status has not been updated even after 7 working days, then kindly mail a copy of your challan with transaction date and reference id to Email: fcsblr@unionbankofindia.bank , cpurse@unionbankofindia.bank, ubin0903710@unionbankofindia.bank

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

Annexure -VI/

Account Statement from 29 Oct 2025 to 29 Oct 2025

Txn Date	Value Date	Description	Ref No./Cheque No.	Branch Code	Debit
29/10/2025	29/10/2025	TO DEBIT THROUGH CHEQUE-SBI 001219FOR MAHARASHTRA CAMPA-804057	/ 804057	399	1,00,00,000.00
29/10/2025	29/10/2025	TO DEBIT THROUGH CHEQUE-SBI 001219FOR MAHARASHTRA CAMPA-804058	/ 804058	399	1,00,00,000.00
29/10/2025	29/10/2025	TO DEBIT THROUGH CHEQUE-SBI 001219FOR MAHARASHTRA CAMPA-804059	/ 804059	399	1,00,00,000.00
29/10/2025	29/10/2025	TO DEBIT THROUGH CHEQUE-SBI 001219FOR MAHARASHTRA CAMPA-804060	/ 804060	399	67,43,546.20
29/10/2025	29/10/2025	CHQ TRANSFER-CHEQUE TRANSFER TO-804056	/ 804056	399	4,75,718.00
29/10/2025	29/10/2025	TO CLEARING-Chq 804048 Sess 3 BHOIR BALU DAMU 0000219000-804048	/ 804048	5076	22,440.00
29/10/2025	29/10/2025	TO TRANSFER-INB NEFT UTR NO: SBIN525302217102-Vilas Padu Patil	NEFT INB: CNAEQDLZG1 TRANSFER TO 4698139044302 / Vilas Padu Patil	99922	51,444.00
29/10/2025	29/10/2025	TO TRANSFER-INB NEFT UTR NO: SBIN525302215404-Dhananjay Maruti Kadam	NEFT INB: CNAEQDLXH5 TRANSFER TO 4698149044309 / Dhananjay Maruti Kadam	99922	21,744.00
29/10/2025	29/10/2025	TO TRANSFER-INB TI Balance Sachin Palkar-	CT00WIRWE0 TRANSFER TO 61012081868 Mr. SACHIN SITARAM PA /	99922	366.00

UTR No. SBIN 525302291106

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

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Annexure VI - C-1

Thane Forest Division, Thane

RATE STRUCTURE FOR COMPENSATORY AFFORESTATION ON WORKS IN ZONE II & III HEAVY RAIN FALL AREA (2500 PLANTS/Ha.)

Village - Wahuli , P.F S No.52 Beat Wahuli Round Wadapa TALUKA BHIWANDI DIST THANE

DAILY WAGES RATE 514.88 Area :- 1.0000 HECTARE

Sr. No.	Particulars of works	Mandays	Wages	Material supply	Total	Wages	Material supply	Total
	P.P.O + P.Y.O.WORKS							
1	A) Survey & Demarcation	1.00	514.88	91.00	605.88	514.88	91.00	605.88
	B) Preparation of treatment map including laying of grids at (100mx50m)	1.00	514.88	91.00	605.88	514.88	91.00	605.88
	C) Digging of trial pits (0.30x0.30x0.60m) in corner of grid	0.40	205.95	0.00	205.95	205.95	0.00	205.95
	D) Fixing 60cmX0.05 cmX12 cm cement pillar upto 30 cm deep in corner of grid, painting with grid no. etc complete (3 pillars Rs 75/- for each pillars)	0.00	0.00	225.00	225.00	0.00	225.00	225.00
	E) Clearing of bushes and preparation of site (As per requirement)	10.00	5148.80	91.00	5239.80	5148.80	91.00	5239.80
2	Soil and Moisture conservation works including collection of rubbles from areas upto 30 m etc	31.00	15961.28	0.00	15961.28	15961.28	0.00	15961.28
3	Providing and fixing chain link fencing 102 Rmt for 1 Ha (with one Gate+ two wicket gates for one site) (Rs 1494 per Rmt of basic rate + 20% for transportation of ave. lead plus 20% for travel/remote area by tender process) Rs 1494+149+149=1792/- per Rmt (1.60 Rmt height with G.I. Chain link size 50 mm x 50 mm 8 guage thick and fixed 75 mm above ground level complete as per SSR item No 1744 for 2017-18)	0.00	0.00	182865.60	182865.60	0.00	182865.60	182865.60
4	Alignment of pits at 2mx2m spacement 2500 pits per Ha @ 3.25 per 100 pits and M & S @ Rs. 2.24 per 50 pits)	6.50	3346.72	112.00	3458.72	3346.72	112.00	3458.72

5	Digging of pits size 0.45 x 0.35 x 0.45 m (2500 pits for ha) 5.60 MD per 100 pits Note - As per local conditions provision for mechanised digging can be made	165.00	84955.20	0.00	84955.20	84955.20	0.00	84955.20
6	Construction of 5.00 mt wide inspection path 1 MD per 100 rmt	1.00	514.98	0.00	514.88	514.88	0.00	514.88
7	Providing and fixing (4 feet x 3 feet) information board each per site	0.00	0.00	5000.00	5000.00	0.00	5000.00	5000.00
8	Part Nursery cost of raising 3000 seedlings per ha (including 20% casualty replacement) in polygons of size 12.50 X 25.00 cm (wages Rs 11.90 and M & S Rs 3.62 per plant	105.14	54134.48	9651.84	63786.32	0.00	0.00	0.00
	TOTAL :-	321.04	165297.08	198127.44	363424.52	111162.59	188475.60	299638.19
9	Contingency 3%		4958.91	5942.82	10902.74	3334.88	5654.27	8989.15
10	Labour welfare (Medi &water) 4%		6611.88	7925.10	14536.98	4446.50	7553.02	11985.53
	TOTAL :-		176867.87	211996.36	388864.23	118943.97	201668.89	320612.87
	SAY AS TOTAL :-				388864			320613.00

उपपरिक्षेत्र अधिकारी

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उपपरिक्षेत्र अधिकारी

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कार्यालय [illegible] क्र. 46 दि. 25/10/23

[illegible]

[illegible]

Gohivane

म. सहायक वनसंरक्षक

[illegible]

Thane Forest Division, Thane

RATE STRUCTURE FOR COMPENSATORY AFFORESTATION ON WORKS IN ZONE II & III HEAVY RAIN FALL AREA (2500 PLANTS/Ha.)

Village - Wahuli , R.F. S.No.52 Beat Wahuli Round Wadape TALUKA BHIWANDI DIST THANE

DAILY WAGES RATE 514.88 Area :- 1.0000 HECTARE

Sr. No.	Particulars of works	Mandays	Wages	Materia. supply	Total	Wages	Material supply	Total
	First Year Operation							
1	Purchasing of 2500 + 20% Mortality 500 3000 Medicinal plants as per Market Rate and Availibily	L S	L S	L S	1500000.00	L S	L S	1500000.00
2	Refilling of pits by good quality soil including application of single super phosphate (1.88 MD per 100 pits)	41.50	21367.52	1200.00	22567.52	21367.52	1200.00	22567.52
3	Transportation of 3,000 seedlings for nursery to plantation site including loading and unloading (0.14 M.D. per 100 seedlings and MS Rs 1.82 per seedlings)	4.20	2162.50	5460.00	7622.50	2162.50	5460.00	7622.50
4	Planting of 2500 seedlings (1.1 M.D. per 100 seedlings)	27.50	14159.20	0.00	14159.20	14159.20	0.00	14159.20
5	3 seedlings (1Rnd Circular) and 2 soil workings (4.00 M.D. per 100 seedlings) fertilizer application Rs 0.82 per seedlings)	87.50	45052.00	2050.00	47102.00	45052.00	2050.00	47102.00
6	Watering the plants Month in Nov Dec 1 time and in Jan To March 2 Times as Per per Plant 5 litre	59.25	30505.64	122400.99	152907.63	30505.64	122400.99	152907.63
7	Casualty Replacement 20% 500 seedling per ha. 2 MD per 100 seedlings)	10.00	5148.80	0.00	5148.80	5148.80	0.00	5148.80
8	Part Nursery cost for casualty replacement in SYO 1500 Seedlings Per Ha) (wages Rs. 11.90 and material supply Rs 3.62 total Rs. 12.55 per seedling)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Watch and ward (30 months - 1 watcher per 1.00 ha) Plantation	30.00	514.88	0.00	15446.40	514.88	0.00	15446.40
10	Fire tracing	2.00	1029.76	0.00	1029.76	1029.76	0.00	1029.76
	TOTAL :-	**261.95**	**119941.30**	**131110.99**	**1765983.81**	**119941.30**	**131110.99**	**1765983.81**
11	Contingency 3%		3598.24	3933.33	52979.51	3598.24	3933.33	52979.51

12	Labour welfare (Misc. Sector) 4%	4707.65	5244.44	10042.09	4787.65	5244.44	70638.35
	TOTAL :-	128337.19	140288.76	1829005.41	128337.19	140288.76	1889602.67
	SAY AS TOTAL :-			1829005			1889603.00

वनपरिक्षेत्र अधिकारी

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तांत्रिक मान्यता क्र. १८ दि. १६/१०/24

[illegible]

मा. सहायक वनसंरक्षक

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मा. सहायक वनसंरक्षक

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Thane Forest Division, Thane

RATE STRUCTURE FOR COMPENSATORY AFFORESTATION ON WORKS IN ZONE II & III HEAVY RAIN FALL AREA (2500 PLANTS/Ha)

Village - Wahuli , P.F. S No.52 Beat Wahuli Round Wadapa TALUKA BHIWANDI DIST THANE

DAILY WAGES RATE 514.88 Area :- 1.0000 HECTARE

Sr. No.	Particulars of works	Mandays	Wages	Material supply	Total	Wages	Material supply	Total
	Second Year Operation							
1	Purchasing of 20% Mortality 500 Medicinal plants as per Market Rate and Availiblity	0.00	0.00	0.00	300000.00	0.00	0.00	300000.00
2	Transportation of 272 seedlings for casualty replacement from Nursery to planting site (including loading and unloading) wages 0.14 MD per 100 Seedlings & M/S Rs 1.82 per seedling	0.00	0.00	914.00	914.00	0.00	914.00	914.00
3	Painting for Casualty replacement 500 seedlings (2.00 MD per 100 seedlings)	10.00	5148.80	0.00	5148.80	514.88	0.00	514.88
4	Two weeding and 1 soil working with fertilizer applicationat 2.5 MD per 100 seedlings MS Rs 0.82 per seedling	52.50	32180.00	2050.00	34230.00	514.88	2050.00	2564.88
5	Watering the plants Month of Nov,Dec jan and june 1 time and in feb To May 2 Times as Per per Plant 5 litre	200.00	102976.00	61244.37	164220.37	200.00	61244.37	61444.37
6	Watch and ward (12 months 1 watcher per 1.00 ha). Plantation	36.50	514.88	0.00	18793.12	514.88	0.00	18793.12
7	Fire tracing	2.00	1029.76	0.00	1029.76	1029.76	0.00	1029.76
	TOTAL :-	311.00	141849.44	84208.37	544336.05	2774.40	64208.37	405261.01
8	Contingency 3%		4255.49	2526.25	10330.05	83.23	2526.25	12157.83
9	Labour welfare (Medi &water) 4%		5673.99	2268.33	9042.31	112.98	3366.33	10210.44
	TOTAL :-		151778.90	90102.96	569708.44	2358.61	90102.96	433529.28
	SAY AS TOTAL :-				569708			433529.00

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वनपरिक्षेत्र अधिकारी
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Thane Forest Division, Thane

RATE STRUCTURE FOR COMPENSATORY AFFORESTATION ON WORKS IN ZONE II & III HEAVY RAIN FALL AREA (2500 PLANTS/Ha.)

Village - Wahuli . P.F. S.No.52 Beat Wahuli Round Wadapa TALUKA BHIWANDI DIST THANE

DAILY WAGES RATE 514.88 Area :- 1.0000 HECTARE

Sr. No.	Particulars of works	Mandays	Wages	Material supply	Total	Wages	Material supply	Total
	Third Year Operation							
1	I weeding and I soil working (1.50 MD per 100 seedlings) applying fertilizer @ Rs 0.82 per plant	37.50	19308.00	0.00	19308.00	19308.00	0.00	19308.00
2	Watering the plants Month in Nov.Dec Jan and june 1 time and in feb To May 2 Times as Per per Plant 5 litre	100.09	51534.34	40661.56	92195.90	51534.34	40661.56	92195.90
3	Watch and ward (12 months 1 watcher per 1.00 ha) Plantation	26.50	514.88	0.00	13793.12	0.00	0.00	13793.12
4	counting of survival percentage Grid wise and Species wise and to Note the same on register in May and October	2.00	1029.76	25.00	1054.76	1029.76	25.00	1054.76
5	Fire tracing	2.00	1029.76	0.00	1029.76	1029.76	0.00	1029.76
	TOTAL :-	178.09	73416.74	40686.56	132381.54	72901.86	40686.56	132381.54
6	Contingency 3%		2202.50	1220.60	3971.45	2187.06	1220.60	3971.45
7	Labour welfare (Medi &water) 4%		2936.67	1627.46	4564.13	2916.07	1627.46	5295.26
	TOTAL :-		79555.91	43534.62	140917.12	78004.99	43534.62	141648.25
	SAY AS TOTAL :-				140917			141648.00

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Thane Forest Division, Thane

RATE STRUCTURE FOR COMPENSATORY AFFORESTATION ON WORKS IN ZONE II & III HEAVY RAIN FALL AREA (2500 PLANTS/Ha)

Village - Wahuli . P.F. S.No.52 Beat Wahuli Round Wadapa TALUKA BHIWANDI DIST THANE

DAILY WAGES RATE 514.88

Area :- 1.0000 HECTARE

Sr. No.	Particulars of works	Mandays	Wages	Material supply	Total	Wages	Material supply	Total
	Fourth Year Operation							
1	Watch and ward (12 months - 1 watcher per 1.00 ha) Plantation	36.50	514.88	0.00	18793.12	0.00	0.00	18793.12
3	counting of survival percentage Grid wise and Species wise and to Note the same on register in May and October	2.00	1029.76	25.00	1054.76	1029.76	25.00	1054.76
2	Fire tracing	2.00	1029.76	0.00	1029.76	1029.76	0.00	1029.76
	TOTAL :-	40.50	2574.40	25.00	20877.64	2059.52	25.00	20877.64
3	Contingency 3%		77.23	0.75	626.33	61.79	0.75	626.33
4	Labour welfare (Medi &water) 4%		102.98	1.00	103.98	82.38	1.00	835.11
	TOTAL :-		2754.61	26.75	21607.95	2203.69	26.75	22339.07
	SAY AS TOTAL :-				21608			22339.00

वनपरिक्षेत्र अधिकारी
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भिवंडी

Thane Forest Division, Thane

RATE STRUCTURE FOR COMPENSATORY AFFORESTATION ON WORKS IN ZONE II & III HEAVY RAIN FALL AREA (2500 PLANTS/Ha.)

Village - Wahuli , P.F. S.No.52 Beat Wahuli Round Wadapa TALUKA BHIWANDI DIST THANE

DAILY WAGES RATE 514.86

Area :- 1.0000 HECTARE

Sr. No.	Particulars of works	Mandays	Wages	Material supply	Total	Wages	Material supply	Total
	Fifth Year Operation							
1	Watch and ward (12 months 1 watcher per 1.00 ha) Plantation	36.50	514.89	0.00	18793.12	514.88	0.00	18793.12
2	counting of survival percentage Grid wise and Species wise and to Note the same on register in May and October	2.00	1029.75	25.00	1054.70	1029.75	25.00	1054.76
3	Fire tracing	2.00	1029.76	0.00	1029.76	1029.76	0.00	1029.76
	TOTAL :-	40.50	2574.40	25.00	20877.64	2574.40	25.00	20877.64
3	Contingency 3%		77.23	0.75	626.33	77.23	0.75	626.32
4	Labour welfare (Med: & water) 4%		102.98	1.00	103.98	102.98	1.00	835.11
	TOTAL :-		2754.61	26.75	21607.95	2754.61	26.75	22339.07
	SAY AS TOTAL :-				21608			22339.00

वनपरिक्षेत्र अधिकारी
पडघा

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वनपरिक्षेत्र अधिकारी
पडघा

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भिवंडी

Thane Forest Division, Thane

RATE STRUCTURE FOR COMPENSATORY AFFORESTATION ON WORKS IN ZONE II & III HEAVY RAIN FALL AREA (2500 PLANTS/Ha.)

Village - Wahuli , P.F S No.52 Beat Wahuli Round Wadapa TALUKA BHIWANDI DIST THANE

DAILY WAGES RATE 514.88 Area :- 1.0000 HECTARE

Sr No.	Particulars of works	Mandays	Wages	Material supply	Total	Wages	Material supply	Total
	Sixth Year Operation							
1	Watch and ward (12 months - 1 watcher per 1.50 ha) Plantation	35.50	514.88	0.00	18793.12	514.88	0.00	18733.12
2	counting of survival percentage Grid wise and Species wise and to Note the same on register in May and October	2.00	1029.76	25.00	1054.76	1029.76	25.00	1054.76
3	Fire tracing	2.00	1029.76	0.00	1029.76	0.00	0.00	1029.76
	TOTAL :-	40.50	2574.40	25.00	20877.64	1544.64	25.00	20877.64
3	Contingency 3%		77.23	0.75	626.33	46.34	0.75	626.33
4	Labour welfare (Medi &water) 4%		102.98	1.00	103.98	61.79	1.00	835.11
	TOTAL :-		2754.61	26.75	21607.95	1652.76	26.75	22339.07
	SAY AS TOTAL :-				21608:			22339.00

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भिवंडी

Thane Forest Division, Thane

RATE STRUCTURE FOR COMPENSATORY AFFORESTATION ON WORKS IN ZONE II & III HEAVY RAIN FALL AREA (2500 PLANTS/Ha.)

Village - Wahuli , P F. S.No.52 Beat Wahuli Round Wadapa TALUKA BHIWANDI DIST THANE

DAILY WAGES RATE 514.88 Area :- 1.0000 HECTARE

Sr. No.	Particulars of works	Mandays	Wages	Material supply	Total	Wages	Material supply	Total
	Seventh Year Operation							
1	Watch and ward (12 months - 1 watcher per 1.00 ha). Plantation	36.50	514.88	0.00	18793.12	514.88	0.00	18793.12
2	counting of survival percentage Grid wise and Species wise and to Note the same on register in May and October	2.00	1029.76	25.00	1054.76	1029.76	25.00	1054.76
3	Fire tracing	2.00	1029.76	0.00	1029.76	1029.76	0.00	1029.76
	TOTAL :-	40.50	2574.40	25.00	20877.64	2574.40	25.00	20877.64
3	Contingancy 3%		77.23	0.75	626.33	77.23	0.75	626.33
4	Labour welfare (Med. Sweter) 4%		102.98	1.00	103.98	102.98	1.00	835.11
	TOTAL :-		2754.61	26.75	21607.95	2754.61	26.75	22339.07
	SAY AS TOTAL :-				21608			22339.00

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पडघा

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भिवंडी

Thane Forest Division, Thane

RATE STRUCTURE FOR COMPENSATORY AFFORESTATION ON WORKS IN ZONE II & III HEAVY RAIN FALL AREA (2500 PLANTS Ha.)

Village - Wahuli , P.F. S.No.52 Beat Wahuli Round Wadape TALUKA BHIWANDI DIST THANE

DAILY WAGES RATE 514.88

Area :- 1.0000 HECTARE

Sr. No.	Particulars of works	Mandays	Wages	Material supply	Total	Wages	Material supply	Total
	Eight Year Operation							
1	Watch and ward (12 months - 1 watcher per 1.00 het. Plantation	36.50	514.88	0.00	18793.12	514.88	0.00	18793.12
2	counting of survival percentage Grid wise and Species wise and to Note the same on register in May and October	2.00	1029.76	25.00	1054.76	1029.76	25.00	1054.76
3	Fire tracing	2.00	1029.76	0.00	1029.76	1029.76	0.00	1029.76
	TOTAL :-	40.50	2574.40	25.00	20877.64	2574.40	25.00	20877.64
3	Contingency 3%		77.23	0.75	626.33	77.23	0.75	626.33
4	Labour wellare (Medi &water) 4%		102.98	1.00	103.98	102.98	1.00	835.11
	TOTAL :-		2754.61	26.75	21607.95	2754.61	26.75	22339.07
	SAY AS TOTAL :-				21608			22339.00

वनपरिक्षेत्र अधिकारी
पडघा

अंदाजपत्रक क्रमांक ८९ दि. १६/०८/२४
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वनपरिक्षेत्र अधिकारी
पडघा

छाननी क्रमांक ८२ दि. १३/१०/२४
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स. सहायक वनसंरक्षक
भिवंडी

Thane Forest Division, Thane

RATE STRUCTURE FOR COMPENSATORY AFFORESTATION ON WORKS IN ZONE II & III HEAVY RAIN FALL AREA (2500 PLANTS/Ha.)

Village - Wahuli , P.F. S.No 52 Beat Wahuli Round Wadapa TALUKA BHIWANDI DIST THANE

DAILY WAGES RATE 514.88 Area :- 1.0000 HECTARE

Sr. No.	Particulars of works	Mandays	Wages	Materia supply	Total	Wages	Material supply	Total
	Ninth Year Operation							
1	Watch and ward (12 months - 1 watcher per 1.00 ha). Plantation	36.50	514.88	0.00	18793.12	514.88	0.00	18793.12
2	counting of survival percentage Grid wise and Species wise and to Note the same on register in May and October	2.00	1029.76	25.00	1054.76	1029.76	25.00	1054.76
3	Fire tracing	2.00	1029.76	0.00	1029.76	1029.76	0.00	1029.76
	TOTAL :-	40.50	2574.40	25.00	20877.64	2574.40	25.00	20877.64
4	Contingency 3%		77.23	0.75	526.33	77.23	0.75	626.33
5	Labour welfare (Med- &water) 4%		102.96	1.00	103.90	102.93	1.00	835.11
	TOTAL :-		2754.61	26.75	21607.95	2754.61	26.75	22339.07
	SAY AS TOTAL :-				21608			22339.00

वनपरिक्षेत्र अधिकारी

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वनपरिक्षेत्र अधिकारी

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भिवंडी

Thane Forest Division, Thane

RATE STRUCTURE FOR COMPENSATORY AFFORESTATION ON WORKS IN ZONE II & III HEAVY RAIN FALL AREA (2500 PLANTS/Ha.)

Village - Wahuli , P.F. S.No.52 Beat Wahuli Round Wadapa TALUKA BHIWANDI DIST THANE

DAILY WAGES RATE 514.88 Area :- 1.0000 HECTARE

Sr. No.	Particulars of works	Mandays	Wages	Material supply	Total	Wages	Material supply	Total
	Tenth Year Operation							
1	Watch and ward (12 months - 1 watcher per 1.00 Ha). Plantation	36.50	514.88	0.00	18793.12	514.88	0.00	18793.12
2	counting of survival percentage Grid wise and Species wise and to Note the same on register in May and October	2.00	1029.76	25.00	1054.76	1029.76	25.00	1054.76
3	Fire tracing	2.00	1029.76	0.00	1029.76	1029.76	0.00	1029.76
	TOTAL :-	40.50	2574.40	25.00	20877.64	2574.40	25.00	20877.64
4	Contingency 3%		77.23	0.75	626.33	77.23	0.75	626.33
5	Labour welfare (Medi &water) 4%		102.98	1.00	103.98	102.98	1.00	835.11
	TOTAL :-		2754.61	26.75	21607.95	2754.61	26.75	22339.07
	SAY AS TOTAL :-				21608			22339.00

वनपरिक्षेत्र अधिकारी
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वनपरिक्षेत्र अधिकारी
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भिवंडी

Thane Forest Division, Thane

RATE STRUCTURE FOR COMPENSATORY AFFORESTATION ON WORKS IN ZONE II & III HEAVY RAIN FALL AREA (2500
Village - Wahuli , P.F. S.No.52 Beat Wahuli Round Wadapa TALUKA BHIWANDI DIST THANE

DAILY WAGES RATE 514.88 Area :- 1.0000 HECTARE

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Sr. No.	Particulars of works	Mandays	Wages	Material supply	Total	Wages	Material supply	Total	Assuuming 10 % Amount
1)	PPO - PYO	321.00	176867.87	211996.36	388864	118943.97	201668.89	320613.00	352674.30
2)	First Year Operation	261.95	128337.19	140288.76	1529005	128337.19	140285.73	1889602.67	2078562.94
3)	Second Year Operation	311.00	151776.50	90102.96	569738.44	2968.61	90102.96	433629.28	476992.21
4)	Third Year Operation	178.09	78555.91	43534.62	140917.12	78004.99	43534.62	141646.25	155813.08
5)	Fourth Year Operation	40.50	2754.61	26.75	21607.95	2203.69	26.75	22339.07	24572.98
6)	Fith Year Operation	40.50	2754.61	26.75	21607.95	2203.69	26.75	22339.07	24572.98
7)	Sixth Year Operation	40.50	2754.61	26.75	21607.95	2203.69	26.75	22339.07	24572.98
8)	Seventh Year Operation	40.50	2754.61	26.75	21607.95	2203.69	26.75	22339.07	24572.98
9)	Eight Year Operation	40.50	2754.61	26.75	21607.95	2203.69	26.75	22339.07	24572.98
10)	Nine Year Operation	40.50	2754.61	26.75	21607.95	2203.69	26.75	22339.07	24572.98
11)	Tenth Year Operation	40.50	2754.51	26.75	21607.95	2203.69	26.75	22339.07	24572.98
	Total :-	1355.54	554822.14	486109.95	3079750.65	343660.59	475782.48	2941866.69	3236053.36

(Ramesh Kisan Rasal)
Range Forest Office
Padgha (P)

Annexure-VI(D)

Raising of drawf medicinal plants over 1.0000 Ha. out of 1.8300 Ha.degraded forest area at Village Vahuli, Taluka Bhivandi, District Thane.
Diversion of 12.0225 Ha. Forest Land in favour of EHV Project Division Maharashtra State Electricity Transmission Company Ltd. Kalyan For Construction of Laying of 220kv Lilo M/C Transmission Line on 220kv Padghe Wada & Kolshet Wada Transmission line for 400kv Kudus Sub Station passing through Thane District in the State of Maharashtra

Geo Digital Map	01/01

Village - Vahuli
Taluka - Bhiwandi
District - Thane
Scale - 1:5000

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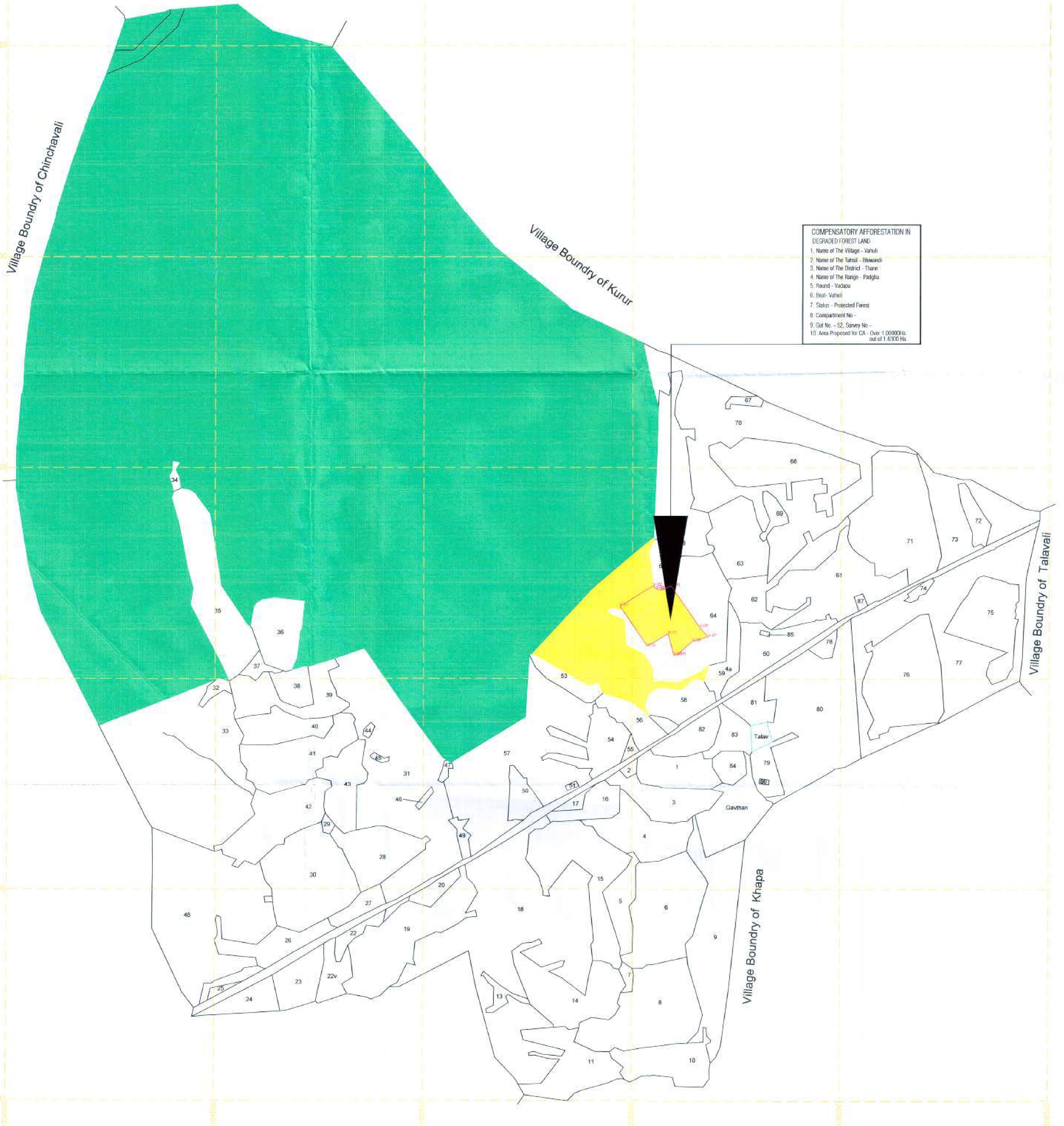


COMPENSATORY AFFORESTATION IN
DEGRADED FOREST LAND
1. Name of The Village - Vahuli
2. Name of The Tahsil - Bhiwandi
3. Name of The District - Thane
4. Name of The Range - Padgha
5. Round - Vadapa
6. Beat- Vahuli
7. Status - Protected Forest
8. Compartment No -
9. Gut No. - 52, Survey No -
10. Area Proposed for CA - Over 1.00000Ha.
out of 1.8300 Ha.

MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.
Construction of Laying of 220kv Lilo M/C Transmission Line on 220kv Padghe Wada & Kolshet Wada Transmission line for 400kv Kudus Sub Station
Forest Co Ordinates

Sr no	X	Y	LATITUDE	LONGITUDE	Point ID	Remarks
1	305470.85	2141170.94	19° 21' 18.6686" N	73° 08' 52.9012" E	V-01	
2	305550.21	2141221.11	19° 21' 20.3278" N	73° 08' 55.0018" E	V-02	
3	305556.49	2141213.91	19° 21' 20.0958" N	73° 08' 55.8197" E	V-03	
4	305566.27	2141210.44	19° 21' 19.9871" N	73° 08' 56.2245" E	V-04	
5	305593.49	2141220.27	19° 21' 20.3155" N	73° 08' 57.0850" E	V-05	
6	305661.14	2141123.31	19° 21' 17.1860" N	73° 08' 59.4379" E	V-06	
7	305681.87	2141099.89	19° 21' 16.4316" N	73° 09' 00.1567" E	V-07	
8	305643.87	2141089.15	19° 21' 16.0693" N	73° 08' 58.8590" E	V-08	
9	305608.03	2141057.30	19° 21' 15.0212" N	73° 08' 57.6429" E	V-09	
10	305599.45	2141056.82	19° 21' 15.0024" N	73° 08' 57.3490" E	V-10	
11	305586.07	2141107.19	19° 21' 16.6359" N	73° 08' 56.8721" E	V-11	
12	305535.75	2141077.59	19° 21' 15.6557" N	73° 08' 55.1591" E	V-12	

INDEX

COMPENSATORY AFFORESTATION IN
DEGRADED FOREST LAND
1. Name of The Village - Vahuli
2. Name of The Tahsil - Bhiwandi
3. Name of The District - Thane
4. Name of The Range - Padgha
5. Round - Vadapa
6. Beat- Vahuli
7. Status - Protected Forest
8. Compartment No -
9. Gut No. - 52, Survey No -
10. Area Proposed for CA - Over 1.0000Ha.
out of 1.8300 Ha.

Raising of drawf medicinal plants over 1.0000 Ha. out of 1.8300 Ha.degraded forest area at Village Vahuli, Taluka Bhivandi, District Thane.

Diversion of 12.0225 Ha. Forest Land in favour of EHV Project Division Maharashtra State Electricity Transmission Company Ltd. Kalyan For Construction of Laying of 220kv Lilo M/C Transmission Line on 220kv Padghe Wada & Kolshet Wada Transmission line for 400kv Kudus Sub Station passing through Thane District in the State of Maharashtra

Legend

Proposed Forest Area	☐
Reserve Forest	🟩
Protected Forest	🟨

Maharashtra State Electricity Transmission Company Ltd.

Diversion of 12.0225 Ha. Forest Land in favour of EHV Project Division Maharashtra State Electricity Transmission Company Ltd. Kalyan For Construction of Laying of 220kv Lilo M/C Transmission Line on 220kv Padghe Wada & Kolshet Wada Transmission line for 400kv Kudus Sub Station passing through Thane District in the State of Maharashtra

Geo Digital Map - Vahuli
Scale - 1:5000

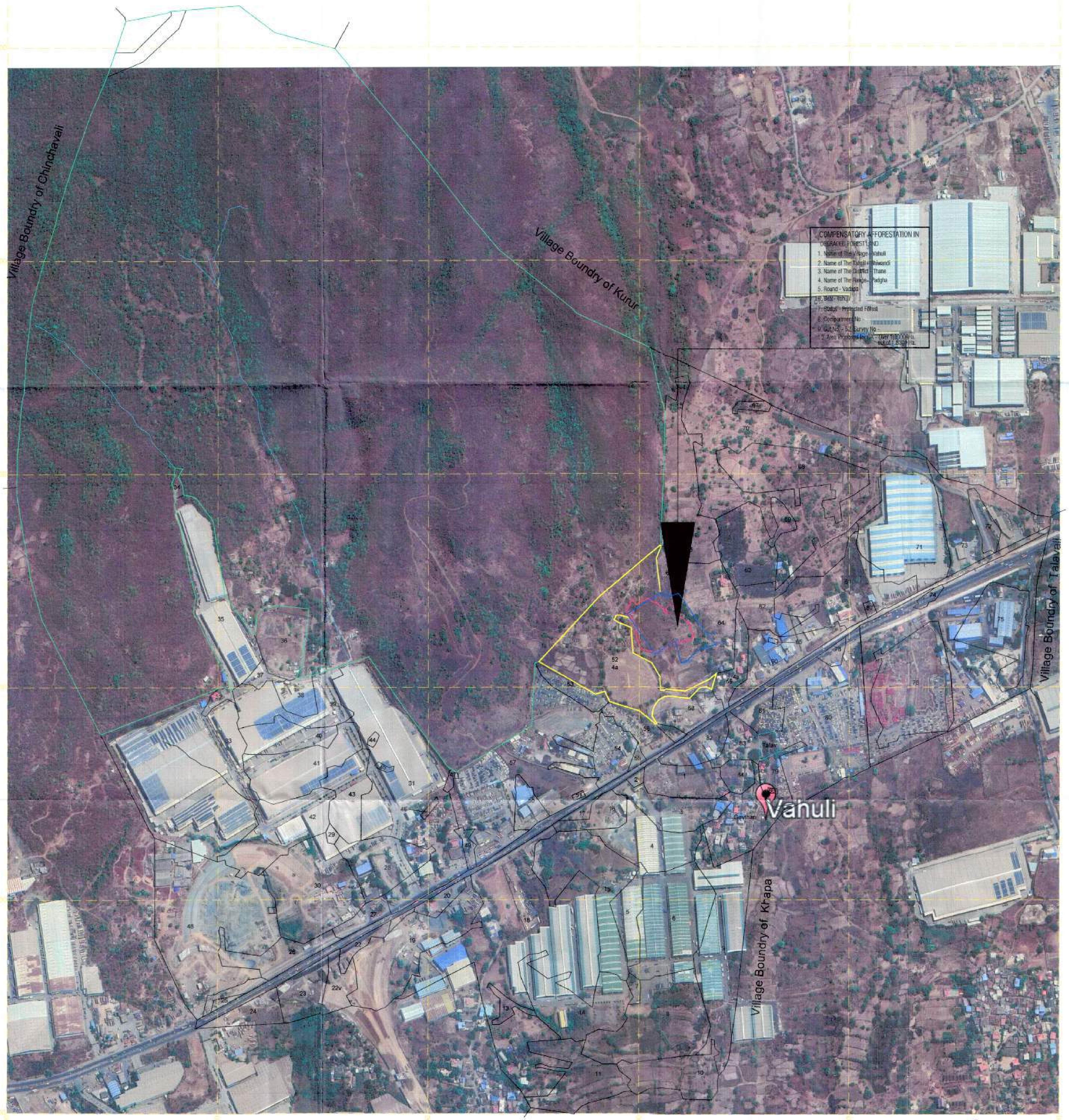
RFO Padgha

Cshiwme
रक्षक
(... - ठाणे)

Deputy Conservator of Forests
Thane Forest Division, Thane

Annexure-VI/E

Raising of drawf medicinal plants over 1.0000 Ha. out of 1.8300 Ha.degraded forest area at Village Vahuli, Taluka Bhivandi, District Thane.
Diversion of 12.0225 Ha. Forest Land in favour of EHV Project Division Maharashtra State Electricity Transmission Company Ltd. Kalyan For Construction of Laying of 220kv Lilo M/C Transmission Line on 220kv Padghe Wada & Kolshet Wada Transmission line for 400kv Kudus Sub Station passing through Thane District in the State of Maharashtra


Village Boundry of Chinchavali
Village Boundry of Kurur
Village Boundry of Talavali
Village Boundry of Khapa
Vahuli
COMPENSATORY AFFORESTATION IN
DEGRADED FOREST LAND
1. Name of The Village - Vahuli
2. Name of The Tahsil - Bhiwandi
3. Name of The District - Thane
4. Name of The Range - Padgha
5. Round - Vadapa
6. Beat - Vahuli
7. Status - Protected Forest
8. Compartment No -
9. Gut No. - 52, Survey No -
10. Area Proposed for CA - Over 1.0000Ha. out of 1.8300 Ha.
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Google Map	01/01

Village - Vahuli
Taluka - Bhiwandi
District - Thane
Scale - 1:5000

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MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.

Construction of Laying of 220kv Lilo M/C Transmission Line on 220kv Padghe Wada & Kolshet Wada Transmission line for 400kv Kudus Sub Station

Forest Co Ordinates

Sr no	X	Y	LATITUDE	LONGITUDE	Point ID	Remarks
1	305470.85	2141170.94	19° 21' 18.6686" N	73° 08' 52.9012" E	V-01	
2	305550.21	2141221.11	19° 21' 20.3278" N	73° 08' 55.6018" E	V-02	
3	305556.49	2141213.91	19° 21' 20.0958" N	73° 08' 55.8197" E	V-03	
4	305568.27	2141210.44	19° 21' 19.9871" N	73° 08' 56.2243" E	V-04	
5	305593.49	2141220.27	19° 21' 20.3155" N	73° 08' 57.0850" E	V-05	
6	305661.14	2141123.31	19° 21' 17.1860" N	73° 08' 59.4379" E	V-06	
7	305681.87	2141099.89	19° 21' 16.4316" N	73° 09' 00.1567" E	V-07	
8	305643.87	2141089.15	19° 21' 16.0693" N	73° 08' 58.8590" E	V-08	
9	305608.03	2141057.30	19° 21' 15.0212" N	73° 08' 57.6429" E	V-09	
10	305599.45	2141056.82	19° 21' 15.0024" N	73° 08' 57.3490" E	V-10	
11	305586.07	2141107.19	19° 21' 16.6359" N	73° 08' 56.8771" E	V-11	
12	305535.75	2141077.59	19° 21' 15.6557" N	73° 08' 55.1591" E	V-12	

INDEX

COMPENSATORY AFFORESTATION IN
DEGRADED FOREST LAND
1. Name of The Village - Vahuli
2. Name of The Tahsil - Bhiwandi
3. Name of The District - Thane
4. Name of The Range - Padgha
5. Round - Vadapa
6. Beat - Vahuli
7. Status - Protected Forest
8. Compartment No -
9. Gut No. - 52, Survey No -
10. Area Proposed for CA - Over 1.0000Ha. out of 1.8300 Ha.

Raising of drawf medicinal plants over 1.0000 Ha. out of 1.8300 Ha.degraded forest area at Village Vahuli, Taluka Bhivandi, District Thane.

Diversion of 12.0225 Ha. Forest Land in favour of EHV Project Division Maharashtra State Electricity Transmission Company Ltd. Kalyan For Construction of Laying of 220kv Lilo M/C Transmission Line on 220kv Padghe Wada & Kolshet Wada Transmission line for 400kv Kudus Sub Station passing through Thane District in the State of Maharashtra

Legend

Proposed Forest Area	▭
Reserve Forest	🟩
Protected Forest	🟨

Maharashtra State Electricity Transmission Company Ltd.

Diversion of 12.0225 Ha. Forest Land in favour of EHV Project Division Maharashtra State Electricity Transmission Company Ltd. Kalyan For Construction of Laying of 220kv Lilo M/C Transmission Line on 220kv Padghe Wada & Kolshet Wada Transmission line for 400kv Kudus Sub Station passing through Thane District in the State of Maharashtra

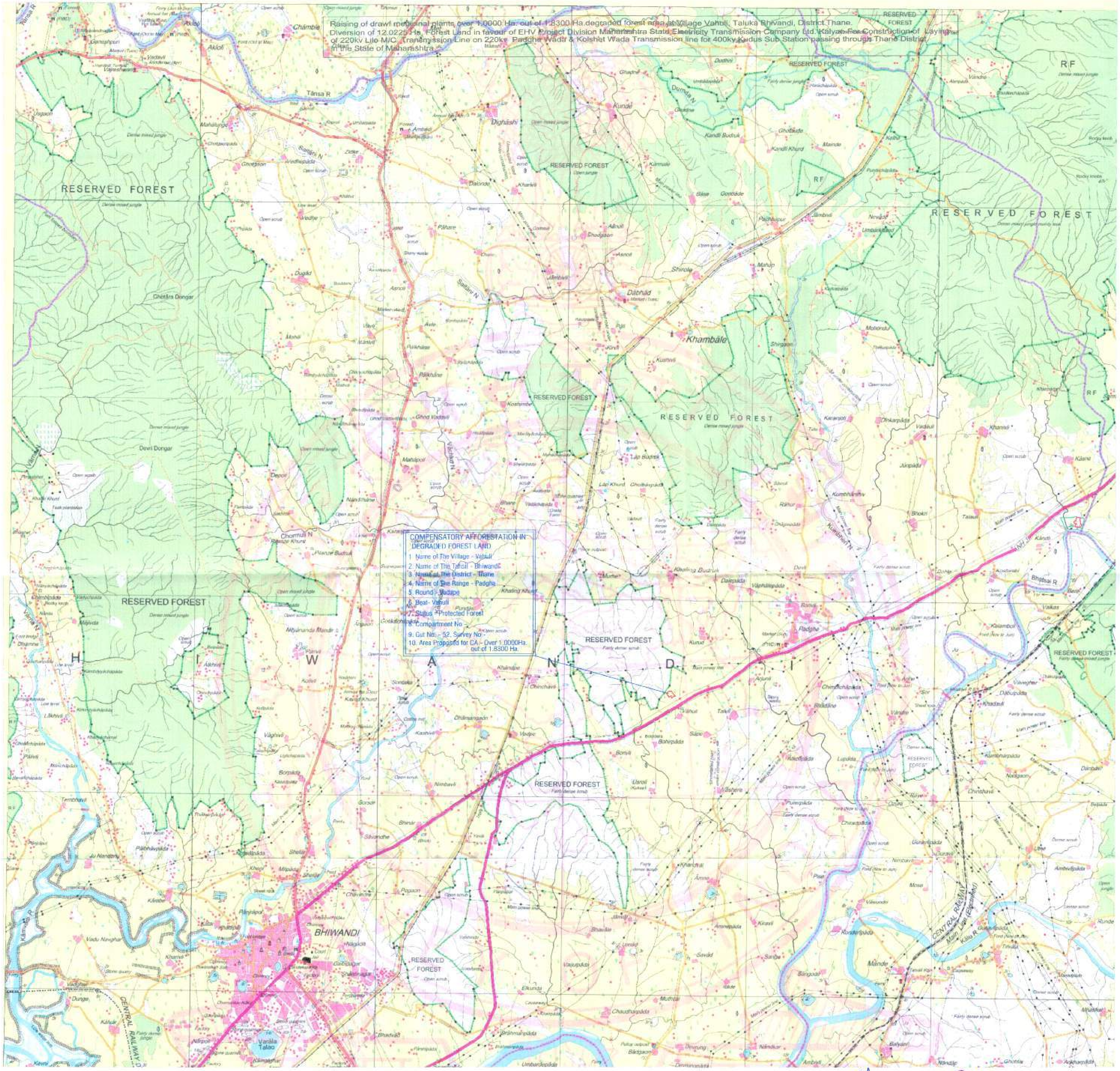
Google Map - Vahuli
Scale - 1:5000

RFO Padgha

Gohirame
सहा. वनसंरक्षक
भिवंडी (मुख्यालय - ठाणे)

Deputy Conservator of Forests
Thane Forest Division, Thane

Annexure -VI/E


Raising of drawf medicinal plants over 1.0000 Ha. out of 1.8300 Ha.degraded forest area at Village Vahuli, Taluka Bhivandi, District Thane.
Diversion of 12.0225 Ha. Forest Land in favour of EHV Project Division Maharashtra State Electricity Transmission Company Ltd. Kalyan For Construction of Laying of 220kv Lilo M/C Transmission Line on 220kv Padghe Wada & Kolshet Wada Transmission line for 400kv Kudus Sub Station passing through Thane District in the State of Maharashtra
COMPENSATORY AFFORESTATION IN DEGRADED FOREST LAND
1. Name of The Village - Vahuli
2. Name of The Tahsil - Bhiwandi
3. Name of The District - Thane
4. Name of The Range - Padgha
5. Round - Vadape
6. Beat - Vahuli
7. Status - Protected Forest
8. Compartment No -
9. Gut No. - 52, Survey No -
10. Area Proposed for CA - Over 1.0000Ha. out of 1.8300 Ha.
RESERVED FOREST
RF
Tansa R
Chambie
Akloli
Dighashi
Kunde
Dudhni
Dumda N
Kandli Budruk
Kandli Khurd
Maide
Ghotgaon
Ambadi
Dabhad
Shirole
Khambale
Padghe
Khatiwali
Bhatsai R
Chetara Dongar
Devli Dongar
Anjurli
Vahuli
Bhiwandi
Varala Talao
Kamwari R
CENTRAL RAILWAY
Kalu R
Balyani
Nandip
B H I W A N D I

Route Map

SHEET No. 1 OF 1

Construction of Laying of 220kv Lilo M/C Transmission Line on 220kv Padghe Wada & Kolshet Wada Transmission line for 400kv Kudus Sub Station

N
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TOPOSHIT INDEX

47E/3

INDEX

COMPENSATORY AFFORESTATION IN
DEGRADED FOREST LAND
1. Name of The Village - Vahuli
2. Name of The Tahsil - Bhiwandi
3. Name of The District - Thane
4. Name of The Range - Padgha
5. Round - Vadpa
6. Beat- Vahuli
7. Status - Protected Forest
8. Compartment No -
9. Gut No. - 52, Survey No -
10. Area Proposed for CA - Over 1.0000Ha. out of 1.8300 Ha.

Raising of drawf medicinal plants over 1.0000 Ha. out of 1.8300 Ha.degraded forest area at Village Vahuli, Taluka Bhivandi, District Thane.

Diversion of 12.0225 Ha. Forest Land in favour of EHV Project Division Maharashtra State Electricity Transmission Company Ltd. Kalyan For Construction of Laying of 220kv Lilo M/C Transmission Line on 220kv Padghe Wada & Kolshet Wada Transmission line for 400kv Kudus Sub Station passing through Thane District in the State of Maharashtra

Legend

Proposed Forest Area	▭
Reserve Forest	🟩
Protected Forest	🟨

Maharashtra State Electricity Transmission Company Ltd.

Diversion of 12.0225 Ha. Forest Land in favour of EHV Project Division Maharashtra State Electricity Transmission Company Ltd. Kalyan For Construction of Laying of 220kv Lilo M/C Transmission Line on 220kv Padghe Wada & Kolshet Wada Transmission line for 400kv Kudus Sub Station passing through Thane District in the State of Maharashtra

Route Map - Vahuli
Scale - 1:50000

Deputy Conservator of Forests
Thane Forest Division, Thane

RFO Padgha

Gaikwad
सहा. वनसंरक्षक
भिवंडी (मुख्यालय - ठाणे)

Annex-XI-3

CERTIFICATE

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashtra.

Ref:- Regional office Nagpur vide letter no. F No.FC-II/MH-201/2022-NGP/14610 Dated - 29.08.2025.

Condition No.6

This is to certify that the undersigned has inspected the area proposed area 1.00 ha. degraded forest land proposed for medicinal plants of forest Survey no 52 village Vahuli tal. Bhiwandi Dist.Thane in lieu of construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashtra. The proposed degraded forest land for raising dwarf medicinal plants is suitable and free from encroachment.

RANGE FOREST OFFICER
PADGHA

सहा. वनसंरक्षक
भिवंडी [illegible] ठाणे

Counter Sign by

Deputy Conservator of Forests
Thane Forest Division, Thane

Annexure - VII

CERTIFICATE

Diversion of 12.0225 Ha. forest land in favor of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashtra.

Ref:-Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610 Dated - 29.08.2025.

Condition No. 7

With reference to above, we the project authority hereby agreed and deposited total Rs.3,67,43,499/- in Ad-HOC CAMPA A/C no. 150786448241315 Union bank of India IFSC Code UBIN0996335 Bengaluru through RTGS vide UTR No. SBIN525302291106 Dated 29.10.2025. Which included Rs.1,34,27,930/- Towards the cost of NPV.

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.
Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Projects Dn. Kalyan

PLACE:- Kalyan.
DATE :- 31 / 10 /2025

Annexure - VIII/A

UNDERTAKING

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashtra.

Ref:-Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610
Dated - 29.08.2025.

Condition No. 7

With reference to above, we the project authority, do hereby undertake and agrees to pay the cost of the Net Present Value of the State Government shall charge the Net Present Value of the diverted forest land measuring **12.0225 ha.** from the User Agency, as per the orders of the Hon'ble Supreme Court dated 28.03.2008 and 09.05.2008 in IA Nos. 826 in 566 with related IA's in Writ Petition (Civil) No.202/1995 and Ministry's guideline

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

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

PLACE:- Kalyan.
DATE :- 31/10/2025

Annexure - VII /B

AGENCY COPY

यूनियन बैंक Union Bank

NEFT / RTGS CHALLAN for CAMPA Funds

Date : 28-10-2025

Agency Name.	MAHATRANSCO
Application No.	6448241315
MoEF/SG File No.	FC-II/MH-201-2022-NGP
Location.	MAHARASHTRA
Address.	O/O THE EXECUTIVE ENGINEER, MSETCL, EHV CONSTRUCTION DIVISION, KALYANThane
Amount(In Rs)	36743499/-

Amount in Words :Three Crore Sixty Seven Lakh Forty-Three Thousand Four Hundred and Ninety-Nine Rupees Only

NEFT/RTGS to be made as per following details;

Beneficiary Name:	MAHARASHTRA CAMPA
IFSC Code:	UBIN0990335
Pay to Account No.	150786448241315 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India FCS Centre,21/1. III Floor. Jellita Towers, Mission Road, Bengaluru-560027

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

BANK COPY

यूनियन बैंक Union Bank

NEFT / RTGS CHALLAN for CAMPA Funds

Date : 28-10-2025

Agency Name.	MAHATRANSCO
Application No.	6448241315
MoEF/SG File No.	FC-II/MH-201-2022-NGP
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Address:	O/O THE EXECUTIVE ENGINEER, MSETCL, EHV CONSTRUCTION DIVISION, KALYAN Thane
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Beneficiary Name:	MAHARASHTRA CAMPA
IFSC Code	UBIN0990335
Pay to Account No.	150786448241315 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India FCS Centre, 21/1, III Floor, Jellita Towers, Mission Road, Bengaluru-560027

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

Note:After making the required payment through challan. if the payment status has not been updated even after 7 working days, then kindly mail a copy of your challan with transaction date and reference id to Email: fcsbln@unionbankofindia.bank , epurse@unionbankofindia.bank, ubin0903710@unionbankofindia.bank

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

Annexure · VII /C

Account Statement from 29 Oct 2025 to 29 Oct 2025

Txn Date	Value Date	Description	Ref No./Cheque No.	Branch Code	Debit
29/10/2025	29/10/2025	TO DEBIT THROUGH CHEQUE-SBI 001219FOR MAHARASHTRA CAMPA-804057	/ 804057	399	1,00,00,000.00
29/10/2025	29/10/2025	TO DEBIT THROUGH CHEQUE-SBI 001219FOR MAHARASHTRA CAMPA-804058	/ 804058	399	1,00,00,000.00
29/10/2025	29/10/2025	TO DEBIT THROUGH CHEQUE-SBI 001219FOR MAHARASHTRA CAMPA-804059	/ 804059	399	1,00,00,000.00
29/10/2025	29/10/2025	TO DEBIT THROUGH CHEQUE-SBI 001219FOR MAHARASHTRA CAMPA-804060	/ 804060	399	67,43,545.20
29/10/2025	29/10/2025	CHQ TRANSFER-CHEQUE TRANSFER TO-804056	/ 804056	399	4,75,718.00
29/10/2025	29/10/2025	TO CLEARING-Chq 804048 Sess 3 BHOIR BALU DAMU 0000219000-804048	/ 804048	5076	22,440.00
29/10/2025	29/10/2025	TO TRANSFER-INB NEFT UTR NO: SBIN525302217102-Vilas Padu Patil	NEFT INB: CNAEQDLZG1 TRANSFER TO 4698138044302 / Vilas Padu Patil	99922	51,444.00
29/10/2025	29/10/2025	TO TRANSFER-INB NEFT UTR NO: SBIN525302215404-Dhananjay Maruti Kadam	NEFT INB: CNAEQDLXH5 TRANSFER TO 4698149044309 / Dhananjay Maruti Kadam	99922	21,744.00
29/10/2025	29/10/2025	TO TRANSFER-INB TI Balance Sachin Palkar-	CT00WIRWE0 TRANSFER TO 61012081668 Mr. SACHIN SITARAM PA /	99922	366.00

UTR No · SBIN52530229I106

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

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Annexure - VIII

CERTIFICATE

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashtra.

Ref:-Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610 Dated - 29.08.2025.

Condition No. 8

With reference to above, we the project authority hereby agreed and deposited total Rs.3,67,43,499/- in Ad-HOC CAMPA A/C no. 150786448241315 Union bank of India IFSC Code UBIN0996335 Bengaluru through RTGS vide UTR No. SBIN525302291106 Dated 29.10.2025.Which included Rs.2,33,939/- Towards the cost of Penal NPV.

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

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

PLACE:- **Kalyan.**
DATE :- 31/10/2025

Annexure - VIII/A

UNDERTAKING

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashtra.

Ref:-Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610 Dated - 29.08.2025.

Condition No. 8

With reference to above, we the project authority, do hereby undertake and agrees to the State Government to realize 5 times the penal NPV over an extent of forest area reported to be under violation.

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

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

PLACE:- Kalyan.
DATE :- 31 / 10 /2025

Annexure - VIII / 6

AGENCY COPY

यूनियन बैंक Union Bank of India

NEFT / RTGS CHALLAN for CAMPA Funds

Date : 28-10-2025

Agency Name.	MAHATRANSCO
Application No.	6448241315
MoEF/SG File No.	FC-II/MH-201-2022-NGP
Location.	MAHARASHTRA
Address.	O/O THE EXECUTIVE ENGINEER, MSETCL. EHV CONSTRUCTION DIVISION, KALYANThane
Amount(in Rs)	36743499/-

Amount in Words : Three Crore Sixty-Seven Lakh Forty-Three Thousand Four Hundred and Ninety-Nine Rupees Only

NEFT/RTGS to be made as per following details;

Beneficiary Name:	MAHARASHTRA CAMPA
IFSC Code:	UBIN0998336
Pay to Account No.	150786448241315 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India FCS Centre.21/1, III Floor. Jelitta Towers. Mission Road, Bengaluru-560027

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

BANK COPY

यूनियन बैंक Union Bank of India

NEFT / RTGS CHALLAN for CAMPA Funds

Date : 28-10-2025

Agency Name.	MAHATRANSCO
Application No.	6448241315
MoEF/SG File No.	FC-II/MH-201-2022-NGP
Location.	MAHARASHTRA
Address:	O/O THE EXECUTIVE ENGINEER, MSETCL. EHV CONSTRUCTION DIVISION, KALYAN Thane
Amount(in Rs)	36743499/-

Amount in Words Three Crore Sixty-Seven Lakh Forty-Three Thousand Four Hundred and Ninety-Nine Rupees Only

NEFT/RTGS to be made as per following details;

Beneficiary Name.	MAHARASHTRA CAMPA
IFSC Code	UBIN0996335
Pay to Account No.	150786448241315 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India FCS Centre, 21/1, III Floor, Jelitta Towers, Mission Road, Bengaluru-560027

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

Note: After making the required payment through challan, if the payment status has not been updated even after 7 working days, then kindly mail a copy of your challan with transaction date and reference id to Email: fcsbln@unionbankofindia.bank , epurse@unionbankofindia.bank, ubin0903710@unionbankofindia.bank

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

Annexure - VIII / C

Account Statement from 29 Oct 2025 to 29 Oct 2025

Txn Date	Value Date	Description	Ref No./Cheque No.	Branch Code	Debit
29/10/2025	29/10/2025	TO DEBIT THROUGH CHEQUE-SBI 001219FOR MAHARASHTRA CAMPA-804057	/ 804057	399	1,00,00,000.00
29/10/2025	29/10/2025	TO DEBIT THROUGH CHEQUE-SBI 001219FOR MAHARASHTRA CAMPA-804058	/ 804058	399	1,00,00,000.00
29/10/2025	29/10/2025	TO DEBIT THROUGH CHEQUE-SBI 001219FOR MAHARASHTRA CAMPA-804059	/ 804059	399	1,00,00,000.00
29/10/2025	29/10/2025	TO DEBIT THROUGH CHEQUE-SBI 001219FOR MAHARASHTRA CAMPA-804060	/ 804060	399	67,43,546.20
29/10/2025	29/10/2025	CHQ TRANSFER-CHEQUE TRANSFER TO-804056	/ 804056	399	4,75,718.00
29/10/2025	29/10/2025	TO CLEARING-Chq 804048 Sess 3 BHOIR BALU DAMU 0000219000-804048	/ 804048	5076	22,440.00
29/10/2025	29/10/2025	TO TRANSFER-INB NEFT UTR NO: SBIN525302217102-Vilas Padu Patil	NEFT INB: CNAEQOLZG1 TRANSFER TO 4698138044302 / Vilas Padu Patil	99922	51,444.00
29/10/2025	29/10/2025	TO TRANSFER-INB NEFT UTR NO: SBIN525302215404-Dhananjay Maruti Kadam	NEFT INB: CNAEQDLXH5 TRANSFER TO 4698149044309 / Dhananjay Maruti Kadam	99922	21,744.00
29/10/2025	29/10/2025	TO TRANSFER-INB TI Balance Sachin Palkar-	CT00WIRWE0 TRANSFER TO 61012081668 Mr. SACHIN SITARAM PA /	99922	366.00

UTR No. SBIN 525302291106

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

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Annexure - IX

Diversion of 12.0225 Ha Forest Land in favour of EHV Project Division, Kalyan for Construction and laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe Wada & Kolshet Wada Tr.line for 400 KV Kudus Sub Station passing through Village Eksal, Chichavali, Kunde, & Dighashi Taluka Bhiwandi District Thane in the State of Maharashtra.

Condition No. 9

UNDERTAKING

We hereby agreed and undertake that, we will ensure to submit detailed report periodically and appraise the case status without fail. The Case Status is attached herewith as Annexure - IX/A.

Place : Thane

Date : 4/11/2025

(Sachin Repal)

Deputy Conservator of Forests

Thane Forest Division Thane

Annexure -IX-A

Case Status : Search by Case Number

This form needs JavaScript activated to work.

- Case Number
- FIR Number
- Party Name
- Advocate Name
- Case Code
- Act
- Case Type

All fields marked with * are required

Please select radio button

Court Complex   Court Establishment

Court Complex *
Select Court Complex
Case Type
--Select--
Case Number *
Type Case Number
Year *
Type year
Please Enter the Captcha *
Audio
Refresh
Enter Captcha C
Search   Reset

Civil court Junior Devison , Bhiwandi

Serial Number	Case Type/Case Number/Case Year	Petitioner versus Respondent	View
1	S.C.C./11510/2025	State - Ganeshpuri Police Staion Versus Tushar Waxade	View

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Civil and Criminal Court, Bhiwandi

Case Details

Case Type	Filing Number	Filing Date	Registration Number	Registration Date	CNR Number
S.C.C. - Summons Summary Criminal Case	12347/2025	06-05-2025	11510/2025	06-05-2025	MHTH140128952025

Case Status

First Hearing Date	Next Hearing Date	Case Status	Stage of Case	Court Number and Judge
05 June 2025	10-November-2025	Pending	Awaiting Summons	11-2nd Jt.Civil Judge J.D. J.M.F.C. Bhiwandi

Petitioner and Advocate

- 1 State - Ganeshpuri Police Station

  Advocate - App

Respondent and Advocate

- 1) Tushar Warule
- 2) Bharat Changule
- 3) Appasaheb Devba Rupnakhe
- 4) Vijay Aware
- 5) Anil Sapkal

Acts

Under Act(s)	Under Section(s)
Indian Forest Act	30, 32, 33(1)(c)

Case History

Registration Number	Judge	Business On Date	Hearing Date	Purpose of hearing
1151/2025	3rd Jt Civil Judge J.D. J.M.F.C. Bhiwandi	05-06-2025	29-07-2025	First Order
1151/2025	3rd Jt Civil Judge J.D. J.M.F.C. Bhiwandi	29-07-2025	21-08-2025	Awaiting Summons
1151/2025	2nd Jt Civil Judge J.D. J.M.F.C. Bhiwandi	21-08-2025	10-12-2025	Awaiting Summons

Case Transfer Details within Establishment

Registration Number	Transfer Date	From Court Number and Judge	To Court Number and Judge
1151/2025	19-08-2025	3 - 3rd Jt Civil Judge J.D. J.M.F.C. Bhiwandi	11 - 2nd Jt Civil Judge J.D. J.M.F.C. Bhiwandi

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Annexure -IX-B

UNDERTAKING

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashtra.

Ref:- Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610
Dated - 29.08.2025.

Condition No. 9

With reference to above, we the project authority, do hereby agrees and undertake and agrees that, the State Government has reported that, the concerned DFO has already filled case under 3A 3B under VSSA, 1980 in the jurisdictional court. Hence, the State Government shall ensure to submit detailed report periodically to this office and apprise the case status without fail.

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

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

PLACE:- Kalyan.
DATE :- 31/10/2025

[illegible]
[illegible]
ई-मेल - dcfthane@gmail.com
dycfthane@mahaforest.gov.in

महाराष्ट्र शासन
वनविभाग
उप वनसंरक्षक ठाणे वनविभाग ठाणे यांचे कार्यालय
[illegible] ठाणे - [illegible]

जा.क्र. [illegible] 2025-26 दिनांक - [illegible]/07/2025

प्रति,
मुख्य वनसंरक्षक (प्रा.)
ठाणे

विषय : Diversion of 12.0225 Ha Forest Land in favour of EHV Project Division Kalyan for Construction and laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe Wada & Kolshet Wada Tr line for 400 KV Kudus Sub Station passing through Village [illegible], Chinchavali, Kunde, & Dighashi Taluka Bhiwandi District Thane in the State of Maharashtra.

संदर्भ :
1. केंद्र शासन पत्र क्र. [illegible] MH-201 2022-NGP 13854 दि. [illegible] 2024
2. [illegible] पत्र क्र. [illegible] दि. [illegible] 2025
3. [illegible] पत्र क्र. [illegible] दि. [illegible] 2025
4. [illegible] दि. [illegible] 07 2025
5. [illegible] MSETCL [illegible] EHV PDN KLN T[illegible] दि. 21.07.2025

[illegible] Diversion of 12.0225 Ha Forest Land in favour of EHV Project Division Kalyan for Construction and laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe Wada & Kolshet Wada Tr line for 400 KV Kudus Sub Station passing through Village [illegible] Chinchavali, Kunde, & Dighashi Taluka Bhiwandi District Thane [illegible]

[illegible]

महाराष्ट्र शासनाकडील पत्र क्र. FLD-2025/CR.107/F-10 दि. 23.06.2025 अन्वये [illegible] [illegible] [illegible] [illegible] सिडको यांचे [illegible] शाखा क्र. SSC 11510.2025 [illegible] [illegible] [illegible] [illegible] [illegible] अनुपालन अभिलेख / दस्तऐवज [illegible] [illegible] आले [illegible] Parivesh 2.0 [illegible] [illegible] [illegible] [illegible] [illegible] मुख्य वनसंरक्षक व नोडल अधिकारी, म.रा. नागपूर यांनी [illegible] [illegible] [illegible] [illegible] अभिप्राय [illegible] ऑनलाईन सादर करणेबाबत कळविले आहे.

[illegible] प्रकरणी [illegible] संदर्भिय पत्र क्र. 3 अन्वये महाराष्ट्र शासनाने [illegible] [illegible] [illegible] या प्रकरणी [illegible] सिडको यांचे कार्यालयाला [illegible] [illegible] [illegible] क्र. SSC [illegible] [illegible] [illegible] आलेले अनुपालन अभिलेख / दस्तऐवज [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

संदर्भित अभिलेख Parivesh 2.0 वर Upload करण्यात [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] सादर [illegible] [illegible]

सहपत्र : [illegible]

उप वनसंरक्षक
ठाणे वनविभाग, ठाणे

प्रतिलिपी : कार्यकारी अभियंता [illegible] सिडको [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

महाराष्ट्र शासन
वनविभाग
उप वनसंरक्षक ठाणे वनविभाग ठाणे यांचे कार्यालय
[illegible]

[illegible] 2025-26

विषय : [illegible]

संदर्भ : [illegible] 2022 [illegible]
[illegible]
[illegible] 2024

[illegible] Diversion of [illegible] Land [illegible] Project [illegible] Transmission Line [illegible] 220 KV [illegible] & [illegible] [illegible] & [illegible] [illegible]

[illegible]

उप वनसंरक्षक
ठाणे वनविभाग, ठाणे

प्रति
[illegible]

[Logo]
Telephone No. 02225421373,
25454540
E-mail - [illegible].com
dcfthane@mahaforest.gov.in

[Govt. Emblem]
Government of Maharashtra
Forest Department

Office of The Deputy Conservator of Forest, Thane Forest Division, Thane
Marathon Circle, Lal Bahadur Shastri Road, Naupada, Thane - 400602

Letter O. No. Kaksha-13/B Mojani/FCA/132/2025-25 Date - 07/02/2025

Subject : About filing complaint in the court of Hon'ble Judicial Magistrate First Class, Bhiwandi

Reference :
1. Letter of Central Government bearing No. FC-II/MH-30/2022-CHD/1279 Date 01/07/2024
2. Letter bearing No. Desk-17/37/PID 48243/Thane/4894, dated 06/07/2024 issued from the Senior Principal Chief Conservator of Forests and General Officer, Maharashtra, Nagpur
3. Letter bearing No. Kaksha-10/ VaSam/PraKra.39/22-23/4 1573 Dated 24/08/2024 issued by the Chief Conservator of Forests, (T), Thane

As violation of forest laws has been caused in the proposal for 'Diversion of 12.0223 Ha of forest land in favor of EHV Project Division, Kalyan for construction and laying of 220 KV LILO 2 [illegible] Transmission Line on 220 KV Padghe Wada & [illegible] [illegible] to 400 KV Kudus Sub Station passing through Village Bisai, Chichavali, Nandore & [illegible], Taluka Bhiwandi District Thane filed under the Forest (Conservation) Act seeking forest land, copy of complaint is being attested and forwarded herewith.

In this regard, the Forest Ranger, Padgha is being informed that the said complaint should be filed in the court of Hon'ble Judicial Magistrate First Class, Bhiwandi and a report regarding the same be submitted to the undersigned.

Enclosures – As above

Sd/-
Sachin Repal
Deputy Conservator of Forests
Thane Forest Division, Thane

To
Forest Ranger, Padgha

Sd/- received [illegible] (read not legible)

Sd/-
[illegible] R. Parkhapur
17/02/2025

Translated by
Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
Appointed at Sr. No. [illegible] of the Panel constituted by the Government of Maharashtra vide a GR No. Marathi-[illegible] dated [illegible] 2022
Language Pair: Marathi & English

TRUE TRANSLATION

MR. RAJESH SIDRAM DASA
[illegible], Flat No. [illegible], Paramount Gardens, Katraj-Kondhwa Road, [illegible], Katraj, Pune - 411046
Mobile No. [illegible] Email: [illegible]@gmail.com

[illegible]

वन विभाग

[illegible]

[illegible] 2024-25 [illegible]

विषय : [illegible] of 17.9205 ha. Forest Land in favour of [illegible] for construction and laying of 220 K.V. [illegible] MW [illegible] 220 KV [illegible] & Kachat Wadi [illegible] sub station [illegible] district Maharashtra.

संदर्भ : [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

सीकर [illegible]

([illegible])
[illegible]
([illegible])

[[illegible] Seal]

[Logo]

Telephone No. [illegible]
[illegible]49
E-mail [illegible]@gmail.com

[Govt. Emblem]
Satyamev Jayate
Government of Maharashtra
Forest Department
Office of the Assistant Conservator of Forests, Bhiwandi (Headquarters - Thane)
Marathon Circle, Lal Bahadur Shastri Road, [illegible], Thane [illegible]

Letter O. No. A / AVS/ Bhiwandi / 725 Year 2024 - 25 Date - 31st March 2025

To

Deputy Conservator of Forests, Thane

Subject: Diversion of 12.9125 Ha. Forest Land in favour of HEV Project Division Kalyan for construction and laying of 220 KV [illegible] M/C Transmission Line on 220 KV Padgha Wada & Kelshet Wada [illegible] Line for 400 KV Kudus sub station passing through village Bhal., Chandivali, Kopade & Dighashi Tal. Bhiwandi in the state of Maharashtra

Reference:

1. Letter of Deputy Conservator of Forests Thane bearing No. Kaksha-22/ Mojani/FCA/5559, Dt. 23/02/2025
2. Letter of the Forest Ranger, Padgha bearing No. [illegible] 695, Dt. 04/03/2025
3. Letter of this office bearing No. [illegible]/UpaV[illegible] [illegible] Dt. 10/03/2025
4. Letter of Forest Ranger Padgha bearing No. [illegible]/675 Dt. 04.03.2025
5. Letter of Executive Engineer, M.S.E.T.C.L. H.V.P. Project Division, Kalyan bearing No. AE/DaPra Vi./Kalyan/Tantrik/01225 Dt. [illegible]
6. Letter of Executive Engineer, M.S.E.T.C.L. H.V.P. Project Division, Kalyan bearing No. AE/DaPra.Vi./Kalyan/Tantrik/01392 Dt. [illegible]
7. Letter of Forest Range Surveyor, Thane Forest Division, Thane bearing No. 92 Dt. 24/03/2025
8. File of the case presented by the project system under the Forest Conservation Act, 1980

With reference to the above-mentioned subject, the case filed in court by the Forester Dighashi has been transferred to the undersigned vide a letter referred at Sr. No. 1 mentioned hereinabove and authorized for further court proceedings.

The Forester, Dighashi has filed a case in court. It is numbered as R.C.C. No. 7002/2024 and the next date for hearing scheduled on 14/07/2025.

It has been directed that the charge sheet and other documents filed by the Forester Dighashi in the court be studied and take action as per the provisions of the Forest (Conservation and Preservation) Act, 1980 and submit a report thereof immediately. Vide Reference No. 4, the Forester, Dighashi has filed the case in court on behalf of Forest Range Officer, Padgha. The

Translated by
Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
Appointed at Sr. No. [illegible] Panel constituted by the Government of Maharashtra vide [illegible]
[illegible] Dated [illegible] March [illegible]
Language Pair - Marathi <-> English

TRUE TRANSLATION

MR. RAJESH SIDRAM DASA
Add : Flat No. 501, Paramount Gardens, Katraj-Kondhwa Road, Gokulnagar, Katraj, Pune - 411048
Mobile No. [illegible] Email [illegible]@gmail.com

documents sought vide Reference No. 3 are submitted by The Executive Engineer vide Reference No. 3. As per the above referred documents and your verbal instructions, a draft complaint has been prepared and the same is being humbly submitted herewith for further action.

Enclosed - Draft complaint and documents

Sd/-

(Amol Chirame)
Asst. Conservator of Forest Bhiwandi
(Headquarter - Thane)

तक्रारपत्र

मा. प्रथम वर्ग न्यायदंडाधिकारी भिवंडी यांचे न्यायालयात ता. भिवंडी

केस क्र :

दिनांक :

उप वनसंरक्षक वन विभाग ठाणे

विरुद्ध

अ. क्र.	आरोपींचे नाव	पदनाम
1	श्री. तुषार ढमके	तत्कालीन उप कार्यकारी अभियंता, [illegible] प्रकल्प उपविभाग कल्याण.
2	श्री. भरत [illegible]	तत्कालीन अतिरिक्त [illegible] अभियंता [illegible] उपविभाग कल्याण
3	श्री. [illegible]	तत्कालीन कार्यकारी अभियंता, [illegible] प्रकल्प, विभाग कल्याण
4	श्री. विजय [illegible]	तत्कालीन कार्यकारी अभियंता, [illegible] प्रकल्प विभाग कल्याण
5	श्री. [illegible]	[illegible] प्रा. लि. 302, [illegible], पुणे

अपराधाचे कलम: -

भारतीय वन अधिनियम 1927 चे कलम 30, 32, 33 (1a, 1c), व वन संवर्धन अधिनियम 1980 चे कलम 2, 3A, 3B

अपराधाचे ठिकाण –

[illegible] 54 मधील सर्वे नं 37 व मौजे [illegible] 213 मधील सर्वे नं 35

फौजदारी प्रक्रिया संहिता चे कलम 190 (1), 200 नुसार फिर्याद/ भारतीय नागरिक सुरक्षा संहिता 2023 चे कलम 210 व 223 नुसार फिर्याद

फिर्यादीची फिर्याद येणेप्रमाणे .

1. अधिसूचना क्र. 1555 B नुसार मौजे दिघशी स.क्र. 211 व पैकी [illegible] स.क्र. 54 चे संरक्षित वन झालेले असून त्यास भारतीय वन अधिनियम 1927 च्या तरतुदी लागू होतात.

2. दिनांक 28/02/2024 रोजी वन परिक्षेत्र अधिकारी पडघा यांनी कार्यकारी अभियंता यांना मौजे दिघशी संरक्षित वन स. क्र. 211 मध्ये मनोरा क्र. 38 व मौजे [illegible] संरक्षित वन स. क्र. 54 क्षेत्रामध्ये मनोरा क्र. 37 चे काम वन विभागाची कोणतीही परवानगी न घेता केल्याचे निदर्शनास आल्याने संबंधित त्या अधिकारी/कर्मचारी यांना [illegible] करणेबाबत त्यांना चौकशी कामी वन परिक्षेत्र कार्यालय पडघा येथे उपस्थित राहणे बाबत कळविले होते. त्यानुसार कार्यकारी अभियंता (नोडल) आणि [illegible] विभाग कल्याण यांनी श्री सुनिल [illegible], अतिरिक्त कार्यकारी अभियंता व श्री मिलिंद [illegible], अतिरिक्त कार्यकारी अभियंता हे अधिकारी उपस्थित राहतील असे [illegible] वन परिक्षेत्र अधिकारी पडघा यांना कळविले होते.

3. दिनांक 04/03/2024 रोजी वन परिक्षेत्र अधिकारी पडघा यांनी श्री मिलिंद व [illegible], अति. कार्यकारी अभियंता यांचा जबाब नोंदविला. श्री मिलिंद व [illegible] यांनी आपल्या जबाबात, 7/12 उतारा व नकाशाची स्थिती पाहून अनवधानाने वनक्षेत्र जमीन नाही असे समजून, मनोऱ्याचे काम [illegible] वनक्षेत्रात [illegible] असे कळविले होते.

4. दिनांक 15/03/2021 रोजी वन परिमंडळ अधिकारी दिघाशी व वन कर्मचाऱ्यांसमवेत फिरती करत असताना, मौजे कुंडे गावच्या संरक्षित वन स. क्र. 54 मध्ये दिलेली 220kV पडघा नाशिक विद्युत वाहिनी मधील मनोरा क्र. 37 चे वनविभागाच्या जागेत अतिक्रमण करून [illegible] मनोरा उभारला असल्याने भारतीय वन अधिनियम 1927 चे कलम 33, 33 व वन संवर्धन अधिनियम 1980 चे कलम 2 चा अंतर्गत श्री मिलिंद द. जाधव अति. का. अ. (एचा) [illegible] अ. उ. दा. प्रकल्प (महापारेषण) यांच्याविरुद्ध वन परिमंडळ अधिकारी दिघाशी यांनी वन अपराधाचे प्राथमिक प्रतिवृत्त नोंदविले असून, त्याचा परिमंडळ अपराध क्र. 30/3/2020-21 आहे.

5. दिनांक 19/03/2021 रोजी वन परिमंडळ अधिकारी दिघाशी व वन कर्मचाऱ्यांसमवेत फिरती करत असताना मौजे वाडशी/दिघाशी गावच्या संरक्षित वन स. क्र. 218 मध्ये दिलेली 220 kV पडघा नाशिक विद्युत वाहिनी मधील मनोरा क्र. 38 चे वनविभागाच्या जागेत अतिक्रमण करून [illegible] मनोरा उभारला असल्याने भारतीय वन अधिनियम 1927 चे कलम [illegible] व वन संवर्धन अधिनियम 1980 चे कलम 2 चा अंतर्गत श्री मिलिंद द. जाधव, अति. का. अ. (स्थाप) बा. नी. अ. उ. दा. प्रकल्प (महापारेषण) यांच्याविरुद्ध वन परिमंडळ अधिकारी दिघाशी यांनी वन अपराधाचे प्राथमिक प्रतिवृत्त नोंदविले असून, त्याचा परिमंडळ अपराध क्र. 31/3/2020-21 आहे.

6. दिनांक 31/3/2021 रोजी वन परिमंडळ अधिकारी यांनी श्री मिलिंद द जाधव, अति. कार्यकारी अभियंता, स्थापत्य, स. म. नि. कल्याण यांच्या उपस्थितीत अतिक्रमण करून उभारलेल्या मनोरा क्र 37 व 38 चे घटनास्थळ पंचनामा नोंदविला होता.

7. मौजे कुंद गावच्या संरक्षित वन स. क्र. 54 मध्ये गेलेले 220kV पडघा वाडा विद्युत वाहिनी मधील मनोरा क्र. 37 चे पायाकाम (foundation casting) दिनांक 21/06/2018 रोजी सुरु करून दिनांक 11/05/2018 रोजी पूर्ण झाले होते व दिनांक 05/11/2019 रोजी मनोरा उभारण्याचे (tower erection) काम पूर्ण झाले होते.

8. [illegible] गावच्या संरक्षित वन स. क्र. 211 मध्ये गेलेले 220 kV पडघा वाडा विद्युत वाहिनी मधील मनोरा क्र 38 चे पायाकाम (foundation casting) दिनांक [illegible]/04/2018 रोजी सुरु करून दिनांक 27/04/2018 रोजी पूर्ण झाले होते व दिनांक 20/01/2020 रोजी मनोरा उभारण्याचे (tower erection) काम पूर्ण झाले होते.

9. सदर 220kV पडघा- वाडा विद्युत वाहिनी मधील मनोरा क्र. 37 व 38 चे अतिक्रमण हे मे. चौगुले पॉवर प्रोजेक्ट लि. 305, तिसरा मजला, मंत्री अल्पाईन, किसन दास शिरोळे मार्ग, कोथरूड, पुणे या कंत्राटदाराने निविदेच्या अनुषंगाने केले होते. परंतु निविदेचा करारनामा हा श्री. [illegible], अधीक्षक अभियंता, [illegible] &M MSETCL, वांद्रे पूर्व, मुंबई व श्री राजेश चौधरी, संचालक, मे. चौगुले पॉवर प्रोजेक्ट लि. 305, तिसरा मजला, मंत्री अल्पाईन, किसन दास शिरोळे मार्ग, कोथरूड, पुणे यांच्यात स्वाक्षरीत झाला होता.

10. मनोरा क्र. 37 व 38 चे बांधकाम करणेपूर्वी प्रकल्प यंत्रणेद्वारे वन संवर्धन अधिनियम 1980 अंतर्गत वनविभागाची परवानगी घेतली नाही. मनोरा क्र. 37 व 38 चे बांधकाम होण्यास जबाबदार अधिकारी, श्री [illegible], तत्कालीन अति. कार्यकारी अभियंता, अति उच्च दाब प्रकल्प [illegible] कल्याण, (कालावधी 13/06/2017 ते 11/07/2018) श्री [illegible], तत्कालीन अतिरिक्त कार्यकारी अभियंता, [illegible], उपविभाग कल्याण (28/07/2018 ते 24/02/2021), श्री अण्णासाहेब देवन्ना [illegible], तत्कालीन कार्यकारी अभियंता, अति उच्च दाब प्रकल्प, विभाग कल्याण, (कालावधी 27/04/2018 ते 02/05/2018), श्री [illegible], तत्कालीन कार्यकारी अभियंता, अति उच्च दाब प्रकल्प, विभाग कल्याण, (कालावधी 28/05/2018 ते 24/02/2021), श्री [illegible], अधीक्षक अभियंता, [illegible] [illegible] श्री [illegible], तत्कालीन मुख्य अभियंता, [illegible] MSETCL [illegible], मुंबई हे आहेत.

11. मनोरा क्र. 37 व 38 चे बांधकामास जबाबदार कंत्राटदार हे श्री. अनिल सपकाळ, [illegible], मे. [illegible] लि. [illegible] व श्री [illegible] चौधरी, [illegible] प्रा. लि. [illegible] जबाबदार आहेत.

12. वन संवर्धन अधिनियम 1980 अंतर्गत प्रकल्प यंत्रणेद्वारे प्रस्ताव सादर [illegible] होऊन, त्याचे [illegible] वनविभागाकडे [illegible] केले होते.

13. [illegible] 220kV [illegible] [illegible] [illegible] [illegible] जबाबदार अधिकारी [illegible] [illegible].

[illegible]

[illegible]

[illegible]

1. [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]
[illegible]

[illegible] कार्यकारिणी [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible]/2020-21 व 31/[illegible]/2020-21 [illegible] [illegible]

[illegible]

अ. क्र.	नाव	वय	[illegible]	पत्ता
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]
[illegible]

मा. प्रथम वर्ग न्यायदंडाधिकारी भिवंडी यांचे न्यायालयात ला भिवंडी परिमंडळ दिघाशी गुन्हा क्र 29/ई/2020-21 व 30/ई/2020-21 मधील फेरिस्त

(कागदपत्रांची यादी)

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उप जिल्हाधिकारी
[illegible] उपविभाग कल्याण

Complaint Letter

In the Court of Hon'ble Judicial Magistrate First Class, Bhiwandi, Bhiwandi Taluka.

Case No.

Date

Deputy Conservator of Forests, Forest Department, Thane

Versus

Sr. No.	Name of Accused	Designation
1	Mr. Tushar Varule	Then Additional Executive Engineer, Extra High Voltage Project Sub Division Kalyan
2	Mr. Sharat Chougule	Then Additional Executive Engineer, Special Team Sub-Division Kalyan
3.	Mr. Appasaheb Deviba Kugtakke	Then Executive Engineer, Extra High Voltage Project, Division Kalyan
4	Mr. Vijay Aaware	Then Executive Engineer, Extra High Voltage Project, Division Kalyan
5	Mr. Atul Sapakal	Supervisor, M/s. BNC Power Project Ltd., 303, Third Floor, Mantri Alpine, Behind Crystal Honda Showroom, Bavdhan, Pune

Sections of offence:

Sections 30, 32, 33 (1) (j) of the Indian Forest Act, 1927 and Sections 2, 3A, 3B of the Forest Conservation Act, 1980

Place of offence:

Tower No. 37 in S. No. 54 Reserve Forest of village Mouje Kunde within Dighashi Circle and Tower No. 35, in S. No. 115 Reserve Forest of village Mouje Dighashi

Translated by
Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
[illegible]
[illegible]
[illegible]
Language Pair: [illegible] ⇄ English

TRUE TRANSLATION

MR. RAJESH SIDRAM DASA
Add: Flat No. 501, Paramount Gardens, Katraj Kondhwa Road, Gokulnagar, Katraj, Pune - 411046
Mobile No.: [illegible] Email: [illegible]

Complaint under Section 190 (1) and 200 of the Criminal Procedure Code / Complaint under Sections 210 and 223 of the Bharatiya Nagarik Suraksha Sanhita, 2023

As the complaint of the Complainant is as under:

1) As per the Notification No. 1535 B, S. No. 211 of Mouje Dighashi and S. No. 54 at Mouje Kande are declared as Reserved Forest and provisions of the Indian Forest Act, 1927 are applicable to those.

2) On 23/02/2021, the Forest Range Officer, Padgha informed the Executive Engineer that, as it came to know that the construction of Tower No. 55 in Reserved Forest at S. No. 211 in Mouje Dighashi and Tower No. 57 in Reserved Forest at S. No. 54 in Mouje Kande was carried out without obtaining any permission from the Forest Department, the officials / employees, in whose period it was effected, were called upon to remain present at Forest Range Office, Padgha for inquiry. Accordingly, the Executive Engineer (Nodal), Extra High Voltage Project, Kalyan Division, informed the Forest Range Officer, Padgha, that Mr. Tushar Varule, Additional Executive Engineer and Mr. Milind D. Jadhav, Additional Executive Engineer will remain present for the inquiry.

3) On 01/03/2021, the Forest Range Officer, Padgha has recorded the statement of Mr. Milind D. Jadhav, Additional Executive Engineer. Mr. Milind D. Jadhav stated in his statement that, based on 7/12 extract and site inspection, they inadvertently considered that it was not a forest land and finalized the location of the tower. He further stated that they don't have any deliberate intention to construct towers in the forest area.

Translated by
Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
[illegible]
[illegible]
[illegible]
Language Pair - Marathi ⇄ English

TRUE TRANSLATION

MR. RAJESH SIDRAM DASA
[illegible] Flat No. 503, [illegible] Gardens, [illegible]
[illegible], Pune - 411046
Mobile No. [illegible] Email: [illegible]@gmail.com

4) On 13/03/2021, while having joint inspection conducted by the Dighashi Forest Division Officer and Forest Staff, it was observed that Tower No. 37 of the LILO 220kV Padgha-Wada Transmission Line had been constructed in S. No. 34, Reserved Forest in Mouje Kunde village by constructing foundation and erect tower by encroaching forest land and therefore, the Forest Circle Officer Dighashi lodged a forest offense report under Sections 32 and 33 of the Indian Forest Act 1927 and under Section 2 of the Forest Conservation Act 1980 against Mr. Milind D. Jadhav, Additional Executive Engineer (Civil) and M/s. E. H. V. Project (Transmission/Mahapareshan). It's Circle Offense number was 32/E/2020 - 21.

5) On 13/03/2021, while having joint inspection conducted by the Dighashi Forest Division Officer and Forest Staff, it was observed that Tower No. 38 of the LILO 220kV Padgha-Wada Transmission Line had been constructed in S. No. 34, Reserved Forest in Mouje Madoshi/Dighashi village by constructing foundation and erect tower by encroaching forest land and therefore, the Forest Circle Officer Dighashi lodged a forest offense report under Sections 32 and 33 of the Indian Forest Act 1927 and under Section 2 of the Forest Conservation Act 1980 against Mr. Milind D. Jadhav, Additional Executive Engineer (Civil) and M/s. E. H. V. Project Transmission/Mahapareshan. It's Circle Offense number was 29/E/2020 - 21.

Translated by
Mr. Rajesh Sidram Dana
A Panel Translator of Govt. of Maharashtra
[illegible]
Language Pair - Marathi & English

TRUE TRANSLATION

MR. RAJESH SIDRAM DANA
Flat No. 501, Paramount Gardens, Balaji-Kondhwa
Road, Gokulnagar, Katraj, Pune - 411046
Mobile No. [illegible] Email [illegible]

6) On 31/05/2021, the Divisional Forest Officer recorded the Spot Panchnama of Tower Nos. 37 and 38, which were erected by causing encroachment in presence of Mr. Milind D. Jadhav, Additional Executive Engineer, Civil, S & T, Kalyan.

7) The foundation casting of Tower No. 37 in the LILO 220kV Padgha-Wada transmission line in Reserved Forest S. No. 14, Mouje Kunde Village started on 27/04/2018 and completed on 11/05/2018. The tower erection work was completed on 5/11/2019.

8) The foundation casting for Tower No. 38 of the LILO 220kV Padgha-Wada transmission line in Reserved Forest S. No. 211, Mouje Dighashi village started on 9/04/2018 and completed on 27/04/2018. The tower erection work was completed on 20/05/2019.

9) The construction of Tower Nos. 37 and 38 of the LILO 220kV Padgha-Wada transmission line was carried out by M/s. BNC Power Projects Ltd., 505, 3rd Floor, Mont Alpine, behind Crystal Honda Showroom, Bandhan, Pune in accordance with the Tender. The Tender Agreement was executed by Mr. Rajendra Gaikwad, then Chief Engineer, DC & M, MSETCL, Bandra East, Mumbai, and Mr. Rajesh Chaudhari, Director, M/s. BNC Power Projects Ltd., 505, 3rd Floor, Mont Alpine, behind Crystal Honda Showroom, Bandhan, Pune.

Translated by
Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
[illegible]
[illegible]
[illegible]
Language Pair – Marathi ⇄ English

TRUE TRANSLATION

MR. RAJESH SIDRAM DASA
[illegible] Flat No. 505, [illegible] Balaji Nagar, Kondhwa
Road, [illegible], Katraj, Pune – 411046
Mobile No. [illegible] Email: [illegible]

10) Before causing constructing of Tower Nos. 37 and 38, the project authorities did not obtain permission of Forest Department under the Forest Conservation Act, 1980. The officials responsible for the construction of Tower Nos. 37 and 38 were Mr. Tushar Warule, Then Additional Executive Engineer, Extra High Voltage Project Sub-Division, Kalyan (Duration 15/06/2017 to 11/02/2018), Mr. Bharat Chougule, Then Additional Executive Engineer, Special Team, Kalyan Sub-Division (25/02/2018 to 24/02/2021), Mr. Appasaheb Devba Rupatlake, Then Executive Engineer, Extra High Voltage Project Division, Kalyan (27/04/2013 to 02/05/2015), Mr. Vijay Awtare, Then Executive Engineer, Extra High Voltage Project Division, Kalyan (25/05/2015 to 24/02/2021), Mr. Mahesh D. Jadhav, Additional Executive Engineer, Civil S&I, Kalyan and Mr. Rajendra Gaikwad, Then Chief Engineer (EXC & M) MSETCL, Bandra East, Mumbai.

11) The foundation and erection work of Tower Nos. 37 and 38 was carried out under the supervision of Mr. Atul Sapkal, Supervisor, M/s. BNC Power Projects Ltd., and Mr. Rajesh Chaudhary, Director, M/s. BNC Power Projects Ltd. Are responsible as per the Agreement.

12) The proposal was submitted by the project authorities under the Forest Conservation Act 1980, however, the towers were erected in the forest area without obtaining the permission.

13) A forest offense has taken place because the responsible officials failed to take necessary precautions before commencing work in the forest area while constructing the LILO 220KV Padghe-Wada transmission line and towers.

Translated by
Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
[illegible]
[illegible]
[illegible]
Language Pair - Marathi ⇄ English

TRUE TRANSLATION

MR. RAJESH SIDRAM DASA
[illegible]
[illegible]
Mobile No. [illegible] Email [illegible]

In short

By causing construction of the foundation and erecting Tower Nos. 37 and 38 in the protected forest area of villages viz. Kunde and Dighashi without obtaining permission under the Forest Conservation Act, 1980 and without taking necessary precautions, the Accused Nos. 1 to 5 have violated provisions under Sections 30, 32, 33 (b), and (c) of the Indian Forest Act, 1927 and Sections 2, 3A, and 3B of the Forest Conservation Act, 1980.

Prayer : Humbly prayed to this Hon'ble Court that,

1 Accused Nos. 1 to 5 have violated Sections 30, 32, 33(b) and (c) of the Indian Forest Act, 1927 and Section 2 of the Forest Conservation Act, 1980. Accordingly, Accused Nos. 1 to 5 shall be liable for punishment under Section 33 of the Indian Forest Act, 1927, which prescribes imprisonment for a term which may extend to one year or with fine which may extend to five thousand rupees or with both, and under Sections 3A and 3B of the Forest Conservation Act, 1980, which prescribes punishment with imprisonment for a term which may extend to fifteen days.

2. It is requested that Accused Nos. 1 to 5 be awarded with maximum punishment under the Indian Forest Act, 1927 and the Forest Conservation Act, 1980.

Place : Thane
Date : /04/2015

Sd/-

(Sachin Repal)
Deputy Conservator of Forests
Thane Forest Department, Thane

Translated by
Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
[illegible]

TRUE TRANSLATION

MR. RAJESH SIDRAM DASA
From: Flat No. 511, Paramount Gardens, Katraj-Kondhwa Road, Gokulnagar, Katraj, Pune - 411046
Mobile No.: [illegible] Email: [illegible]

List of Witnesses in Crime No. 29/E/2020-21 and 30/E/2020-21, Dighashi Division, Bhiwandi Taluka in the Hon'ble Judicial Magistrate First Class, Bhiwandi Court.

Sr. No.	Name	Age	Occupation	Address
1	Mr. Anant Shankar Saplal	34	Agriculture	R/at. Madoshi, Tal Bhiwandi, Dist. Thane.
2	Mr. Arjun Maruti Jadhav	40	Agriculture	R/at. Madoshi Tal Bhiwandi Dist Thane.
3	Mr. Sanjay Sitaram Dhanwade	57	Service, Then Forest Range Officer, Padgha.	R/at. Washind, Tal Shahapur, Dist. Thane
4	Mr. Ashok Narayan Patankar	[illegible]	Service Then Forest Guard Officer, Dighashi	R/at Vape, Tal Bhiwandi Dist Thane
5	Mr. Sharad Mahadu Mhatre	41	Service Then Forester Kandali	R/at Badlapur Dist Thane
6	Mr. Vilas Hanumant Saplal	54	Service Then Forester Dighashi	R/at Panvel Dist Raigad

Sd/-
Deputy Conservator of Forest
Thane Forest Department, Thane

Translated by
Mr. Rajesh Sidram Dasa
A Sworn Translator of Govt. of Maharashtra
Appointed as per [illegible] Government of Maharashtra [illegible]
2018 [illegible] March 2021
Language Pair – Marathi & English

TRUE TRANSLATION

MR. RAJESH SIDRAM DASA
R/at. Flat No. 305, [illegible] Gardens, Katraj Kondhwa
Road, [illegible] Katraj, Pune - 411046
Mobile No. [illegible] Email: [illegible]

List of documents in the case of Crime No. 29/E/2020-21 and 30/E/2020-21, Dighashi Division, Bhiwandi, before the Court of the Judicial Magistrate First Class, Bhiwandi.

Sr. No.	Details	Page no.
1	Agreement between the Project organization and the Contractor	1 to 5
2	Tender	6 to 265
3	Notification under the Indian Forest Act, 1927, declaring Survey No. 213 in Dighashi village as a Reserved Forest area	266 to 272
4	Notification under the Indian Forest Act, 1927, declaring Survey No. 4 in Kande village as a Reserved Forest area	273 to 274
5	Copy of Forest Offence Crime No. 29/E/2020-21, Dighashi Division	275
6	Copy of Forest Offence Crime No. 30/E/2020-21, Dighashi Division	276
7	Spot Panchnama prepared by the Divisional Officer, Dighashi on 31/03/2021 about encroachment caused at Tower No. 37	277 to 279
8	Spot Panchnama prepared by the Divisional Officer, Dighashi on 31/03/2021 about encroachment caused at Tower No. 38	280 to 282
9	Statement of Mr. Milind D. Jadhav, Executive Engineer, S & E Mission recorded by Forest Range Officer, Padgha on 04/05/2021	283

Translated by
Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
[illegible]
[illegible]
[illegible]
[illegible]

TRUE TRANSLATION

MR. RAJESH SIDRAM DASA
[illegible] Flat No. 501, Paramount Gardens, Katraj-Kondhwa
Road, Gokulnagar, Katraj, Pune – 411046
Mobile No.: [illegible] Email: [illegible]

10	Letter dated 24/02/2021 from the Executive Engineer (Nodal), EHV Projects, Division 10, Kalyan addressed to the Forest Range Officer	285
11	Letter dated 25/02/2021 sent by the Forest Range Officer, Padgha to the Executive Engineer, 220 KV Extra High Voltage Division, Kalyan, summoning the officers and staff, during whose tenure construction has been caused, for recording their statement	286
12	Map of Survey No. 24, Amne Village, indicating the site of Tower No. 37	287
13	Map of Survey No. 211, Dighashi village, indicating the site of Tower No. 33	288
14	Letter dated 10/05/2021 issued by the Assistant Conservator of Forests, Bhiwandi to the Executive Engineer, Extra High Voltage Projects, Kalyan Division regarding submission of documents in the case	290
15	Letter dated 20/05/2021 issued by the Executive Engineer, Extra High Voltage Projects, Kalyan Division to the Assistant Conservator of Forests, Bhiwandi	291
16	Forest Violation Report on the proposal submitted by the Executive Engineer, Extra High Voltage Projects, Kalyan Division, under the Forest (Conservation) Act, 1980	292 to 298
17	Letter submitted by the Executive Engineer, Extra High Voltage Projects, Kalyan Division, to the Assistant Conservator of Forests, Bhiwandi, dated 25/05/2021	299 to 300
18	Letter from the Assistant Conservator of Forests, Bhiwandi to the Executive Engineer, Extra High Voltage Projects, Kalyan Division, requesting submission of documents related to tender, technical and administrative approvals.	301 to 304

TRUE TRANSLATION

Translated by
Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
Appointed at Sr. No. [illegible] of the Panel [illegible]
Government of Maharashtra vide GR No. [illegible]
2017 [illegible]
(Language Pair - Marathi ⇔ English)

MR. RAJESH SIDRAM DASA
Resi.: Flat No. 501, Paramount Gardens, Balaji Kondhwa
Road, Gokulnagar, Katraj, Pune - 411046
Mobile No.: [illegible] Email: [illegible]

19	Letter of award for supply of material	305 to 307
20	Letter of award for erection and civil portion	308 to 309
21	Purchase order copy for supply of material	310 to 314
22	Purchase order copy for erection and civil portion	315 to 325
23	Letter dated 01/02/2018 issued by the Executive Engineer, EHV Transmission Line Project 25, Sub-Division Kalwa, regarding site handover to the tender holder/contractor	326
24	Combined measurement sheet for foundation work of Tower No. 37 and 38 dated 11/05/2018	327 to 338
25	Monthly progress report for tower erection of Tower No. 37 and 38.	339
26	Proposal for obtaining permission under the Forest (Conservation) Act, 1980, for the project	340 to 344

Sd/-

Deputy Conservator of Forests
Thane Forest Division, Thane

TRUE TRANSLATION

Translated by
Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
Appointed as [illegible] Panel Translator by the Government of Maharashtra vide GR No. [illegible]
[illegible] Dated [illegible] March [illegible]
Language: [illegible] To English

MR. RAJESH SIDRAM DASA
Add.: Flat No. [illegible], Paramount Gardens, Katraj Kondhwa
Road, Gokulnagar, Katraj, Pune - [illegible]
Mobile No. [illegible] Email: [illegible]

TENDER DOCUMENTS AND AGREEMENT COPY

Executive Engineer
M.S.E.T.C.L.
E.H.V. Project Dn., Kalyan

Supply

(1)

Dy. Executive Engineer (O)
M.S.E.T. Co. Ltd.
E.H.V. Project Dn. Kalyan

BNC Power Projects Ltd.

BNC POWER

Ref No.: BNC/PNA/220kV Kudus/Agreement/1910 Date: 12.05.2018

M.S.E.T.C.L.
E.H.V. Projects Inward
Inward 862 [illegible] 2018
HR / F&A / Tech

To,
The Chief Engineer,
EHV PC O & M Zone,
MSETCL, Vashi.

Sub. [illegible] on 220kV Kolshet-Wada & 220kV LILO on Padghe-Wada line for 400kV Kudus S/stn (Route Length 7 Kms), against SRM e-tender no T-1718 (RFx No. 6000000253), under Vashi Zone…… …Submission of Contract Agreement Copies.

Ref - 1. Tender specification No. T-1718/ MSETCL/ CO/ DCM/ D&T/ TKC-I.

2. LOA No. i) MSETCL/ CO/ DCM/ D&T/ TKC-I/ T-1718/ Supply/ BNC/ 394 Dtd: 11.01.2018.

ii) MSETCL/ CO/ DC&M/ D&T/ TKC-I/ T-1718/ ETC/ BNC/ 1761 Dtd: 15.02.2018.

With Reference to above subject, we are herewith submitting the Signed Contract Agreement Copies for your reference.

Thanking You

Yours faithfully,
For BNC Power Projects Ltd.

Encl: Signed Contract Agreement - 1 Copy

Authorised Signatory

Copy To -
1. The Superintending Engineer, EHV Proj Circle, MSETCL, Kalwa - 1 Copy
2. The Senior Manager Accounts, EHV Proj Circle, Kalwa - 1 Copy
3. The Executive Engineer, EHV Proj Div, MSETCL, Kalyan - 1 Copy
4. The Manager Accounts, EHV Proj Div, Kalyan - 1 Copy
5. The Addition Executive Engineer, EHV TL Lines Proj Subdivision, MSETCL, Kalyan - 1 Copy

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn. Kalyan

महाराष्ट्र शासन

GOVERNMENT OF MAHARASHTRA

ई-सुरक्षित बँक व कोषागार पावती

e-SECURED BANK & TREASURY RECEIPT (e-SBTR)

[illegible]

[illegible]

CONTRACT AGREEMENT FOR SUPPLY

THIS AGREEMENT is made on the 25th day of April 2016 [illegible] between Maharashtra State Electricity Transmission Company Ltd. having its Registered Office at 'PRAKASHGANGA', Plot No. C-19, 'E' Block, Bandra Kurla Complex, Bandra (East), Mumbai [illegible] hereinafter called 'MSETCL' which expression shall unless repugnant to the context or meaning thereof include its successors and permitted assigns acting through its Chief Engineer (Design, Contracts & Monitoring) of the one part.

e-SBTR VALIDITY IS 06 MONTHS FROM THE DATE OF PAYMENT

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn. Kalyan

AND

M/s BNC Power Projects Ltd. having its [illegible] Building Complex, Temple, Katve Road, [illegible] which expression shall unless repugnant to the context [illegible] permitted assigns) of the other part.

WHEREAS the OWNER is desirous for Work of Turnkey Construction of LILO on 220KV Kolshet - Wada & 220KV LILO on Padghe - Wada line for 400KV Kudus Substation (Route length - 7 kms) against SRM e-Tender No. T-1719 (RFx No. 6000014253) under Vashi Zone, hereinafter called the "Project", [illegible] MSETCL/CO/ DCM/ D&I/ TKT-LINES / RFx No. 6000000253 [illegible] engineering, manufacturing, testing [illegible] Local Area/County.

In response to above M/s BNC Power Projects Ltd. submitted [illegible] RFx Response no. 4000017381 dated 26.08.2017 [illegible] SRM e-tendering system including [illegible].

The Owner has accepted M/s BNC Power Projects Ltd.'s [illegible] contract price of Rs. 14,27,61,667.00 (Rupees Fourteen Crore Twenty Seven Lakh Sixty One Thousand Six Hundred and Sixty Seven Only) [illegible] of all taxes and duties on the terms and conditions contained in [illegible] Award No. MSETCL/CO/ DCM/ D&I/ TKT-[illegible] Supply of Equipment/Materials.

NOW Therefore this Agreement Witnesseth as follows:

1. AWARD OF CONTRACT

The Owner has awarded the contract [illegible] engineering, manufacturing, supply [illegible] following [illegible]

Work of Turnkey Construction of LILO on 220KV Kolshet - Wada & 220KV LILO on Padghe - Wada line for 400KV Kudus Substation (Route Length - 7 kms) against SRM e-Tender No. T-1719 (RFx No. 6000014253) under Vashi Zone.

The [illegible] Owner's Tender Specifications [illegible] clarifications/amendments issued thereon and [illegible] in this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in Contract Documents referred to in the succeeding [illegible].

Executive Engineer
[illegible]

Executive Engineer
M.S.E.T.C. Co. Ltd.
E.H.V. Project Dn., Kalyan

2 **CONTRACT DOCUMENT:**

The following documents shall be [illegible] part of the agreement:

1. Annexure 'A' [illegible] Material [illegible]

2. Annexure 'B' [illegible]

3. Annexure 'C' [illegible] Sr. [illegible] [illegible] [illegible]

4. Annexure 'D' [illegible] [illegible] [illegible] [illegible]

Annexure 'E' [illegible] the date of [illegible] [illegible] not.

5. Annexure 'F' [illegible] Supply [illegible] [illegible]

6. Annexure 'G' Performance Bank Guarantee [illegible] [illegible] [illegible] [illegible] [illegible]

7. Annexure 'H' Format of Material [illegible] Certificate [illegible]

8. Annexure 'I' [illegible]

9. Annexure 'J' [illegible]

3 In consideration of the payments to be made [illegible] covenants with the owner [illegible] contract [illegible]

4 The owner hereby covenants to pay the contractor in consideration of the [illegible] the contract for the goods delivery [illegible] and the remedying of [illegible] services under the scope of the contract [illegible] become payable under the provisions of the contract [illegible] prescribed by the contract.

Executive Engineer
M.S.E.T.C.L. Ltd.
E.H.V. Project Dn. Kalyan

IN WITNESS whereof the parties hereto have caused this Agreement to be [illegible] whereof has been [illegible] by [illegible] Authorities of [illegible] the parties on the day and year first above written at Mumbai.

For the Contractor

Name:- Mr. Rajesh Chaudhari
Designation :- Director [illegible]
M/s. BNC Power Projects Ltd
Basic Park Complex, [illegible]
Karve Road, Paud Phata
Pune 411038

For and on behalf [illegible]

Name: Mr. Rajendra [illegible] Gaikwad
Chief Engineer [illegible]
MSETCL
Prakashganga
Bandra (E),
Mumbai 400 051

[illegible]

[illegible]

WITNESS

WITNESS

Name : Mr. Keshav Pawar
Designation : Assistant General Manager
M/s. BNC Power Projects Ltd.

Mr. [illegible]
[illegible]
MSETCL, Mumbai

Name : Mr. Saurabh Chaudhari
Designation : Project Engineer
M/s. BNC Power Projects Ltd.

Mr. M. K. Gaikwad
Dy. Manager
MSETCL, Mumbai

Executive Engineer
M.S.E.T.C.L.
E.H.V. Project Dn, Kalyan

ANNEXURE 'A'

Design, Engineering, Manufacturing, testing [illegible] required for Work of Turnkey Construction of LILO on 220KV Kolshet - Wada & 220KV LILO on Padghe - Wada line for [illegible] Kudus Substation [illegible] Length [illegible] against SRM [illegible] Tender No. [illegible] RFx No. [illegible] under Vashi Zone.

IMPORTANT FEATURES AND CONDITIONS OF CONTRACT FOR SUPPLY OF EQUIPMENTS / MATERIALS

1.0 CONTRACT PRICE (SUPPLY)

[illegible] Work of Turnkey Construction of LILO on 220KV Kolshet - Wada & 220KV LILO on Padghe - Wada line for [illegible] Kudus Substation [illegible] Length [illegible] against SRM [illegible] Tender No. [illegible] RFx No. [illegible] under Vashi Zone [illegible]

Name of the work/description	Total Ex-works Price [illegible] excluding [illegible]	[illegible]	Total Price [illegible] for Supply [illegible]
Work of Turnkey Construction of LILO on 220KV Kolshet - Wada & 220KV LILO on Padghe - Wada line for Kudus Substation [illegible] Length [illegible] against SRM [illegible] Tender No. [illegible] RFx No. 6000000353, under Vashi Zone [illegible]	Rs. 14.3 [illegible]	[illegible]	Rs. [illegible]
(Rupees [illegible] Only) [illegible]			

[illegible]

[illegible]

[illegible]

1.4 The above contract price [illegible] Project [illegible] adjusted [illegible]

Executive Engineer
M.S.E.T.C.L.
EHV Project Dn., Kalyan

1.4 [illegible] supply [illegible] The supply [illegible] payment [illegible] supply [illegible] MSETCL [illegible] and [illegible] MSETCL.

1.5 [illegible]

1.7 [illegible]

2.0 PER[illegible]

[illegible]

3.0 PROJECT IMPLEMENTING AUTHORITY

3.1 [illegible] Executive Engineer, [illegible] MSETCL [illegible]

3.2 [illegible] Construction & [illegible]

4.0 PAYMENT PROCEDURE / TERMS OF PAYMENT

MSETCL shall make payment [illegible]

Sr. No.	Nature of payment	Documents to be submitted to MSETCL
1	80% of the cost of supply of equipment / materials shall be payable within 45 days against [illegible] completion	- [illegible] Engineer [illegible] - [illegible] MSETCL [illegible] - Delivery Challan - [illegible]
2	10% of the cost of supply of equipment / materials shall be payable within 15 days against [illegible] completion	- [illegible] - [illegible] MSETCL [illegible] Engineer
3	The balance 10% of the cost of supply of equipment / materials shall be payable within 15 days [illegible] successful commissioning	- [illegible] Engineer [illegible] - [illegible]

Executive Engineer
[illegible]

[illegible]

Executive Engineer
M.S.E.T.L. Co. Ltd.
[illegible] Dn. Kalyan

4.[illegible] The payment to the contractor [illegible] shall be made by the [illegible] payment made during the [illegible] payment [illegible] shall be [illegible] by the [illegible]

[illegible] The [illegible] shall [illegible] progress [illegible] schedule [illegible] days from the date [illegible] completion [illegible] and [illegible] the [illegible]

[illegible] Verification [illegible] at the [illegible] complete [illegible] invoice shall [illegible] the [illegible]

[illegible] The payment [illegible] shall [illegible] with [illegible] duly [illegible]

[illegible] For Price Variation

The payment of Price Variation [illegible] shall be [illegible] by [illegible] shall be [illegible] maximum [illegible]

5.0 SUBMISSION OF INVOICE

5.[illegible] [illegible] days of [illegible] documents, MSE [illegible] Receipt Certificate (MRC) [illegible] enclosed [illegible] the receipt of material [illegible] invoice for [illegible] of the [illegible] Power [illegible] in the [illegible] Measurement Book [illegible]

[illegible] The receipt [illegible] MSETCL [illegible] The [illegible] completion of [illegible] along with [illegible] Project [illegible] office [illegible] The [illegible]

6.0 LIQUIDATED DAMAGES

[illegible] If the Contractor [illegible] the [illegible] shall levy liquidated damages [illegible]

[illegible] The liquidated damages [illegible] per week of delay [illegible] the [illegible] of [illegible] the [illegible] contract [illegible]

Executive Engineer
MSETCL [illegible] Transmission Company Ltd.
E.H.V. Project Dn., Kalyan

6.? In the event the contract being divided into [illegible] such as Supply of materials & equipments, Civil work, Erection, Testing & Commissioning, the provision for liquidated damages shall be applicable on the total contract price irrespective of the divisible contract.

7.0 DOCUMENTATION

[illegible]

8.0 PERFORMANCE GUARANTEE IN LIEU OF SECURITY DEPOSIT

8.1 The Performance Bank Guarantee for the proper fulfilment of the Contract shall be furnished by the Contractor in the prescribed form within Thirty (30) days [illegible] of Award [illegible] Notice of Award [illegible] the performance Guarantee [illegible] Bank Guarantee (PBG) [illegible]

8.2 [illegible] The Contractor [illegible] upon written [illegible] Contract [illegible] guarantee [illegible] Contract.

8.3 The Contract [illegible]

8.4 The Performance Guarantee [illegible] guarantee period [illegible]

8.5 The Contractor [illegible] guarantee [illegible]

8.6 In the event of increase in Contract Value, the Contractor shall [illegible] days from the date of amendment [illegible] performance Bank Guarantee [illegible]

8.7 [illegible] Notice of Award / Letter of Award [illegible] not submitted the Performance Bank Guarantee [illegible] days [illegible] Notice of Award / Letter of Award [illegible]

9.0 INTIMATION FOR TEST AND INSPECTIONS

A notice of [illegible] days period should be given [illegible] testing [illegible] equipments [illegible]

Executive Engineer

M.S.E.T.C.L. [illegible]

EHV Projects Dn., Koyna

Executive Engineer

10.0 **COMPLETION PERIOD**

[illegible]

[illegible]

11.0 **GUARANTEE/WARRANTY PERIOD**

11.1 [illegible]

11.2 [illegible]

11.3 [illegible]

11.4 [illegible]

11.5 [illegible]

11.6 [illegible]

11.7 [illegible]

Executive Engineer
M.S.E.T.Co. Ltd.
E.H.V. Project Dn. Kalyan

[illegible] SUCCESSFUL COMMISSIONING

[illegible] The Station [illegible] of the phases [illegible] works.

[illegible] Completion of all works [illegible] as per Contract Agreement.

[illegible] Trial [illegible] operation of the equipments after [illegible] dealing and [illegible] required [illegible] have been [illegible] the equipments ready for commercial use.

[illegible] Commissioning certificate shall be issued by MSETCL [illegible]

[illegible] INSURANCE

[illegible]

[illegible]

The Contractor [illegible]

The Contractor [illegible]

The [illegible]

Maximum [illegible] Rs [illegible]

Maximum [illegible] Rs [illegible]

[illegible] Rs [illegible]

Executive Engineer
M.S.E.T.Co.Ltd.
E.H.V. Project Dn., Kalyan

13.3 WORKMEN'S COMPENSATION INSURANCE

[illegible] Contractor [illegible] applicable [illegible] Workmen's Compensation Act [illegible] [illegible] Contractor [illegible] injury [illegible] workmen's compensation [illegible]

13.4 COMPREHENSIVE AUTOMOBILE INSURANCE

[illegible]

COMPREHENSIVE GENERAL LIABILITY INSURANCE

[illegible]

[illegible]

[illegible]

14.0 PRICE VARIATION AS PER PV CLAUSE

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Executive Engineer
M.S.E.T.C.L.
E.H.V. Project Dn. Kalyan

[illegible] Contractor is not allowed PV in any material in [illegible] standards.

[illegible] If interest free advance is paid for supply of materials, [illegible] the value of advance payment will not be considered [illegible] price variation will be [illegible] as per PV formula [illegible]

[illegible] The PV formula for calculation of price variation [illegible] enclosed.

[illegible] In case of [illegible] price variation [illegible]

[illegible] **FORCE MAJEURE**

The [illegible] conditions shall be as per [illegible] Page No. [illegible]

[illegible] **TERMINATION OF CONTRACT**

[illegible]

[illegible]

Executive Engineer
M.S.E.T.C.L.
E.H.V. Project Dn., Kalyan

ANNEXURE

'A'

ANNEXURE

B

ANNEXURE
'C'

Clause No	Description/Title	Page No
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40.0	Contractor's Material brought to Site	29
41.0	Co-operation with Contractors and Owner	30
42.0	Work to be open to Inspection and contractor or responsible agent to be present	30
43.0	Notice to be given before work is covered up	31
44.0	Remedy of Defects	31
45.0	Employment of Labour	31
46.0	Discipline of Workmen	32
47.0	Disorderly conduct, etc	32
48.0	Cleanliness	32
49.0	First Aid	33
50.0	Security	33
51.0	Unfavourable Working Conditions	[illegible]
52.0	Works and Safety Regulations	33
53.0	Electrical Safety Regulations	34
54.0	Insurance	34
55.0	Indemnification of Owner	35
56.0	Workmen's compensation Insurance	35
57.0	Comprehensive Automobile Insurance	35
58.0	Comprehensive General Liability Insurance	36
59.0	Guarantee/ Warranty	36
60.0	Bankruptcy	37
61.0	Notices	37
62.0	Details Confidential	[illegible]
63.0	Bid Security Deposit (BSD)	[illegible]
64.0	Contract Price, taxes and duties	38
65.0	Price Variation	38
66.0	Liquidated Damages	39
70.0	Policy for Bids under Consideration	39
71.0	Acceptance of Bids	40
72.0	Withdrawal of Invitation to Bid	40
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SECTION III: Instruction to Bidders

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1.0	General Instructions	11
2.0	Cost of Bidding	11
3.0	Understanding of BID Document	11
4.0	Amendment of Bidding documents	12
5.0	Documents comprising the bid	12
6.0	Bid Prices and Currencies	12
7.0	Signing of Bids	[illegible]
8.0	Information required with the Bid	12
9.0	Submission of Bids	13
10.0	Opening of the Bids	13
11.0	Mode of Award of Contract	14
12.0	Evaluation Criteria	15

Executive Engineer
TL Pretender

Executive Engineer
M.S.E.T.C.L.
E.H.V. Project Dn, Kalyan

PREAMBLE

1.0 This specification covers the requirements associated with turnkey construction of following 220KV line with Design, Manufacture and supply of all materials, execution of all required works for installation and commissioning of EHV line.

Description of EHV Line	Route Length (Kms)
Turnkey construction of LILO on 220kV [illegible] & 220kV [illegible] line for 400kV [illegible] S/S, under Vashi Zone	–

The scope of work also includes supply of specified materials, as well as execution of related works which broadly includes Tower foundations, Erection of towers, stringing, Testing and commissioning of the transmission line.

2.0 For ease of handling this specification is divided into two parts – Book I & Book II. The general, commercial conditions are covered in Book I, whereas the technical requirements, scope of line works and price schedules are covered in Book II.

3.0 Commercial terms and conditions covered in Book I generally applicable for works, contract & supply of materials against contract.

4.0 The quantities of items for supply as well as erection are tentative and based on estimates as per preliminary survey. While awarding the contract the quantities of supply and erection shall be revised as per detailed survey report. The contract value shall be based on the rates of quantities for supply and erection as quoted in the schedules of quantities with the percentages above/below quoted by the Bidder in the price bid [illegible]

5.0 Bidders must submit the offers, subject to their meeting the qualifying requirements. The offer shall be submitted with only essential particulars which are in line with requirements of these specifications.

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MAHARASHTRA STATE ELECTRICITY TRANSMISSION COMPANY LIMITED

(CIN No.U40109MH2005SGC153646)

RFx No. 6000000253

SRM e-TENDER No. T-1716/MSETCL/[illegible]/TKC-LINES

SPECIFICATION No. MSETCL/[illegible]/2017-18/TKC-1

Turnkey construction of LILO on 220kV Kolshet- Wada &220kV LILO on Padghe-Wada line for 400kV Kudus Substation(Common M/C Line) (Route Length - 7 kms)

UNDER VASHI ZONE ON TURNKEY BASIS

BOOK I

GENERAL TERMS AND CONDITIONS

Reference:

BOOK-I General Terms and Conditions

BOOK-II Technical specifications & Price Schedules

Tender Fee Rs. 25,000/- + [illegible]

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POWER PROJECTS
PUNE

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SECTION-I
INVITATION FOR BID (IFB)
(LOCAL COMPETETIVE BIDDING)

1.0 The Maharashtra State Electricity Transmission Company Limited Mumbai, hereinafter referred to as the 'Owner' (MSETCL) invites SRM e-tender in TWO bids system (Techno-commercial Bid & Price Bid) from eligible bidders in India having executed similar projects in Transmission Lines on turnkey basis for construction of LILO on 220kV Kolshet-Wada & 220kV LILO on Padghe-Wada line for 400kV Kudus S/stn (Route Length 7 Kms) under Vashi Zone.

2.0 Scope of Work

SRM E-Tender No. T-17/18/MSETCL/[illegible]/Lines

Name of Line	Estimated Cost in Rs Lakhs	Completion period in months from date of Handing over of Line Profile (including Monsoon)	Tender No RFx No.
Turnkey construction of LILO on 220kV Kolshet-Wada & 220kV LILO on Padghe-Wada line for 400kV Kudus S/stn (Route Length 7 Kms)	1988.24	09 Months	T-17/18 7000004253

3.0 QUALIFYING REQUIREMENT
In addition to the requirement stipulated under the relevant clause of the bid document, the following Qualifying Requirements shall also apply.

3.1 STATUTORY QUALIFYING CRITERIA
Statutory Licenses/Registration

3.1.1 The Bidder or his associate shall have a valid Govt. Electrical Contractor's License.

3.1.2 The bidder should be registered under Maharashtra Value Added Tax (MVAT) Act or Central Sales Tax Act and Service Tax Act under [illegible] as per the rules currently in force.
The bidder should have returns of all [illegible] for preceding 3 financial years.

3.1.3 The lead bidder should be registered under [illegible].

Note: The original/attested scan copy should be uploaded as bid document [illegible] Statutory Qualifying Criteria & Statutory Licenses/Registration [illegible]. Attested / Notarized photo copies of the same will be [illegible].

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3.2 TECHNICAL QUALIFYING CRITERIA:

3.2.1(a) The bidder should have at least 3 years experience in the field of turnkey basis including supply of material, erection, testing & commissioning as mentioned at (i) and (ii) below

(i) The bidder should be an approved vendor of MSETCL or PGCIL and have installed tower manufacturing capacity of at least 10000 MT per year or should have fabricated and supplied at least 4000 MT of EHV transmission line tower cumulatively in last three years of voltage class or next one step below to the voltage class as mentioned in scope of tender.

OR

The bidder not possessing above condition shall [illegible] of Undertaking duly executed (Format Enclosed) from the manufacturer [illegible] such condition fully, to guarantee for quality & timely supply of tower material.

(ii) The bidder should have constructed (including tower foundation, tower erection and stringing) at least S/C Tr. Line of route length at least 50% of route length anticipated in the scope of this tender in single order and of voltage class at least one step below than the voltage class as mentioned in scope of tender.

3.2.1(b) The bidder should submit the user's certificate in support of tower material supplied executed in last three years and end user's certificate for the works executed by the concerned ordering authority indicating name of the line, route length, voltage class, route length, configuration of conductor, date of completion and period taken for completion etc.

3.2.2 The owner reserves the right to accept / reject the bid.

Note: The original notarized scan copy should be uploaded as evidence in support of Technical Qualifying Criteria. The Attested/Notarized photocopy of the same will not be entertained. Detailed documentation [illegible] should be furnished for [illegible] verification.

3.3 FINANCIAL QUALIFYING CRITERIA

3.3.1 The average annual turnover of the bidder during last three [illegible] years should be not less than 40% of estimated cost.

3.3.2 The bidder should have a Net Worth (which is defined as Equity share capital + Reserves + Revaluation reserve – intangible assets – Miscellaneous expenditure to the extent not written off and carry forward losses) of not less than 25% [illegible] Present value of estimated cost of tender. [illegible] statement of Net worth duly certified by Chartered Accountant [illegible] year.

Note: The original notarized scan copy should be uploaded as evidence in support of Financial Qualifying Criteria. The Attested/Notarized photocopy of the same will not be entertained.

- The data audited, verified & certified figures from Chartered Accountant will be considered for Annual Turnover & Net worth. The provisional certificate [illegible] will not be entertained.

3.4 IN CASE OF CONSORTIUM

(Not more than 2 partners including lead partner)

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3.4.1 The principal (lead) bidder who desire to bid against this specification, may submit the offer jointly with another consortium partner (equipment manufacturer) by entering into a legally valid agreement subject to fulfilment of following requirements.

- The bid, and in case of a successful bid, the Contract Agreement shall be signed so as to be legally binding on both partners.
- Both partners of the consortium shall be jointly and severally liable for execution of the contract in accordance with the Contract terms.

3.4.2 One of the consortium partners should satisfy 100% technical qualifying criteria of [illegible] and subject to fulfilment of remaining qualifying criteria jointly by both the partners.

3.4.3 The number of partners in consortium should not be more than two, including the lead partner.

3.4.4 The lead partner shall be authorized to be in charge and this authorization shall be evidenced by submitting a duly registered/ notarized power of attorney signed jointly by legally authorized signatories of both partners.

3.4.5 A copy of agreement entered into by the consortium partners as specified in Schedule 'P' shall be submitted with the bid.

3.4.6 The bid documents should have been purchased and submitted by the Lead Partner only.

3.5 OTHER MANDATORY DOCUMENTS FOR VALID BID

3.5.1 Duly completed and signed all the specified/detailed schedules given in Book-1 (GTC).

3.5.2 Bid Security Deposit (BSD) for an amount equal to 1% (one per cent) of the estimated cost of tender in the form of Bank Guarantee from Scheduled/National Bank in the prescribed format annexed to the tender specifications as schedule 'J' along with the offer. The validity of Bank Guarantee should be for Six (6) months from the originally scheduled date of tender opening.

4.0 General Points:

4.1 The prices to be quoted against this tender shall be in Indian Rupees only.

4.2 A complete set of tender documents may be downloaded by the bidder from MSETCL's SRM e-tendering website [illegible]. The cost of bidding documents shall be paid online before the due date of bid submission and the screen shot of successful payment should be uploaded with bid documents being submitted by the bidder.

4.3 The bidder shall be required to furnish Bid Security Deposit (BSD) for an amount equal to 1% (one percent) of the estimated cost of tender in the form of Bank Guarantee from Scheduled/ Nationalized Bank in the prescribed format annexed in the tender specification as schedule 'J' along with the offer. The validity of Bank Guarantee should be at least for Eight (8) months from the date of opening of bid.

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4.4 The tender is invited on individual percentage basis for Supply & ETC. For Evaluation of the Tender, the total price of Supply & ETC including all taxes & duties shall be considered. The LOA will be placed on the final accepted price for Supply & ETC including all applicable Taxes & duties.

4.5 Variation in Statutory Taxes / Duties if any will not be payable.

4.6 Price variation shall be given on [illegible] MSETCL's estimation [illegible] price schedules & Bidders quoted [illegible]

4.7 It may please be noted that the taxes / duties will be paid / reimbursed as per actual or as stated in Price Break up statement whichever is lower on submission of valid documentary proof.

4.8 The price variation will be applicable to the [illegible] clause no. [illegible] (ETC)

4.9 The new Bidders are requested to complete the contractor registration with MSETCL as per the procedure prior to the date of submission of the tender documents. The bids of only registered qualified bidders will be entertained.

5.0 Interested bidders may obtain further information, if needed, on our Website www.mahatransco.in/https://etender.mahatransco[illegible] or from the Office of the Chief Engineer (Design, Contracts & Monitoring), Maharashtra State Electricity Transmission Co. Ltd., 3rd floor, Plot No. C-19, 'E' Block, Bandra Kurla Complex, Bandra (East), Mumbai 400051. Tel No. 26595000 (Extn. No. [illegible]) Fax No. (022) [illegible]

5.1 Bidders are requested to note the dates for purchase, submission, and opening of bid documents as below.

a)	Starting Date of downloading	[illegible].05.2017
b)	Price of bid document	Rs. [illegible] + MVAT (e-tender)
c)	Pre-bid meeting	[illegible].05.2017 at 15.00 Hrs
d)	Last date for submission of Queries	[illegible].05.2017 at 15.00 Hrs
e)	Last date and time for submission of bid	[illegible].06.2017 at 15.00 Hrs
f)	Date and time for opening of techno commercial bid	[illegible].05.2017 at 15.00 Hrs
g)	Date and time for opening of price bid of qualified bidders	07.06.2017 at 15.00 Hrs

If [illegible] the due date for bid receipt and/or opening of bids happens to be a holiday, the next working day shall be the corresponding due date. The bidder should take care of e-tender website system constraint and upload the documents accordingly.

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Executive Engineer
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SECTION – II

GENERAL TERMS AND CONDITIONS OF CONTRACT

1.0 **DEFINITION OF TERMS**

In construing these general terms and conditions and the annexed specifications, the following words shall have the meanings herein assigned to them.

1.1 'Owner' or 'Company' or 'Company' shall mean the Maharashtra State Electricity Transmission Company Ltd., Mumbai and shall include their legal representatives, successors and permitted assignees.

1.2 'Contractor' shall mean the Bidder whose Bid has been accepted by the Owner for the award of the Contract and shall include such successful Bidder's legal representatives, successors and permitted assignees.

1.3 'SUB-CONTRACTOR' shall mean any person (other than the Contractor) named in the Contract for any part of the work or any person to whom any part of the Contract has been sub-let by the Contractor with the consent in writing of the Owner/Engineer and will include the legal representatives, successors and permitted assignees of such person.

1.4 'Engineer' shall mean the officer appointed in writing by the Owner to act as Engineer from time to time for the purpose of the Contract.

1.5 'Engineer's Representative' shall mean any assistant of the Engineer appointed from time to time to perform the powers, functions, and other authorities vested in the Engineer.

1.6 The terms 'Equipment' or 'Materials' or 'Stores' shall mean and include plant, stores and 'Materials' to be provided by the Contractor under the Contract.

1.7 'Works' shall mean the design, engineering, manufacture (wherever applicable), supply of all types of material, erection, testing and commissioning of various equipments as detailed in the bidding documents.

1.8 'Specification' shall mean the Tender specification forming a part of the Contract and such other schedules and drawings as may be mutually agreed upon.

1.9 'Site' shall mean the whole of the premises, buildings and grounds in or upon which the works are to be provided, executed, erected, done or carried out.

1.10 'Manufacturer's works' or 'Contractor's works' shall mean the place of work used by the manufacturer, the Contractor, for the performance of the works.

1.11 'Notification of Award of Contract' shall mean the official notice issued by the Owner notifying the Contractor that his bid has been accepted.

1.12 'The Contract' shall mean the agreement / contract to be entered into by the Owner with the Contractor, under which the conditions of Contract, specifications, schedules, agreed guaranteed drawings and any further conditions which may be agreed between the parties are forming a part of the Contract.

'Contract Price' shall mean the sum named in the Contract agreement (or in the Letter of award) subject to such additions thereto or deductions therefrom as may be made under the provisions herein after contained.

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1.14 'Contract value' shall mean that part of Contract price which is properly apportionable to the work in question having regard to the amount of work done and all other relevant circumstances and disregarding any changes that may have occurred since the date of Contract in the cost of executing the works.

1.15 'Manufacturer's Supervisory Personnel' shall mean the supervisory personnel deputed by the Contractor or any other manufacturer who has supplied materials or under whose supervision the installation of equipment is to be carried out.

1.16 'Date of Contract' shall mean the date on which LOA is issued and/or acceptance of bid is intimated to Contractor as the case may be.

1.17 'Guarantee Tests' shall mean such tests as prescribed in the Contract or as stipulated by the Engineer to be performed by the Contractor before the works are finally accepted by the Owner ready for commissioning and complete with all items to the satisfaction of the Engineer.

1.18 'Delivery period' shall mean the time period required from issue of LOA/Telegraphic intimation of acceptance of bid to the stage the works are ready for trial operation and inclusive of performance test.

1.19 'Commissioning' shall mean the first successful operation of the equipment after all initial adjustments, trials etc. cleaning and reassembly required at site if any have been completed and the equipment is made ready for commercial use.

1.20 The term 'Final Acceptance' shall mean the Owner's written acceptance of the works performed under the Contract after successful testing and commissioning of the equipments offered under this Contract.

1.21 'Guarantee period' shall mean the period during which the Contractor shall remain liable for repair/replacement of any defective part of the works performed under the Contract.

1.22 'Month' shall mean the calendar month. 'DAY' or 'DAYS' unless herein otherwise expressly defined shall mean calendar day or days of 24 hours each.

1.23 'Writing' shall include any manuscript, typewritten or printed statement under or over signature and/or seal as the case may be.

1.24 When the words 'Approved', 'Subject to approval', 'As directed', 'Accepted' etc. or words or phrases of like are used, the approval, direction, judgement etc. is understood to be a decision of the Owner/Engineer.

1.25 'Drawings' 'Plans' shall mean all:

a) Drawings furnished by the Owner as a basis for proposal.

b) Supplementary drawings, if any, furnished by the Owner to clarify and to define in greater detail the intent of the Contract.

c) Drawings submitted by the Contractor with his proposal provided such drawings are acceptable to the Owner.

d) Drawings furnished by the Contractor/Manufacturer to the Owner during the progress of the work.

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1.26 "Codes" shall mean the following but not limited to the following, including the latest amendments and/or replacements, if any.

- i. Indian Electricity Act, 1910/2003 and Rules and Regulations made thereunder
- ii. Indian Factory Act, 1948 and Rules and Regulations applicable for relevant materials supplied.
- iii. A.S.M.E. Test Codes.
- iv. A.I.E.E. Test codes.
- v. Standards of the Indian Standards Institutions applicable for relevant materials to be supplied
- vi. Other Internationally approved standards and/or Rules and Regulations touching the subject matter of Contract

2.0 INTERPRETATION

2.1 Words importing the "Singular only" shall also include the plural and vice versa where the context so requires

2.2 Words importing "Persons" shall include firms, companies, corporations and associations or bodies of individuals whether incorporated or not

2.3 Terms and expressions not herein defined shall have the same meaning as are assigned to them in the Indian Sale of Goods Act (1930), failing that in the Indian Contract Act (1872) and failing that in the General Clauses Act (1897)

3.0 SCOPE OF CONTRACT

This shall be as per Technical Specification.

4.0 ENGINEER'S SUPERVISIONS

4.1 ENGINEER'S INSTRUCTIONS

All instructions and orders to the Contractor shall, except as herein otherwise provided, be given by the Engineer

4.2 ENGINEER'S REPRESENTATIVE

The Engineer may, from time to time, delegate to Engineer's Representative any of the powers, discretions, functions and authorities vested in him and may at any time revoke any such delegation. Any such delegation or revocation shall be in writing signed by the Engineer; and in case of delegation, shall specify the powers, discretions, functions and authorities thereby delegated and the person or persons to whom the same are delegated. No such delegation shall have effect until a copy thereof has been delivered to the Contractor. Any person to whom any delegation is made shall be entitled to exercise the powers, discretions, functions and authorities so delegated to him as aforesaid

4.3 RESIDENT ENGINEERS

4.3.1 Resident Engineer/Engineers shall mean the Engineer/Engineers to be appointed by the Owner to execute the works at the site. The Contractor shall afford him every reasonable facility for so doing but the Engineer/s shall not be empowered to relieve the Contractor in any way of his duties or obligation under the Contract. Any written notice from the Engineer/s pointing out the defects in materials or workmanship should have the effect of a similar notice given by the Engineer under clause [illegible] covering defects except that the Contractor may appeal to the Engineer for his decision on such matter.

4.3.2 The Engineer shall in the progress of the work, have following powers to order, in writing, from time to time.

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a) The removal from the site within such time or times as may be specified in the order, any materials which in the opinion of the Engineer are not in accordance with the Contract.

b) The substitution by proper and suitable material.

c) The removal and proper re-execution (notwithstanding any previous test thereof or interim payment therefor) of any work, which in respect of materials or workmanship is not, in the opinion of the Engineer, in accordance with the Contract.

d) Removal of materials obstructing the operation of existing plant/equipments.

In case of default on the part of the Contractor in carrying out such order, the Owner shall be entitled to employ and pay other persons to carry out the same and all expenses consequent thereon or incidental thereto shall be recoverable from the Contractor by the Owner or may be deducted by the Owner from any amount due or which may become due to the Contractor. The engineer shall stipulate reasonable time for the Contractor to carry out the order aforesaid.

5.0 CONTRACT DOCUMENTS

5.1 The term "Contract Documents" shall mean and include the following which shall be deemed to form an integral part of the Contract:

a) Bidding document of the Owner, covering the instructions to Bidders, general terms and conditions of Contract, special terms and conditions, technical specifications, annexures, schedules, amendments etc.

b) Contractor's bid proposal including the letters of clarifications exchanged thereto between the Contractor and the Owner prior to the Award of Contract.

c) As the documentation of any sort given by the Contractor alongwith his bid, subject to the approval of the Owner/Engineer.

d) Any mutually agreed variations to the conditions of the documents, specification, terms and conditions of Contract, if any.

6.0 ASSIGNMENT AND SUBLETTING OF CONTRACT

6.1 The Contractor shall not assign the Contract or any part thereof or any benefit or interest therein or thereunder without the prior written consent of the Owner.

6.2 The Contractor shall not sublet any part of the works without prior written consent of the engineer/Owner.

6.3 Such consent, if given, shall not relieve the Contractor from any liability or obligation under the Contract and he shall be responsible for the acts, defaults and neglects of any subcontractor, his agents, servants or workmen as fully as if these were the acts, defaults or neglects of the Contractor, his agents, servants or workmen.

6.4 The engineer shall have the right to obtain from the Contractor any agreement or writing entered into by the Contractor with any of his sub-Contractors or any purchase orders placed for supplies and services in respect of the works included in the Contract provided that the Contractor shall not be forced to disclose the sub Contract prices. The Contractor shall supply the engineer with full technical and commercial details of orders placed on his sub contractors. The technical specification of all the purchase orders for sub Contracts shall be subject to the approval of engineer.

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7.0 CONTRACTOR TO INFORM HIMSELF FULLY

7.1 The Contractor shall be deemed to have satisfied himself as to all the conditions and circumstances affecting the Contract price and as to the possibility of executing the works as shown and described in the Contract. The Contractor shall be deemed to have inspected and examined the site and its surroundings, examined the approach roads etc., landing/unloading/ fabrication space etc. and to have fixed his price taking into account all such relevant conditions and also the risk, contingencies and other circumstances which may influence or affect the execution of the work as specified in the Contract.

7.2 The Contractor shall be responsible for any misunderstanding or incorrect information, however obtained, on which the Contract price has been based, except the written information furnished by the Owner.

7.3 The Contractor shall be deemed to have carefully examined all Contract documents to his entire satisfaction. If he shall have any doubt as to the meaning of any portion of the Contract documents, he shall, within one month of issue of Letter of Award or before signing the Contract as the case may be, set forth the particulars thereof, and submit them to the Owner in writing, in triplicate, in order that such doubts may be removed. The Owner shall provide such clarification as may be necessary, in writing to the Contractor. Any information otherwise obtained from the Owner or the engineer shall not in any way relieve the Contractor of his responsibility to fulfil his obligations under the Contract.

7.4 SUPERVISION OF CONTRACTOR

The Contractor, upon award of the Contract shall, in addition to a Project Co-ordinator, nominate another responsible officer as his representative at site suitably designated for the purpose of overall responsibility and co-ordination of the works to be performed at site. Such persons shall function from site office of the Contractor during the pendency of Contract. Any written order or instruction of the engineer or his duly authorised representative shall be communicated to the said authorised resident representative of Contractor and the same shall be deemed to have been communicated to the Contractor.

8.0 PERFORMANCE GUARANTEE IN LIEU OF SECURITY DEPOSIT

8.1 The Performance Bank Guarantee for the proper fulfillment of the Contract shall be furnished by the Contractor in the prescribed form within Thirty (30) days of Notice of Award of Contract/Letter of Award and before release of any payments not including the advance payment if any. The performance guarantee shall be as per proforma attached to the Bid Documents. This guarantee shall be for an amount equal to 10% (ten percent) of the Contract price.

8.2 The performance guarantee shall cover additionally the following guarantee to the Owner:-

The Contractor guarantees that the equipment installed by him shall be free from all defects in materials/workmanship and shall, upon written notice from the Owner fully remedy free of expenses to the Owner such defects that are attributable to the Contractor within the period of guarantee specified in the relevant clause of the Contract.

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8.3 The Contract Performance Guarantee is intended to secure the performance of the entire Contract. However, it is not to be construed as limiting the damages stipulated in other clauses of the Contract.

8.4 The Performance Guarantee shall be returned to the Contractor 90 days after the end of the guarantee period. The Owner is not liable to pay any interest or compensation to the Contractor for retaining the performance Guarantee after the end of the guarantee period.

8.5 The termination of the Contract under the clause 27.0 (Contractor's default) or any reasons shall not entitle the Contractor to reduce the value of the performance guarantee nor the time thereof. The performance guarantee shall be valid for the full value and for the full period of Contract including 90 days after the end of guarantee period.

8.6 In the case of increase in contract value, the contractor shall within 30 days from the date of amendment letter, indicating increase in contract value, submit the Performance Bank Guarantee equivalent to 10% of the value of increase in contract value, valid for period as indicated in sub clause 8.5.

8.7 After issue of the Notice of Award /Letter of Award of contract, if the contractor have not submitted the Performance Bank Guarantees within 60 days, the notice of cancellation of Notice of Award/ Letter of Award will be initiated against the contractor and EMD Bank Guarantees will be forfeited.

9.0 CONTRACT DRAWINGS

These should be as per Technical specification.

10.0 MISTAKES IN DRAWINGS

The Contractor shall be responsible for any discrepancies, errors or omissions in the drawings or other particulars supplied by him and shall pay all the costs of the alterations in the work necessitated thereby notwithstanding the fact that such drawings or particulars have been approved by the engineer provided that such discrepancies errors or omissions are not due to inaccurate information or particulars furnished to the Contractor in writing by the engineer. The Owner shall be responsible for drawings and information supplied by the engineer.

10.1 If any dimensions/figures upon a drawing or any plan differ from those obtained by scaling the drawings or plan, the dimensions as figured upon the drawings or plan shall be taken as correct.

11.0 EFFECT AND JURISDICTION OF CONTRACT

11.1 The Contract shall be considered as having come into force from the date of the issue of Letter of Award by the Owner.

11.2 The laws applicable to this Contract shall be the laws in force in India. The Courts at Mumbai shall have exclusive jurisdiction in all matters arising under the Contract.

12.0 LANGUAGE AND MEASURES

All documents pertaining to the Contract including specification, schedules, notices, correspondence, operating and maintenance instructions, drawings or any other writing shall be written in English language only. The metric system of measurements shall be used exclusively in the Contract.

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13.0 PATENT RIGHTS & ROYALTIES

13.1 Royalties and fees for patents covering materials, articles, apparatus, devices, equipments or processes used in the works shall be deemed to have been included in the Contract Price. The Contractor shall satisfy all demands that may be made at any time for such royalties or fees and he alone shall be liable for any damages or claims for patent infringements and shall keep the Owner indemnified in that regard. The Contractor shall, at his own cost and expenses, defend all suits or proceedings that may be instituted for alleged infringement of any patent involved in the works and in case of an award of damages, the Contractor shall pay for such award. In the event of any suit or other proceedings instituted against the Owner, the same shall be defended at the cost and expenses of the Contractor who shall also satisfy/comply the decree, order or award made against the Owner. Final payment to the Contractor by the Owner will not be made while any such suit or claim remains unsettled. In the event any apparatus or equipment or any part thereof furnished by the Contractor is in such suit or proceedings held to constitute infringement, and its use is enjoined, the Contractor shall, at his option, and at his own expense either procure for the Owner the right to continue use of said apparatus, equipment or part thereof, replace it with non-infringing apparatus or equipment or modify it, so that it becomes non-infringing.

13.2 The Contractor shall be responsible for the observance by his sub-contractors of the foregoing.

14.0 WORKMANSHIP & MATERIALS

14.1 The plant under the work shall be manufactured, constructed, procured, put in commission, carried out and maintained in all respect with workmanship and material of the best and most substantial and approved qualities to the entire satisfaction of the Engineer, who may reject any plant, apparatus, material or workmanship which shall in his opinion be defective in quality and such rejection shall be final and binding on the contractor. The Contractor shall at his own expense provide all materials, labour, haulage, tools, tackles apparatus and all things necessary to execute and complete the work and plant in manner aforesaid.

14.2 All materials used in the manufacture shall be high graded, free from defects and imperfections, recent manufacture & unused. Materials shall, conform to the latest specifications of BIS, where applicable.

14.3 All work shall be performed and completed in accordance with the best shop practice. Manufacture of high grade equipment castings shall be free from blow-holes, flaws, cracks or other defects and shall be smooth, close-grained and of true form and dimensions. All materials, supplies, parts supplied under this Contract shall be tested.

15.0 PACKING, FORWARDING AND TRANSPORTATION ETC.

15.1 The Contractor shall be fully responsible for packing, forwarding, transportation by railways or any other authorised mode of transport, clearance of equipment and further transportation at site to place of works/storage yards etc. in respect of material in his scope.

15.2 The Contractor, wherever applicable shall, after proper painting, pack and crate all equipment in such a manner as to protect them from deterioration and damage during rail/road or any other authorised mode of transport. The Contractor shall be held responsible for all damage/losses due to improper packing.

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15.3 The Contractor shall notify the Owner of date of each shipment from his/manufacturer's works and the expected date of arrival at the site for the information of Owner. The Contractor shall also give all requisite information concerning the weight size and content of each packing including any other information the Owner may require.

16.0 **INSPECTION, TESTING & INSPECTION CERTIFICATE:**

As per Technical Specifications

17.0 **TIME THE ESSENCE OF CONTRACT**

17.1 The time stipulated in the Contract for the completion of works shall be deemed to be the essence of the Contract. The Contractor shall so organize his resources and perform his work as to complete it not later than the date agreed to.

17.2 The Contractor shall submit a detailed PERT net work/Bar chart within the time frame agreed consisting of adequate number of activities covering various key phases of work also clearly indicating the completion period for various groups of activities. This network shall also indicate the interface facilities to be provided by the Owner and the dates by which such facilities are needed. The Contractor shall discuss the network so submitted with the Owner and the agreed network which may be in the form as submitted or as revised form in line with the outcome of discussions shall form part of the Contract. During the performance of the Contract, if in the opinion of the engineer proper progress is not maintained, suitable changes shall be made in the Contractor's operations to ensure proper progress.

17.3 The above PERT network shall be reviewed and periodic review reports shall be submitted by the Contractor as directed by the engineer.

18.0 **DEMURRAGE AND WHARFAGE ETC.**

18.1 When the materials are despatched to the site direct with documents consigned to the Owner, demurrage and wharfage and other expenses incurred due to delay in clearance of the materials, despatch documents, Railway/Lorry Receipt, or any other reason shall be to the account of the Contractor. It shall be the responsibility of the Contractor to obtain clear railway receipts/lorry receipts and clear documents in order to avoid any difficulty while clearing/taking delivery of the materials.

19.0 **PROGRESS REPORT**

19.1 The Contractor shall submit monthly reports to the engineer showing the progress of manufacture and delivery of the equipment/materials and the erection works executed by the Contractor. The Contractor shall also furnish to the engineer such other information as the engineer may require to satisfy himself about the timely manufacture and delivery of the equipment/materials and the proper progress of erection of the works to suit the accepted construction programme. The Contractor shall be responsible for the proper despatch, receipt and storage at the site of all equipment/materials delivered for the purpose of the Contract and also for advising the engineer of the details of the deliveries and delay thereto. Should any item of equipment be lost or damaged due to improper packing, transport, handling or advised to the Owner, the Contractor shall make best efforts to ensure that the replacement is arranged expeditiously so that construction schedule is not affected.

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20.0 EXTENSION OF TIME LIMIT FOR COMPLETION

20.1 If by reasons of extra or additional work or any natural phenomenon or any cause beyond the control of the Contractor or the Owner as defined in the clause entitled "force majeure", the Contract shall have been delayed or impeded in the completion of the works, whether such delay or impediment occurs before or after the time or extended time fixed for completion, provided that the Contractor shall without delay have given to the Engineer a notice in writing of his claim for an extension of time, the Engineer shall on receipt of such notice grant the Contractor either prospectively or retrospectively such extension of time limit in the Contract for the completion of work as may be justified. The Contractor shall have no other claim against the Owner in respect of delay and disorganisation of the work arising from occurrences here in above mentioned.

21.0 CONTRACT PRICE

21.1 The lumpsum prices quoted by the Contractor in his bid with additions and deletions as may be agreed for the entire scope of the works viz. Design, engineering, inspection at manufacturer's factory site, supply, transportation, receipt and storage at site, erection, testing and commissioning of the works covered under these specifications and documents shall be treated as the Contract price.

21.2.1 a) The Contract price shall include all taxes and duties Exclusive of Corporate tax, Income Tax, Excise Duty, VAT/CST, Other levies, Fees, Cesses, Octroi, Deposit etc. whatsoever, and the Owner shall not be liable for payment of any such taxes or duties.

b) For Evaluation of the Tender, the total price of Supply & E.T.C. including all Taxes & Duties shall be considered.

c) The LoA will be placed on final accepted price for Supply and ETC including all applicable Taxes & duties.

It may please be noted that the taxes/duties will be reimbursed as submitted by the bidder or as applicable on Ex works price whichever is lower on submission of valid documentary proof.

21.2.2 The prices quoted by the bidder shall take into account credit availed on inputs under the 'Modvat' scheme introduced by G.O.I. w.e.f. 1-3-86. Accordingly, as a result of additional duty set off's as may become available during the currency of Contract on the inputs used for the manufacture of final products in the case of supply under 'Modvat' scheme shall be passed on to the Board and you shall advise the Board for suitable reductions in the prices duly certified by Chartered Accountant.

21.3 The Bidder to furnish separately break-up of the prices of taxes and duties [illegible] considered (the tax rates in [illegible] prevailing [illegible]) in the bid in the prescribed Schedules.

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The Contract price shall include any cost or charges for obtaining any permits, approval or license etc. whenever applicable.

The Contract is to be treated as Indivisible Contract. The Contract shall include all applicable taxes, duties, etc. as indicated above. Necessary concessional forms such as 'C' etc. will be issued for this Contract. The prevailing rate of MVAT applicable for power transmission purpose is 5% only.

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22.0 PRICE VARIATION DUE TO VARIATION IN TAXES

22.1 Variation in Taxes & duties if any will not be payable

22.1.1 Delete

22.1.2 Delete

23.0 DEDUCTION FROM CONTRACT PRICE

23.1 All costs, damages or expenses which the Owner may have paid for which under the Contract the Contractor is liable, will be claimed by the Owner. All such claims shall be billed by the Owner to the Contractor regularly as and when they fall due. Such bills shall be supported by appropriate and verifiable documentation as may be required by the Contractor to properly identify such claims. Such claims shall be paid by the Contractor within fifteen (15) days of the receipt of the corresponding bills and if not paid by the Contractor within the said period, the Owner may then deduct the amount from any amount due or becoming due by him to the Contractor under the Contract or Bank Guarantee issued by the Contractor or may be recovered by action of law or otherwise, if the Contractor fails to satisfy the Owner of such claims.

24.0 TERMS OF PAYMENT

24.1 The payment to the contractor for the performance of the Works under the contract shall be made by the owner as per guidelines and conditions specified herein. All payments made during the contract shall be on account payments only. The final payment shall be made on completion of the whole work as per the contract and on fulfillment by the contractor of all his liabilities under the contract.

24.2 The owner shall make progressive payments as and when these are due as per the payment schedule. Payment shall become due and payable by the owner within 45 days from the date of receipt of contractor's bills/invoices (duly certified) by the Owner, provided the documents submitted with the invoices are complete in all respects.

24.3 Verification for completeness of bills/invoices shall be completed within seven days of receipt of the same from the contractor. In case any discrepancy is noticed, the bills/invoices shall be returned to the Contractor for revision within seven days of receipt of the same from Contractor.

24.4 The payment will be made after fulfillment of dependency clause indicated in Activity Schedule enclosed.

24.5 PAYMENT SCHEDULE

(A) For Supply of materials/ equipment
(i) For [illegible]

(i) 10% of the cost of supply of materials/equipment shall be payable within 45 days against the receipt at site.

(ii) 50% of the cost of supply of materials/equipment shall be payable within 45 days against successful erection.

(iii) For balance 40% of the cost of supply of materials/equipment shall be paid within 45 days upon successful commissioning.

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b) For Services (Erection ,Testing and commissioning)

i) 90% of the Charges towards erection portion completed shall be paid within 45 days from the date of completion, on those works.

ii) Balance 10% of Erection Charges (for the completed works) shall be paid within 45 days after successful commissioning of the works.

Note: The 45 days period mentioned for payments shall be reckoned from the date of successful clearance of verification of documents or due date whichever is later.

24.5.1 **For Price Variation**

Price variation shall be given on Ex-works price mentioned in MSETCL's estimation or bidder's ex-works quoted price whichever is lowest.

The payments of Price Variation claims shall be made within 60 days from the date of submission of claim with relevant documents in support of P.V. claims. The P.V. bill shall be submitted by contractor against each lot and after monthly completion of works duly certified by engineer In-charge of works.

24.5.2 All the above payment periods shall commence on the date of submission of the bills duly certified by Engineer In-charge and accompanied with relevant documents complete in all respects, supporting the claims/payments.

24.6 **MODE OF PAYMENT**

24.6.1 All payment due to the Contractor shall be paid only by "Account Payee Cheques".

24.6.2 The Contractor shall present every month his invoice for the supply/works done in the preceding month. The invoices/bill for supply/works should be separately submitted. After verification of such invoice by Owner, all items having financial value shall be entered and certified in Owner's Measurement Book by the "Engineer Incharge" and these certified invoices along with relevant supporting documents complete in all respect shall be presented for payment.

24.6.3 Work is to be measured as per standard procedure. The measurement shall be taken jointly by persons duly authorised on the part of Owner and by the Contractor.

24.6.4 If, at any time due to any reason whatsoever, it becomes necessary to remeasure the work done in full or in part, the expense towards such remeasurement shall be borne by the Contractor.

24.6.5 The Contractor shall bear the expenditure involved, if any, in making the measurement. The Contractor shall, without extra charges, provide all the assistance with appliances and other things necessary for measurement.

24.6.6 The measurement entered in the measurement books and the bills prepared shall be signed and dated by both the Contracting parties.

24.6.7 The Contractor will be informed in writing by the engineer the proposed date of measurement. If the Contractor does not turn at the appointed time, the Engineer shall have the powers to proceed by himself to take measurement and in that case the measurement shall be accepted by the Contractor as final.

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24.6.8 Passing of measurement as per bills does not amount to acceptance of the completion of the work mentioned. Any left out or [illegible] pointed out at a later date by Engineer.

24.6.9 The Contractor shall be directly responsible for payment of wages to his workmen. A payroll sheet giving all the payments given to the workers and duly signed by the Contractor's representative should be furnished to Engineer for record purpose every month.

24.6.10 The payment for the works shall be [illegible] to the Contractor by the Owner / through funding agency.

25.0 CONTRACTOR'S DEFAULT

25.1 If the Contractor shall neglect to execute the work with due diligence and expedition or shall refuse or neglect to comply with any reasonable orders given to him in writing by the Engineer in connection with the work or shall contravene the provisions of the Contract, the Owner may give notice in writing to the Contractor to make good the failure, neglect or contravention complained. Should the Contractor fail to comply with the notice within thirty (30) days from the date of service thereof, then and in any such case, the Owner shall be at liberty to employ other workmen and forthwith execute such part of the works as the Contractor may have neglected to do or, if the Owner shall think fit, it shall be lawful for him, without prejudice to any other right he may have under the Contract, to take the works wholly or in part out of the Contractor's hand and re-Contract with any other person or persons to complete the works or any part thereof and in that event the Owner shall have free use of Contractor's equipment that may have been at the time on the site in connection with the works without being responsible to the Contractor for fair wear and tear thereof and to the exclusion of any right of the Contractor over the same, and the Owner shall be entitled to retain and apply any balance money which may otherwise be due on the Contract by him or such part thereof as may be necessary, to the payment of the cost of executing the said part of the works or completing the works, as the case may be. If the cost of completing the works or executing a part thereof as aforesaid shall exceed the balance due to the Contractor, the Contractor shall pay such excess. The Owner shall have the right to terminate the Contract in case of Contractor's default.

25.2 In no case, such action by the Owner as aforesaid shall not relieve the Contractor of his liability to pay liquidated damages for delay in completion of works as defined in Contract.

25.3 The termination of the Contract under this clause as effected by the Owner shall not entitle the Contractor to reduce the value of the performance guarantee nor the time thereof. The performance guarantee shall be valid for the full value and for the full period of the Contract including 90 days after the end of guarantee period.

If any line work / bay work / substation work get delayed / not completed / delayed by contractor beyond the stipulated time even after the instruction to contractor by nodal officer in writing, the nodal officer shall have the right to execute the same through any other Agency to avoid the delay in completion of the project. In the above mentioned case, the cost of such works shall be recovered through the Agency's payment upto the actual cost of the work executed with administrative cost as [illegible]. Further penalty at the rate of 10% of the above cost shall be levied to the Agency.

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25.5 Such incidences, execution of clause no. 25.4 if exercised three (3) times for the project, the contractor shall be blacklisted from the participation in the future tenders of MSETCL for further three year.

26.0 TERMINATION OF CONTRACT

26.1 The Owner may upon written notice of default by the Contractor, terminate the Contract in the circumstances detailed hereunder:

a) If, in the opinion of the Owner, the Contractor fails to make delivery of equipments/ completion of work within the time specified in the Contract agreement or within the extended period of delivery granted by the Owner.

b) If, in the opinion of the Owner, the Contractor fails to comply with any of the other provisions of the Contract including technical requirements, statutory provisions etc.

26.2 In the event the Owner terminates the Contract in whole or in part as provided above, the Owner reserves the right to purchase the materials/equipments and get work executed as deemed by the Owner to be similar to the one contracted for, upon such terms and in such manner as the Owner may deem proper and the Contractor shall be liable to the Owner for any additional cost for purchase of such similar materials/equipments or work.

26.3 If the Contract is terminated under the provisions of this clause, the Owner, in addition to any other rights that he may have in terms of the Contract, may require the Contractor to transfer title and deliver to the Owner and in the manner as directed by the Owner,

a) Any completed equipment/works

b) Such partially completed equipments, works, drawing, information and Contract rights as the Contractor has specifically produced or acquired for the performance of such part of this Contract which has been terminated.

26.4 The Owner shall pay to the Contractor the Contract price for the completed equipment delivered to and accepted at the rate as provided for in the Contract or where no rates are provided for in the Contract, at the rates deemed reasonable by the Owner after deduction by the Owner for the additional expenses incurred by him in getting the balance equipment from agencies other than the Contractor.

26.5 In all such cases where the Contract has been terminated due to Contractor's defaults, the decision of the Owner regarding the reasonability of the price for the parts completed and accepted and for which no rates are available in the Contract shall be final and binding on the Contractor.

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27.0 REJECTION

27.1 In the event any of the equipment supplied and/or work done by the Contractor is found to be defective in material or workmanship or otherwise not in conformity with the requirements of the Contract even after rectification by the Contractor during the guarantee period, the Owner shall have the right to reject part or the whole of the material/work and call upon the Contractor to replace the material/work by a new one at his own expenses. If the Contractor fails to do so the Owner may either replace or rectify such defective equipment/work and charge to the Contractor the excess cost incurred by the Owner for replacement and such other expenditure to cover the Owner's cost or terminate the Contract for Contractor's default as provided for in the Contract.

27.2 In the event the Contractor is unable to replace the rejected material within a reasonable time, the Owner reserves the right to acquire the said material/work at a reduced price considered equitable under the circumstances and the decision of the Owner as regards such reduced price shall be binding on the Contractor.

28.0 DELAYS BY OWNER OR HIS AUTHORISED REPRESENTATIVES

28.1 In case the Contractor's performance is delayed due to any act of omission on part of the Owner or his authorised representatives, then the Contractor shall be given due extension of time for the completion of the works, to the extent such omission on the part of the Owner has caused delay in the Contractor's performance of his work.

28.2 The Contractor desirous of extension of time for completion of work on this ground shall apply in writing to the engineer at least 90 days (ninety days) before the expiry of the stipulated period of completion. Regarding reasonableness or otherwise of the extension of time, the decision of the Engineer shall be final.

29.0 MODIFICATION & RECTIFICATION

29.1 The modification, rectification, rework, [illegible] any work done to change the existing store to the desired design and also [illegible]

any, as are needed due to any change in or deviation from the drawing and design of equipment, operation/maintenance requirement, mis-alignment, transit damages and other minor works which are not very specifically indicated in the drawings, but are found essential for satisfactory completion of the work, if are required to be done, no extra charges shall be paid to the Contractor.

29.2 For the above work, any material and consumables required will also have to be arranged by the Contractor at his cost.

29.3 All the above type of work shall preferably be carried out by separate personnel. Diversion of regular working personnel for such work shall not be permissible and no delay in the progress should be caused due to executing such work. The Contractor shall be responsible for arrangement of [illegible] for carrying out such work.

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30.0 COMPLETION OF CONTRACT

30.1 Unless otherwise terminated under the provisions of any other relevant clause, this Contract shall be deemed to have been completed at the expiration of the guarantee period as provided for under the clause entitled "Guarantee" and upon release of last payment to the Contractor by the Owner [illegible].

31.0 COORDINATION MEETINGS

31.1 Co-ordination meetings between the Engineer and the Contractor shall be held from time to time at the discretion of the Engineer to monitor the work

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31.2 The Contractor will also be called upon to attend to design co-ordination meetings with the Engineer, other Contractors and consultants of the Owner during the period of Contract. The Contractor shall attend all such meetings at his own cost as and when required and fully co-operate with the Engineer/Owner and other agency involved during these discussions.

32.0 FORCE MAJEURE

32.1 The following causes which substantially affect the performance of the Contract shall only be considered as force majeure conditions.

a) Natural phenomena, including but not limited to floods, droughts, earthquakes and epidemics

b) Acts of any Government, domestic or foreign, including but not limited to war, declared or undeclared, priorities, embargoes.

Provided the party affected by the 'Force Majeure' shall within fifteen (15) days from the occurrence of such a cause, notify the other party in writing of such cause with sufficient documentary proof.

32.2 Notwithstanding any provision under clause 32.1, the Owner shall not in any way be liable for non-performance either in whole or in part of any Contract or for any delay in performance thereof in consequence of strikes, shortages of labour or workmen or lockout, breakdown or accident to machinery or accidents of whatever nature, failure on the part of the railways to supply sufficient wagons to carry essential raw materials etc. and finished products from the works etc. These causes shall not be treated as 'Force Majeure' but subject to the provision and stipulation made in clause of liquidated damages for late delivery.

32.3 The Contractor or the Owner shall not be liable for delays in performing their respective obligations resulting from any force majeure causes as defined above. The date of completion will be extended by a reasonable time by mutual agreement.

32.4 In case of damage or destruction of any property or equipment belonging to the Contractor due to force majeure causes, the Owner shall not be liable for the same.

32.5 The Owner shall have the right to inform the Contractor not to ship any part of the equipment due to weather or any other reasonable cause and in all such cases, the Contractor shall withhold shipment of such parts without any extra charge for storage for a reasonable time.

33.0 ARBITRATION

33.1 The matters to be determined by the Chief Engineer:

33.2 All disputes and differences of any kind whatsoever arising out of or in connection with the contract, whether during the progress of the work or after its completion and whether before or after the determination of the contract, shall be referred by the contractor to C.E. and the C.E. shall within 120 days after receipt of the contractor's representation make and notify decisions on all matters referred by the contractor in writing.

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35.3 Demand for arbitration:

In the event of any dispute or difference between the parties hereto as to the construction or operation of this contract, or the respective rights and liabilities of the parties on any matter in question, the dispute or difference on any account or as to the withholding by MSETCL of any certificate to which the contractor may claim to be entitled to, or if the MSETCL fails to make a decision (within 120 days) then and in any such case, the contractor after 120 days but within (180 days) of his presenting his final claim on disputed matters, shall demand in writing that the dispute or difference be referred to arbitration.

35.4 The demand for arbitration shall specify the matters which are in question, or subject of the dispute or difference as also the amount of claim item-wise. Only such dispute (s) or difference (s) in respect of which the demand has been made, together with counter claims or set off, shall be referred to arbitration and other matters shall not be included in the reference.

a) The arbitration proceedings shall be assumed to have commenced from the day, a written and valid demand for arbitration is received by the MSETCL.
b) The claimant shall submit his claim stating the facts supporting the claims along with all relevant documents and the relief or remedy sought against each claim within a period of 30 days from the date of appointment of the Arbitration Tribunal.
c) The MSETCL shall submit its defence statement and counter claim (s), if any, within a period of 60 days of receipt of copy of claims from the Tribunal thereafter unless otherwise extension has been granted by the Tribunal.

35.5 No new claim shall be added during the proceedings by either party. However, a party may amend or supplement the original claim or defence thereof during the course of arbitration proceedings subject to acceptance by Tribunal having due regard to the delay in making it.

35.6 If the contractor(s) does/do not prefer his/their specific and final claims in writing within a period of 90 days of receiving the intimation from the MSETCL that the final bill is ready for payment, he/they will be deemed to have waived his/their claims and the MSETCL shall be discharged and released of all liabilities under contract in respect of these claims.

35.7 Obligation during pendency of Arbitration.

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33.7.3 Work under the contract shall unless otherwise directed by the Engineer, continue during the arbitration proceedings and no payments due or payable to the MSETCL shall be withheld on account of such proceedings, provided, however it shall be open for arbitral tribunal to consider and decide whether or not such works should be continued during arbitration proceedings.

a) In cases where the total value of all claims in question added together does not exceed Rs.1,00,00,000/- (Rupees One Crore) the Arbitral Tribunal shall consist of a Sole Arbitrator who shall be either not below the rank of C.E. serving or retired officer of the Government or equivalent to C.E. or a judicial officer retired not below the rank of Dist. Judge, nominated by the Chairman of the MSETCL in that behalf. The sole Arbitrator shall be appointed within 60 days from the day when a written and valid demand for arbitration is received by the MSETCL.

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b) In cases where the value of the claim exceeds Rs 1,00,00,000/- (Rupees One Crore) as above, the Arbitral Tribunal shall consist of a panel of 3 serving or retired officers of [illegible] level and above the rank of CE/AC [illegible] or a judicial officer retired not below the rank of Dist. Judge as the Arbitrators. For this purpose, the MSETCL will send a panel of more than 3 names of arbitrators who may be either serving or retired Govt. officials / judicial officer retired not below the rank of Dist. Judge to the contractor who will be asked to suggest to the Chairman at least 2 names for appointment as contractor's nominee. The Chairman shall appoint at least one of them as contractor's nominee. The Chairman of MSETCL will also appoint the [illegible] arbitrator either from the panel or from outside the panel. Further above both the arbitrator nominated by the respective parties shall appoint the third arbitrator who shall act as presiding arbitrator. While nominating arbitrators, it will be necessary to ensure that one of them is or has worked in Accounts department.

c) If one or more arbitrators appointed as above refuses to act as arbitrator, withdraws from his office as arbitrator or vacates his/their office/offices or is/are unable or unwilling to perform his functions as arbitrator for any reason whatsoever or dies or in the opinion of the Managing Director fails to act without undue delay, the Managing Director shall appoint new arbitrator/s to act in his/their place in the same manner in which the earlier arbitrator/s had been appointed. Such reconstituted Tribunal may, at its discretion proceed with the reference from the stage at which it was left by the previous arbitrator/s.

d) The Tribunal shall have powers to call for such evidence by way of affidavits or otherwise as the Arbitral Tribunal shall think proper, and it shall be the duty of the parties hereto to do or cause to be done all such things as may be necessary to enable the Arbitral Tribunal to make the award without any delay.

e) While appointing arbitrator(s) as above, due care shall be taken that he/they is/are not the one/those who had an opportunity to deal with the matters to which the contract relates or who in the course of his / their duties as MSETCL's servant(s) expressed views on all or any of the matters under dispute or differences. The proceedings of the Arbitral Tribunal or the award made by such Tribunal will, however, not be invalid merely for the reason that one or more arbitrator had, in the course of his service, opportunity to deal with the matters to which the contract relates or who in the course of his/their duties expressed views on all or any of the matters under dispute.

f) Arbitral award shall state item wise the sum and reasons upon which it is based.

g) A party may apply for corrections of any computational errors, any typographical or clerical errors or any other error of similar nature occurring in the award and interpretation of specific point of award to tribunal within 30 days of receipt of the award.

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d) A party may apply to Tribunal within 30 days of receipt of award to make an additional award as to claims presented in the arbitral proceedings but omitted from the arbitral award.

e) In case of the Tribunal comprising of three members any ruling or award shall be made by a majority of members of Tribunal. In the absence of such a majority, the views of the Presiding Arbitrator shall prevail.

f) Where the arbitral award is for payment of money, no interest shall be payable on whole or any part of the money for any period till the date on which the award is made. The arbitrator shall have full power to review and/or revise any decision, opinion, direction, certification or valuation of the Engineer in connection with the Contract, and neither party shall be limited in the proceedings before such arbitrators to the evidence or arguments put before the Engineer for the purpose of obtaining the said decision.

g) The cost of the arbitration shall be borne equally by the respective parties. The cost shall inter-alia include fees of the arbitrators as per the rates fixed by the MSETCL from time to time. Provided that the fees payable per arbitrator for claims up to Rs.One Crore, shall not exceed Rs.2000/- per sitting subject to a maximum of Rs.25,000/- and the fees payable per arbitrator for claims over Rs.One Crore, shall not exceed Rs.2000/- per sitting subject to a maximum of Rs.50,000/-. Provided further that the arbitrators who are in service of Govt./MSEB shall draw fees at half of the rates mentioned above.

h) MSETCL shall maintain a list of arbitrators. The Managing Director shall have full powers to delete or add the name of the Arbitrator/s in the list or to make any amendments to the said list as per his discretion.

i) The arbitral proceedings should be completed and the award be made within one year from the date of appointment of arbitrators.

j) Subject to the provisions as aforesaid, Arbitration & Conciliation Act, 1996 and the rules there under, and any statutory modification thereof shall apply to the arbitration proceedings under this clause.

34.0 SUSPENSION OF WORK

The Contractor shall, on the written order of the Engineer, suspend the progress of the works or any part thereof for such time or times and in such manner as the Engineer may consider necessary and shall, during such suspension, properly protect and secure the work so far as is necessary in the opinion of the Engineer. If such suspension is not due to any default on the part of the Contractor the time for completion of the works shall be extended for a period of corresponding to the duration of the suspension of works.

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35.0 TERMINATION OF CONTRACT ON OWNER'S INITIATIVE

35.1 The Owner reserves the right to terminate the contract either in part or in full for reasons other than those under clause 'Contractor's Default'. The owner shall in such an event give fifteen (15) days notice in writing to the contractor of his decision to do so.

35.2 The contractor upon receipt of such notice shall discontinue the work on the date and to the extent specified in the notice, make all reasonable efforts to obtain cancellation of all orders and contracts to the extent they are related to the work terminated and terms satisfactory to the Owner, stop all further sub-contracting or purchasing activity related to the work terminated and assist the Owner in maintenance, protection and disposition of the works acquired under the Contract by the Owner.

35.3 In the event of such a termination, the Contractor shall be paid reasonable compensation dictated by the circumstances prevalent at the time of termination.

36.0 POWER TO VARY OR OMIT WORK

36.1 No alterations, amendments, omissions, suspensions or variations (hereinafter referred to as "Variations") of the works under the Contract as detailed in the Contract Documents shall be made by the Contractor except as directed in writing by the Engineer, but the Engineer shall have full powers subject to the provisions hereinafter contained from time to time during the execution of the Contract, by notice in writing to instruct the Contractor to make such variation without prejudice to the Contract. The Contractor shall carry out such variation and be bound by the same conditions as far as applicable as though the said variations occurred in the Contract documents. If any suggested variation would, in the opinion of the Contractor, if carried out, prevent him from fulfilling any of his obligations or guarantees under the Contract, he shall notify the Engineer thereof in writing and the Engineer shall decide forthwith whether or not the same shall be carried out and if the Engineer confirms his instructions, Contractor's obligations and guarantees shall be modified to such an extent as may be mutually agreed. Any agreed difference in cost occasioned by any such variation shall be added to or deducted from the Contract price as the case may be.

36.2 In the event of the Engineer requiring any variation, such reasonable and proper notice shall be given to the Contractor to enable him to make his arrangements accordingly, and in cases where any work done requires to be altered, a reasonable and agreed sum in respect thereof shall be paid to the Contractor.

36.3 In any case in which the Contractor has received instructions from the Engineer as to the requirements of carrying out the altered or additional or substituted work which either then or later on will, in the opinion of the Contractor, involve a claim for additional payment, the Contractor shall immediately and in no case later than thirty (30) days after receipt of the instructions aforesaid and before carrying out the instructions, advise the Engineer to that effect. But the Engineer shall not become liable for the payment of any charges in respect of any such variations, unless the instructions for the performance of the same are confirmed in writing by the Engineer.

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36.4 If any variation in the works results in reduction of Contract price, the parties shall agree in writing as to the extent of any change in the price.

36.5 In all the above cases, in the event of a disagreement as to the reasonableness of the said sum, the decision of the Engineer shall prevail.

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36.6 Notwithstanding anything stated above in this clause, the Engineer shall have the full power to instruct the Contractor, in writing during the execution of the Contract, to vary the quantities of the items or groups of items. The Contractor shall carry out such variations and be bound by the same conditions as though the said variations occurred in the Contract Documents.

37.0 ENFORCEMENT OF TERMS

37.1 The failure of either party to enforce at any time any of the provisions of this Contract or any rights in respect thereto or to exercise any option herein provided shall in no way be construed to be a waiver of such provisions, rights or options or in any way to affect the validity of the Contract. The exercise by either party of any of its rights herein shall not preclude or prejudice either party from exercising the same or any other right it may have under the Contract.

38.0 ACCESS TO SITE AND WORKS ON SITE

38.1 The works shall be carried out at such time as the Owner may approve and the Owner shall give the Contractor facilities as brought out in the Contract for carrying out the works.

38.2 In the execution of the works, no persons other than the Contractor or his duly appointed representative, sub-Contractor and workmen, shall be allowed to do work on the site, except with the special permission, in writing, of the Engineer or his representative.

39.0 LINES AND GRADES

39.1 All the works shall be performed to the lines, grades and elevations indicated on the drawings. The Contractor shall be responsible to locate and layout the work. Basic horizontal and vertical control points will be established and marked by the Engineer at site at suitable points. These points shall be used as datum for the works under the Contract. The Contractor shall inform the Engineer well in advance of the times and places at which he wishes to do work in the area allotted to him, so that suitable datum points may be established and checked by the Engineer to enable the Contractor to proceed with his work. Any work done without being properly located may be removed and/or dismantled by the Engineer at Contractor's expense.

39.2 If at any time during the progress of works any error shall appear or arise in the position, levels, dimensions or alignment of any part of the work, the Contractor on being required to do so by the Engineer or Engineer's representative shall at his expense, rectify such error.

39.3 The Contractor shall carefully protect and preserve all bench marks, reference points, pegs and other things used in setting out, locating and layout of the works.

40.0 CONTRACTOR'S MATERIAL BROUGHT TO SITE

40.1 The Ownership of Contractor's all goods, tools and plants shall from the time of these being brought to site, vest in the Owner, and these may be used for the purpose of the works and shall not on any account be removed or taken away by the Contractor from the site without the written permission of the Engineer. The Contractor shall nevertheless be solely liable and responsible for any loss or destruction thereof and damage thereto.

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40.4 The Owner shall have a lien on such goods for any sum or sums which may at any time be due or owing to him by the Contractor, under in respect of or by reason of the Contract. After giving a fifteen (15) days notice in writing of his intention to do so, the Owner shall be at liberty to sell and dispose of any such goods, in such manner as he shall think fit including public auction or private treaty and to apply the proceeds in or towards the satisfaction of such sum or sums due as aforesaid.

40.5 After the completion of the works, the Contractor shall remove from the site under the direction of the engineer the materials such as construction equipment, erection tools and tackles, etc. with the written permission of the Engineer. If the Contractor fails to remove such materials within fifteen (15) days of issue of a notice by the Engineer to do so, then the Engineer shall have the liberty to dispose of such materials as deemed fit, and credit the proceeds thereof to the account of the Contractor after deducting reasonable expenses incurred by the Engineer for such disposal.

41.0 CO-OPERATION WITH OTHER CONTRACTORS AND OWNER

41.1 The Contractor shall co-operate with all other Contractors or tradesmen of the Owner, who may be performing other works on behalf of the Owner and the workmen who may be employed by the Owner in the vicinity of the works under the Contract. The Contractor shall also so arrange to perform his work as to minimize, to the maximum extent possible, interference with the work of other Contractors and their workmen. Any injury or damage that may be sustained by the employees of the other Contractors and the Owner, due to the Contractor's work shall promptly be made good at his own

expense. The Engineer shall determine the resolution for any difference or conflict that may arise between the Contractor and other Contractors or between the Contractor and the workmen of the Owner in regard to their work. If the work of the Contractor is delayed because of any acts or omissions on the part of another Contractor, the Contractor shall have no claim against the Owner other than an extension of time for completing his works.

41.2 The Engineer shall be notified promptly by the Contractor of any defects in other Contractor's works that could affect the Contractor's works. The Engineer shall determine the corrective measures, if any, required to rectify this situation, after inspection of the works and such decisions by the Engineer shall be binding on the Contractor.

42.0 WORK TO BE OPEN TO INSPECTION AND CONTRACTOR OR RESPONSIBLE AGENT TO BE PRESENT

All works under or in course of execution or executed in pursuance of the Contract shall at all times be open to the inspection and supervision of the Engineer and the Contractor shall at all times during the usual working hours and at all other times at which reasonable notice of the intention of the Engineer to visit the works shall have been given to the Contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing, present for that purpose. Orders given to the Contractor's duly authorised agent shall be considered to have the same force and effect as if these had been given to the Contractor himself.

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43.0 **NOTICE TO BE GIVEN BEFORE WORK IS COVERED UP**

The Contractor shall give not less than seven days notice in writing to the Engineer before covering up or otherwise placing beyond the reach of measurement any work in order that the same may be measured and correct dimensions thereof taken. In case the Contractor covers up the work without such notice, the Engineer reserves the right to get the same uncovered at the risk and expense of the Contractor.

44.0 **REMEDY OF DEFECTS**

If at any time before the works are finally taken over by the Owner, the Engineer shall:-

a) decide that any work done or plant supplied or materials used by the Contractor or any sub-Contractor is/are defective or not in accordance with the Contract or that the works or any portion thereof are defective or do not fulfill the requirements of the Contract (all such matters being hereinafter in this clause called 'defects') and

b) as soon as reasonably practicable give to the Contractor notice in writing of the said decision specifying particulars of the defects alleged and/or where the same are alleged to exist or to have occurred and

c) so far as may be necessary, place the works at the Contractor's disposal

then the Contractor shall with all speed and at his own expense make good the defects so specified. In case the Contractor shall fail to do so, the Owner may take, at the cost of the Contractor such steps as may in all circumstances be reasonable to make good such defects. All plant provided by the Contractor to replace defective plant shall comply with the Contract. The Contractor shall be entitled to remove and retain all plant that the Owner may have replaced at the Contractor's cost. In case of failure of the Contractor to remove the replaced parts within a reasonable time, the Owner reserves the right to take further action for its disposal in any manner as deemed fit. Such action shall in no way limit the liability and responsibility of the Contractor for removal of such parts. However, the Owner shall give reasonable time to the Contractor before such action is taken.

45.0 **EMPLOYMENT OF LABOUR**

45.1 The Contractor will be expected to employ on the work only his regular skilled employees with experience of this particular work. No person below the age of eighteen years shall be employed.

45.2 All travelling expenses including provision of all necessary transport to and from site, lodging allowances and other payments to the Contractor's employees shall be the sole responsibility of the Contractor. The Contractor shall arrange at his own cost, the accommodation for his labour and other supervisory staff.

45.3 The Contractor's employees shall wear identification badges while on work at site.

45.4 In case the Owner becomes liable to pay any wages or dues to the labour or to any Government agency under any of the provisions of the **Minimum Wages Act, Workmen Compensation Act, Contract Labour Regulation Abolition Act** or any other law due to act or omission of the Contractor, the Owner may make such payments and shall recover the same from the Contractor's bill.

As far as possible, unskilled workers shall be engaged from the locality in which the work is being executed.

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45.6 The Contractor shall at all times during the continuance of this Contract, in all his dealings with local labour for the time being employed on or in connection with the work, have due regard to all local festivals and religious and other customs. The Contractor will fully comply with all the provisions of labour, civil and other state and central laws, statutory rules, regulations etc. In case of his non-compliance with any provision under the laws, the Contractor will indemnify the Owner from and against all liabilities, damages, penalties, demand etc.

45.7 The Contractor, in the event of his engaging 20 or more workmen for the Project, shall obtain independent licence under the Contract Labour (Regulation and Abolition) Act, from the concerned State Labour Authorities.

45.8 No idle labour charges will be admissible in the event of any stoppage caused to the work resulting in Contractor's labour being rendered idle due to any cause at any time.

45.9 The Contractor shall fulfill all his obligations in respect of accommodation and other proper medical facilities for the personnel employed by him.

45.10 The Contractor shall submit to the Engineer, on the first day of every month, a man-hour schedule for the month indicating the number of manpower, skilled or otherwise proposed to be employed by him for the works. Should the Engineer be of the opinion that the list needs modification to ensure completion of the scheduled work in time and in a professional manner, the Contractor shall, at his own expense, rearrange the manpower to be employed at site.

46.0 DISCIPLINE OF WORKMEN

The Contractor shall adhere to the disciplinary procedure set by the Engineer in respect of his employees and workmen at site. The Engineer shall be at liberty to object to the presence of any representative or employee of the Contractor who in the opinion of the Engineer has misconducted himself or is incompetent or negligent or otherwise undesirable. The Contractor shall forthwith remove such a person from site and provide in his place a competent replacement.

47.0 DISORDERLY CONDUCT, ETC.

The Contractor shall at all time take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst his employees and for the preservation of peace and protection of person and property in the neighbourhood of the works.

48.0 CLEANLINESS

48.1 The Contractor shall be responsible for keeping the entire area allotted to him clean and free from rubbish, debris etc. during the period of Contract. The Contractor shall employ enough number of special personnel to thoroughly clean his work area at least once in a day. All such rubbish and scrap material shall be stacked or disposed of in a place to be identified by the Engineer. Materials and stores shall be so arranged to permit easy cleaning of the area. In areas where equipment might drip oil and cause damage to the floor surface, a suitable protective cover of a flame resistant, oil proof sheet shall be provided to protect the floor from such damage.

Similarly, the labour colony, the offices and the residential area of the Contractor's employees and workmen shall be kept clean and tidy to the entire satisfaction of the Engineer. Proper sanitary arrangements shall be provided by the Contractor, in the work areas, office and residential areas of the Contractor.

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48.3 On the completion of the works, the Contractor shall clear away and remove from the site all Contractor's equipments, surplus materials, rubbish and temporary works of every kind and leave the whole of the site and works clean and in a workman like condition to the satisfaction of the Engineer

49.0 FIRST AID

The Contractor shall provide necessary first aid facilities for all his employees, representatives and workmen working at the site. Enough number of Contractor's personnel shall be trained in administering first aid.

50.0 SECURITY

The Contractor shall have total responsibility for all equipments and materials in his custody stored, loose, semi assembled and/or erected by him at site. The Contractor shall make suitable security arrangements to ensure the protection of all materials, equipment and works from theft, fire, pilferage and any other damages and loss. All materials of the Contractor shall enter and leave the work site only with the written permission of the Engineer in the prescribed manner. It shall be the responsibility of the Contractor to arrange for security till the works are finally taken over by the Engineer

51.0 UNFAVOURABLE WORKING CONDITIONS

The Contractor shall confine all his field operations to those works which can be performed without subjecting the equipment and materials to adverse effects, during inclement weather conditions like monsoon, storms, etc. and during other unfavourable construction conditions. No field activities shall be performed by the Contractor under conditions which might adversely affect the quality and efficiency thereof, unless special precautions or measures are taken by the Contractor in a proper and satisfactory manner in the performance of such works and with the concurrence of the Engineer. Such unfavourable construction conditions will in no way relieve the Contractor of his responsibility to perform the works as per the Schedule.

52.0 WORKS & SAFETY REGULATIONS

52.1 The Contractor shall ensure the safety of all the workmen, materials and equipment either belonging to him or to others working at site.

52.2 The Contractor will notify the Engineer of his intention to bring on to site any equipment or any container, with liquid or gaseous fuel or other substance which may create hazard. The Engineer shall have the right to prescribe the conditions under which such equipment or container may be handled and used during the performance of the works and the Contractor shall strictly adhere to such instructions. The Engineer shall have the right to inspect any construction plant and to forbid its use, if in his opinion it is unsafe. No claim due to such prohibition shall be entertained by the Owner.

52.3 The Contractor shall be responsible for provision of all safety notices and safety equipments required both by the relevant legislation and the Engineer as he may deem necessary.

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52.4 All safety rules and codes applied by the Owner at site shall be observed by the Contractor without exception. The Contractor shall be responsible for the safety of the equipment/material and works to be performed by him. The Contractor shall also take such additional precautions as may be indicated from time to time by the Engineer with a view to prevent pilferage, accidents, fire hazards and the precautions shall be taken against fire hazards and atmospheric conditions. Suitable number of qualified staff, watch & ward, store keepers to take care of equipment, material and construction tools and tackles shall be posted at site by the Contractor till the completion of the work under this Contract.

52.5 The Contractor shall arrange for such safety devices as are necessary for each type of work and carry out the requisite tests of hand tools and other lifting tackles, etc., as per prescribed standards and practices.

53.0 ELECTRICAL SAFETY REGULATIONS

53.1 No work shall be carried out on any live equipment. The equipment must be made safe by the Engineer and a permit to work issued before any work is carried out.

53.2 The Contractor shall employ the necessary number of qualified, full-time electricians to maintain his temporary electrical installation, wherever necessary.

54.0 INSURANCE

54.1 The Contractor at his cost shall arrange, secure and maintain comprehensive insurance as may be necessary and for all such amounts to protect his interests and the interest of the Owner, against all risks. Any loss or damage to the equipment, during supply, handling, transporting, storage and erection, till such time the plant is taken over by the Owner shall be to the account of the Contractor. The Contractor shall be responsible for lodging of all claims and make good for the damage or loss by way of repairs and/or replacement of the portion of the works damaged or lost. The transfer of title shall not in any way relieve the Contractor of the above responsibilities during the period of the Contract.

All the insurance cover shall be procured by the contractor from Directorate of Insurance, Govt. Insurance Fund, Govt. of Maharashtra, MHADA Bldg. [illegible], 264, First Floor, Bandra (East), Mumbai- 400 051 under direct tie-up of United India Insurance Co. Ltd. (UIICL) on co-insurance cum servicing basis in the ratio of 40:60 i.e. Govt. Insurance Fund @ 40% and UIICL @ 60% each, to be covered through the following designated offices :

1) Mumbai – D.O. [illegible] Plaza, 302, S.V. Road, Malad (W), Mumbai 400 064, phone no. 022-2888 [illegible],

2) Pune – D.O. II, Gayatri Sadan, [illegible] Pune 411 030, phone no. 020-2433 [illegible],

3) Vashi – D.O. [illegible] Centre, [illegible] Vashi 400 703, phone no. 022-2766 [illegible],

4) Nashik – D.O. Soubhagya Chambers, [illegible] Road, Nashik 422 001, phone no. 0253-246 [illegible],

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5) Karad- D.O., 50, Super Market Near Mahila Hospital, Shaniwar Peth, Karad, phone no. 02164-253 126 .

6) Aurangabad – D.O. I, H.No.5/5/76, V.P.No.506, V.P.Chowk, Aurangabad-431 005, phone no. 0240- 2334176 and

7) Nagpur- D.O.-II, Medical College Square, Opp. Mohan Petrol Pump, Nagpur-440 003 , phone no. 0712 - 274 4691

The Nodal Officer, MSETCL should ensure that all the insurance policies are obtained as above and copy of it is submitted to him accordingly. As per the directives of Govt. of Maharashtra letter no. NMP1002/sankra 29/2V 26, dtd. 16.05.2003, it is to be noted that in case the aforesaid directives are not followed by the contractor , the concerned authority of MSETCL shall recover 1% of contract value and deposit same with Director of Insurance , Govt. of Maharashtra , Mumbai by cheque/DD with complete details of contract

55.0 INDEMNIFICATION OF OWNER

The Contractor shall insure all his personnel, tools and plants, etc. and shall also take a third party liability cover to indemnify the Owner of all liabilities which may come up due to any act or omission on the part of Contractor and cause injury/damage to other Contractors/representatives of Owner or all or anybody rendering services to the Owner or is connected with Owner's work in any manner whatsoever.

The Contractor shall necessarily indemnify the Owner in all these respects and the indemnification and insurance policy shall be to the approval of Engineer.

The recommended value for the third party insurance policy to be taken by the Contractor are as follows:

a)	Maximum liability for injury to any person	Rs.5,00,000/-
b)	Maximum liability for any one accident	Rs.10,00,000/-
c)	Maximum liability for total number of accidents during the Contract period	... Rs.50,00,000/-

If the total liability exceeds Rs.10/- lakhs prior to completion of the work then the Contractor shall arrange to renew the policy for the same amount to cover the balance completion period. However, irrespective of the value of the policy, the Contractor shall indemnify the Owner for all liabilities.

56.0 WORKMEN'S COMPENSATION INSURANCE

This insurance shall protect the Contractor against all claims applicable under the Workmen's compensation Act 1948 or any amendment thereof. This policy shall also cover the Contractor against claims for injury, disability, disease or death of his or his sub-Contractor's employees, which for any reason are not covered under the Workmen's compensation Act 1948. The liabilities shall not be less than Workmen's Compensation and statutory provisions.

57.0 COMPREHENSIVE AUTOMOBILE INSURANCE

This insurance shall be such in form to protect the Contractor against all claims for injuries, disabilities, disease and death to members of public including the Owner's men and damage to the property of others arising from the use of motor vehicles during on or off the site operations, irrespective of the Ownership of such vehicles.

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58.0 COMPREHENSIVE GENERAL LIABILITY INSURANCE

58.1 This insurance shall protect the Contractor against all claims arising from injuries, disabilities, disease or death of members of public or damage to property of others, due to any act or omission on the part of the Contractor, his agents, his employees, his representatives and sub-Contractors or from riots, strikes and civil commotion. This insurance shall also cover all the liabilities of the Contractor arising out of the clause entitled "Defence of Suits".

58.2 The hazards to be covered will pertain to all the works and areas where the Contractor, his sub-Contractors, his agents and his employees have to perform work pursuant to the Contract.

58.3 The above are only illustrative list of insurance covers normally required and it will be the responsibility of the Contractor to maintain all necessary insurance coverage to the extent both in time and amount to take care of all his liabilities either direct or indirect.

59.0 GUARANTEE/WARRANTY

59.1 The Contractor shall warranty that the equipments/materials will be new and in accordance with the Contract documents and will be free from defects in material and workmanship for a period of two years from the date of final acceptance of the works by the Owner. Any defect developed due to defective materials and/or workmanship during testing and commissioning of the equipments or during the guarantee period of two years from the date of final acceptance of work by the Owner, shall be rectified or made good by the Contractor at his own cost. The Contractor's liability shall be limited to repair/replacement of any defective part in the equipment of his own manufacture or those of his sub-Contractor and arising from faulty design, materials and/or workmanship. All costs for the repair and/or replacement of defective parts such as dismantling, re-erection, supply, transportation, etc. shall be to the account of the Contractor.

59.2 The repairs or replacement shall normally be carried out by the Engineer when the plant is under supervision of Contractor's supervisory engineers. In the event of emergency, where in the judgement of the Engineer, delay would cause serious loss or damage, repairs or adjustment may be made by the Engineer or a third party chosen by the Engineer without advance notice to the Contractor and the cost of such work shall be paid by the Contractor. In the event the cost of such action is taken by the Engineer, the Contractor will be notified promptly and he shall assist wherever possible in making the necessary corrections. This shall not relieve the Contractor's liability under the terms and conditions of the Contract.

59.3 If it becomes necessary for the Contractor to replace or renew any defective portions of the plant under this clause, the provisions of this clause shall apply to the portion of the plant so replaced or renewed until the expiry of two years from the date of such replacement or renewal.

59.4 The acceptance of the works by the engineer shall in no way relieve the Contractor of his obligations under this clause.

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59.5 If at any time during the guarantee period, it shall appear to the engineer that any work has been executed with unsound, imperfect or unskillful workmanship or with materials of inferior quality or that any materials or articles provided by him for the execution of the work unsound or of a quality inferior to that Contracted for or are otherwise not in accordance with the Contract, it shall be lawful for engineer, notwithstanding the fact that the work or materials or articles complained of may have been inadvertently passed, certified and paid for the Contractor shall be bound forthwith to rectify, to remove and reconstruct the work so specified in whole or in part, as the case may require or, if so required, to remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost.

59.6 In the event of the Contractor failing to remove the defect within the time specified by the engineer, the Owner may proceed to undertake the removal of such defect at the Contractor's risk and expense, without prejudice to any other rights and recover the same from performance bank guarantee/other dues.

59.7 The Contractor shall promptly provide adequate staff at site during the guarantee period to attend to defects, if any.

60.0 BANKRUPTCY

If the Contractor shall become bankrupt or insolvent, or have a receiving order made against him, or compound with his creditors, or being a company or corporation commence to be wound up, not being a member's voluntary winding up for the purpose of amalgamation or reconstruction, or carry on its business under a receiver for the benefit of its creditors or any of them, the Owner shall be at liberty (a) to terminate the Contract forthwith by notice in writing to the Contractor or to the receiver or liquidator or to any person the option of carrying out the Contract subject to his providing a guarantee for the due and faithful performance of the Contract up to an amount to be agreed.

61.0 NOTICES

61.1 Any notice to be given to the Contractor under the terms of the Contract shall be served by sending the same by registered post or leaving the same at the Contractor's principal place of business (or in the event of the Contractor being a company to or at its registered office).

61.2 Any notice to be given to the Owner under the terms of the Contract shall be served by sending the same by registered post at the owner's address.

62.0 DETAILS CONFIDENTIAL

The Contractor shall treat the Contract and everything contained therein as private and confidential. In particular the Contractor shall not publish any information, drawing or photograph concerning the works and shall not use the sites for the purpose of advertising except with the written consent of the Engineer and subject to such conditions as he may prescribe.

BID SECURITY DEPOSIT (BSD)

Notwithstanding whether the Bidder has already deposited a bank guarantee with the Owner, an amount of 1% of the estimated cost, shall be paid as BSD alongwith the offer in the form of Bank Guarantee, as per proforma enclosed.

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63.2 The BSD as above shall also be submitted by those bidders who are public Sector Undertaking or belong to Small Scale Industries. No exemption on these grounds can be considered and all undertakings of the State Govt., Govt. of India or local bodies including those classified as Small Scale Industries shall furnish BSD as specified.

63.3 The BSD will be valid for a period of 8 months from the date of opening of Techno-Commercial bid.

64.0 CONTRACT PRICE, TAXES & DUTIES

64.1 The Contract price shall amongst others, include the cost towards Design, Engineering, Supply, Inspection, Transportation, (including loading/unloading and Storage at site), erection, testing and commissioning of the works covered under the specification for package as agreed upon there. The cost towards inspection at factory includes cost of travel (including that of by air, Hotel accommodation etc. for owner's representative.

64.2 The Contract price shall include all taxes against Contract and duties inclusive of corporate tax, Income Tax, Sales Tax, Vat, Excise duty on new manufactured items as well as bought out items, other taxes, fees, Cesses, Octroi, deposits etc. whatsoever, and the Owner shall not be liable for payment for any such taxes or duties. The cost shall also include the cost of charges for obtaining any permit or license etc.

64.3 The Contract price shall also include the custom duty on any imported components and on finished equipment, if any, required for incorporation into the works. The responsibility for obtaining the import license shall rest with the Contractor.

65.0 PRICE VARIATION

65.1 Bids for all the packages having completion schedule more than 6 months will be on variable price basis.

65.2 Bids for all the packages having completion schedule less than 6 months will be on firm price basis.

65.3 For the purpose of calculation of price adjustment for Price & Variation.

- The Indices for various materials shall be considered as published by IEEMA. The indices published by IEEMA on the 1st working day of the calendar month, one month prior to the date of opening of bid will be the base indices for calculation of PV.
- DELETED.
- The formula for calculation of price variation will be as per IEEMA. For supply of materials (as specified under clause 65.5 below) and civil activities (Erection) (latest revision of IEEMA PV formula) will be applicable.

65.4 The Owner shall not be liable for any additional cost incurred by Contractor on account of price variation beyond the date stipulated in the Contract for completion of works on account of default by contractor.

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65.5 Components for which PV is applicable:

(i) Structural Steel and ACSR conductor
(ii) Civil and Erection works

65.6 If interest free advance is paid for supply of material, PV on amount equivalent to value of advance payment will not be considered on applicable items for supply. The price variation will be calculated as per relevant PV formula specified by IEEMA.

65.7 The PV formula for calculation of price variation for the items for which PV is applicable are enclosed separately.

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65.8 In case of non completion of activities related to **Supply & ETC works** within the scheduled date, if the price adjustment calculated for the period beyond the scheduled date is positive, no payment against the same shall be allowed, while if the figure is negative, the price adjustment will be applicable.

66.0 LIQUIDATED DAMAGES

66.1 If the Contractor fails to complete all the works within the time frame stipulated as completion period or within any extension of time granted by the Owner, the Owner shall levy liquidated damages for breach of Contract without prejudice to any other right and/or remedies provided for the Contract.

66.2 The liquidated damages shall be levied at ½% (half percent) of the total Contract price per week of delay subject to maximum of 10% (Ten percent) of the Contract price for the entire scope of work delay. The Contract may be terminated by the owner and the balance work shall be completed by the Owner at the risk and cost of the Contractor in case the progress is not to the satisfaction of the owner.

66.3 In the event the contract being divided into sections such as Supply of materials & equipments, Civil and Erection, Testing & Commissioning, the provision for liquidated damages shall be applicable for the total project irrespective of the complete contract.

67.0 VALIDITY OF THE OFFER

67.1 Validity of the offer should be for a period of 6 months from the due date of submission of Techno-Commercial Bid

68.0 The bidder should submit one copy of offer complete in all respects before opening of Techno-Commercial bid.

69.0 The offers not conforming to our clauses regarding (1) E.M.D. (2) Performance (3) Price break-up of taxes and duties in the prescribed proforma, (4) Terms of payment (5) liquidated damages (6) Force majeure and (7) validity are liable to be rejected.

70.0 POLICY FOR BIDS UNDER CONSIDERATION

70.1 The bids shall be deemed to be under consideration immediately after these are opened and until such time official intimation of award/rejection is made by the Owner to the bidders. While the bids are under consideration, bidders and/or their representatives or other interested parties are advised to refrain from contacting by any means, the Owner and/or his employees/representatives on matters related to the bid under consideration. The Owner if necessary, shall obtain clarifications on the bid by requesting for such information from any or all the bidders in writing as may be necessary.

71.0 ACCEPTANCE OF BIDS

The Owner does not bind himself to accept the lowest or any bid, neither will any reason be assigned for the rejection of any bid or part of the bid. [illegible] of the Owner to disclose any analysis report on bids.

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72.0 **WITHDRAWAL OF INVITATION TO BID**

While the Owner has floated this public tender and has requested bidders to submit their proposals, the Owner shall always be at liberty to withdraw this invitation to bid at any time before its acceptance.

73.0 **REPRESENTATIVE/AGENT OF BIDDER**

73.1 All the bidders are requested to mention the name of their authorised representative/agent, if any, with full address in the offer.

73.2 In case the representative/agent is changed during the course of execution of the Contract, such change shall be notified by the Contractor, failing which, the Owner shall not accept any responsibility.

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SECTION – III

INSTRUCTIONS TO BIDDERS

1.0 GENERAL INSTRUCTIONS

1.1 Owner invites bids in respect of work to be done as set forth in the accompanying specifications. All bids are required to be prepared and submitted in accordance with the instructions set forth hereinafter.

1.2 Owner reserves the right to accept any bid or reject any or all bids or cancel/ withdraw invitation to Bid without assigning any reason for such decision. Such decision of the Owner shall not be subject to question by any bidder and Owner shall bear no liability whatsoever for such a decision.

1.3 The new bidders are requested to complete the vendor's registration with MSETCL as per the procedure prior to the date of submission of the tender documents. The bids of only registered and/or listed bidders will be considered.

2.0 COST OF BIDDING

All the costs and expenses incidental to preparation of the bid, pre-award discussions, technical and other presentations including any demonstrations, etc. shall be to the account of the Bidder and Owner shall bear no liability whatsoever towards such costs and expenses regardless of the conduct or outcome of the bidding process.

3.0 UNDERSTANDING OF BID DOCUMENT

3.1 The bidder is expected to examine all instructions, forms, terms and conditions, terms and specifications in the Bid Document and fully inform himself as to all the conditions and matters which may in any way affect the works or the cost thereof.

3.2 Failure to furnish all information required by the Bid Document or submission of a bid not substantially responsive to the Bid Document in every respect will be at the Bidder's risk and may result in the rejection of his bid.

4.0 AMENDMENT OF BIDDING DOCUMENTS

4.1 At any time prior to the deadline for submission of bids, the Owner may, for any reason, whether at his own initiative or in response to a clarification requested by a prospective Bidder, modify the Bidding documents by amendment.

4.2 The amendment will be notified on website www.mahatransco.in and MSETCL's SRM e-tendering website https://srmetender.mahatransco.in only.

4.3 In order to allow prospective bidders reasonable time in which to take the amendment into account in preparing their bids, the Owner may, at his discretion, extend the deadline for the submission of bids.

5.0 DOCUMENTS COMPRISING THE BID

a) Bid Security form duly filled in completely on Stamp Paper (EMD) [illegible]

b) All the schedules including guaranteed technical particulars, GTP and other schedules.

c) Complete Bid forms and price schedule

d) Schedule D of price Break-up of taxes and duties.

e) Copy of receipt/Transaction ID NO. & date for purchase of Bid Documents

f) Documentary Proof of meeting the Qualifying Requirements

g) Type test report of materials / Equipments.

h) Joint venture agreement (in case of joint venture)

i) Power of Attorney of authorized person Signing the Bid Document/Contract

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(39)

signatures)

h) Bar Chart indicating the Tentative schedule of Activities for Each item in the Package

i) Undertaking Declaring (along with Techno commercial bid) that he has quoted all inclusive rates including all taxes, Duties, Levies, Octroi etc. and has furnished break-up of taxes and duties in the Prescribed Proforma along with price bid. Failure to submit this undertaking the offer would be rejected.

j) Complete details regarding Financial, Technical and organisational capabilities, financial Position etc. of the bidder shall be submitted for the assessment of the Owner. Only relevant information is to be furnished.

6.0 **BID PRICES AND CURRENCIES**

6.1 The Bidder shall quote the prices inclusive of all duties & taxes in the Prescribed price schedule. Bidders quoting a system of pricing other than so specified therein will be rejected. The prices shall be quoted for items given in Price Schedule. The same shall only be considered for evaluation of the bid.

6.2 The bidder shall indicate the bid price in Indian Rupees only.

7.0 **SIGNING OF BIDS**

7.1 The Bid must contain the name and place of business of the person or persons making the bid and must be signed and sealed by the Bidder with his usual signature. The names of all persons signing should also be typed or printed below the signature. All pages of bid drawings and other documents shall be initialed at the lower right hand corner with ink only and signed where required by the bidder.

7.2 Bid by a partnership firm must be furnished with full names of all partners and be signed with the partnership name, followed by the signature and designation(s) of the authorised partner(s) or other authorised representative(s).

7.3 Bids by Corporation/Company must be signed with the legal name of the Corporation/Company and by the President, Managing Director, Secretary or other person or persons authorised to bid on behalf of such Corporation/Company in the matter.

7.4 A bid by a person who affixes to his signature the word "President", "Managing Director", "Secretary", "Agent" or other designation without disclosing the details concerning the principal on whose authority he is signing the bid, will be rejected.

7.5 Satisfactory evidence of authority of the person(s) signing on behalf of the Bidder shall necessarily be furnished with the bid.

7.6 The Bidder's name stated on the proposal shall be the exact legal name of the firm. Corrections or other changes in the Bid including the proposal documents shall be initialed by the person(s) signing the bid.

Bids not conforming to the above requirements of signing may be disqualified.

8.0 **INFORMATION REQUIRED WITH THE BID**

8.1 Bidder shall submit complete information as required under the relevant schedule of the section, necessary bid forms and price schedules.

8.2 Should any information furnished in the bid is in contradiction with the technical part of the specification, the specification requirements will govern, unless otherwise brought out clearly in the schedule of deviations.

8.3 If the bidder deliberately gives wrong information in his bid to create circumstances for the acceptance of his bid, the Owner reserves the right to reject such bid and/ cancel the order if placed.

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8.4 Bid submitted shall be for the complete scope of work as envisaged in the owner's specification. Bid submitted for partial scope of work will not be acceptable

9.0 SUBMISSION OF BIDS:

9.1 The bidder should submit one copy of bid documents in CD/DVD form along with EMD BG in physical form except Price Bid before due date of submission.

9.2 The above said CD/DVD & EMD BG must be submitted by the bidder in sealed envelope duly super scribing the name of the Bidder and his address and shall be addressed to:

Chief Engineer (Design Contracts & Monitoring),
Maharashtra State Electricity Transmission Co. Ltd.
5th Floor, Prakashganga,
Plot No. C-19, E-Block,
Bandra-Kurla Complex, Bandra (East),
Mumbai-400051.(INDIA)

9.3 The Owner reserves the right to reject any bid which is not submitted in accordance with the instructions stipulated above.

9.4 The bidder has the option of sending his sealed envelope of CD/DVD & EMD BG by registered post or submitting the same in person so as to reach the owner at the designated address by the time and date stipulated by the owner for receipt of bids. The owner shall not be responsible for any delay in receipt of same.

9.5 The Owner may, at his discretion, extend the dead line for submission of bids by amending bidding documents in which case all rights and obligations of the Owner and bidders subject to the previous dead line will thereafter be subjected to the dead line as extended.

9.6 Any bid received by the Owner after the deadline for submission of bids prescribed by the Owner in clause 2.5 of Section – I of this specification will be rejected and/or returned unopened to the Bidder.

9.7 The Bidder may modify or withdraw his bids after the bid's submission, provided that written notice of the modification or withdrawal is received by the Owner prior to the deadline prescribed for submission of bids.

9.8 The Bidder's modification or withdrawal notice shall be prepared, sealed, marked and despatched in accordance with the provisions of clause 9.0 through 9.3 above. A withdrawal notice may also be sent by telex or cable followed by a signed confirmation copy, post marked not later than the deadline for submission of bid.

9.9 No bid may be modified subsequent to the deadline for submission of bids.

9.10 No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the proforma Bank Guarantee for Bid Security. Withdrawal of a bid during this interval may result in the Bidder's forfeiture of his bid guarantee.

10.0 CONTACTING THE OWNER:

Bids shall be deemed to be under consideration immediately after they are opened and until such time official intimation of award/rejection is made by the Owner to the Bidders. While the bids are under consideration, Bidders and/or their representatives or other interested parties are advised to refrain from contacting by any means, the Owner and/or his employees/representatives on matters related to the

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bids under consideration. The Owner, if necessary, will obtain clarifications on the bids by requesting for such information from any or all the bidders either in writing or through personal contact as may be necessary. Bidder will not be permitted to change the substance of the bids after the bids have been opened.

11.0 MODE OF AWARD OF CONTRACT

11.1 For operational convenience, the contract shall be awarded to the successful bidder on "Divisible Basis" separately for,

a) For Material Supply

b) Services (Erection, Testing and commissioning)

11.2 In view of the Divisible nature of the contract, the relevant LOAs [illegible] issued to the successful bidder.

12.0 Evaluation Criteria

12.1 The bids shall be evaluated on the basis of total price including all the taxes, duties and levies as quoted for the package.

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MAHARASHTRA STATE ELECTRICITY TRANSMISSION COMPANY LIMITED

(CIN No.U40109MH2005SGC153646)

RFx No. 6000000253

SRM e-TENDER No. T-1718/MSETCL/CO/CE/EHV/DAT/TKC-Lines

SPECIFICATION No. MSETCL/CO/D[illegible]/DAT/2017-18/TKC-L.

Construction of LILO on 220kV Kolshet-Wada & 220kV LILO on Padghe-Wada line for 400kV Kudus Substation(Common M/C Line)
(Route Length – 7 kms)

UNDER VASHI ZONE ON TURNKEY BASIS

BOOK - II

TECHNICAL SPECIFICATION & PRICE SCHEDULES

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M.S.E.T. Co. Ltd.
E.H.V. Project Dn. Kalyan

BOOK-I – General Terms and Conditions

BOOK-II – Technical specification & Price Schedules

Tender Fee Rs. 25,000/- + [illegible] Extra

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3	Annexure – II	Technical Particulars of Insulator hardwares	8-28
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E.H.V. Project Dn., Kalyan

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SECTION I

TECHNICAL SPECIFICATION FOR TRANSMISSION LINE

1.0 **General**

This Section details about the specifications for construction of EHV Transmission Lines.

2.0 Scope of work for EHV lines

2.1 The scope of work for the EHV Lines will be as under

a) Preliminary survey, Detailed survey and Check survey of line

b) Fabrication and supply of towers as per owner supplied tower designs with required extensions, design of special towers (if required) modification/strengthening of tower extensions, (if required) supply of Bolts & Nuts, Conductors, Earth-wires, insulators, Insulator hardwares, accessories for conductor & ground wire and tower accessories including earthing sets, number plates, danger plates, bird guards, anti climbing devices and all other material required for completion of the line.

c) Clearing of site, casting of tower foundations with supply of required sand cement, steel, metal, water etc. such setting erection of complete towers with extensions and providing all accessories, hoisting of insulators, stringing of conductor and earthwire, fitting of line hardware, tower accessories etc. and all other material required for completion of line along with tree cutting as per requirement. The cost of cutting the trees, stacking of cut trees, clearing debris and transportation of cut trees (if required) shall be borne by the contractor.

d) Construction, Testing and commissioning of the line

e) Design of foundations for special towers (if required) and also for normal tower as necessary.

3.0 Material to be supplied by the Contractor

All materials required to complete the line works in all respects shall be arranged by the contractor at his cost. The material to be supplied shall meet the following requirements.

3.1 **Tower**

Technical details for 220KV, 132KV and Special towers are given in Annexure - I

3.2 **Insulator hardware and conductor accessories**

3.2.1 The insulator hardware shall be suitable for 0.2 ACSR Panther/0.4 ACSR Zebra conductor and disc insulators of EMS rating 70 KN for suspension location and 120 KN for tension location and shall be in line with the parameters listed in Annexure II and [illegible] as per the drawings enclosed and relevant standards listed in this specification.

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1.2.2 The conductor accessories shall be suitable for the ACSR Panther/ACSR Zebra conductor and earthwire accessories shall be suitable for 7/3.15 mm size G.S. earthwire and shall be in line with the parameters listed in Annexure III as well as standards listed elsewhere in this specification.

Insulators

The 70 KN & 120 KN normal / antifog porcelain disc insulators or polymer long rod insulators shall be in line with the parameters listed in Annexure VIII and as per relevant standards listed elsewhere in the specification.

Conductor and Earth-wire

Size of conductor required for the line:

0.2 ACSR Panther for 132 KV / 0.4 ACSR Zebra conductor for 220 KV line

Size of earthwire required for the line

7/3.15 mm G.S. wire

Aluminium strands of ACSR shall be manufactured from electrolytic grade aluminium rods suitably hard-drawn on wire drawing machines.

Re-inforcing steel wire (galvanized) of ACSR shall be drawn from high carbon steel rods produced by any of the following processes

i. Acidic or open hearth process,

ii. Electric furnace process or basic oxygen process.

No joints shall be permitted in the Aluminium wires in the outermost layer of ACSR. Similarly no joints shall be permitted in the galvanized steel wire except those at the base rod or wire before final drawing.

The ACSR conductor and G.S. earthwire shall conform to technical specification contained in ANNEXURE - VII and IX respectively.

All the materials in the contractor's scope of supply shall be procured from reputed manufacturers having at least five (5) years experience of supplying similar equipment for 220/132 KV lines. The list of reputed vendors is given in Annexure-IV.

Certified dimensional drawings of all material to be supplied by contractor shall be got approved by the contractor from owner before commencing of the work.

All material covered under contractor's scope of supply shall be successfully type tested as per relevant standards in presence of owner's representatives before commencement of mass manufacturing.

Conductor, Insulators and Earthwire as per technical details given in Annexure-I, shall also be procured by the contractor.

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4.0 Quantity for Tower, Conductor, Earth Wire, Insulators, Hardwares, Conductor & Earth Wire Accessories

4.1 The contractor shall assess the requirement of line materials after completion of detailed (check) survey and work out the final tower quantities. Accordingly, the contractor shall intimate the owner regarding quantities of materials for procurement and seek the approval from owner. The contractor shall consider the permissible consumption furnished below.

4.2 The procedure to be followed for calculation of length of conductor and earthwire shall be as follows:

a) **Quantity of Conductor = Route length x No. of Circuits x No. of phases (3)**
b) **Quantity of Earthwire = Route length**
c) One percent extra quantity on length as calculated above shall be allowed.

4.3 In case of conductor/Earth wire, the permitted extra quantity of one percent is adequate for sagging/jumpering, damage, losses and wastages etc.

4.4 The insulators shall be supplied as per technical details given in Annexure-VII. The unit rate and quantity of insulators considered in the Price schedule are of disc insulator. The quantity of Long rod insulator shall be number of Disc insulators divided by number of discs in one 220 KV string as specified in Clause No. 4.1 of Annexure-VII and the unit rate for long rod insulator string shall be equal to the number of Disc insulators in a 220 KV string as specified in Clause No. 4.1 of Annexure-VII multiplied by unit rate of Disc insulator.

5.0 Construction

5.1 The transmission Line shall be constructed with the best industry practice generally as per details given in Annexure-V and Annexure-VI keeping in view the various statutory clearances required enroute.

5.2 Statutory clearances and way leave

The statutory clearances/NOCs such as forest, aviation, PTCC, Railway, National highway/state highway, maritime board etc. which may be required for construction of the line shall be arranged by the contractor. The respective proposal shall be prepared and submitted by the contractor without any financial implication to the owner. All statutory fees required for obtaining the clearance/NOC will be reimbursed to contractor by owner on submission of documentary evidence.

Any way leave problem, obstructions etc. shall be cleared by the contractor. The owner, if required shall extend necessary assistance in resolving the issues. However, the entire responsibility of clearances including any payments such as expenditure required for collection of land documents from revenue department, charges for police protection (if required) etc. shall rest with the contractor. The contractor shall act proactively to address the issues.

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5.3 Felling of trees, tree cutting, crop compensation should be organized and paid by the contractor. The owner shall render necessary help for fixing compensation through agriculture Dept. or any other appropriate authorities. The compensation so paid by the contractor shall be reimbursed by the owner. However expenses on account of stacking of cut trees, clearing debris and transportation of cut trees (if required) shall be borne by contractor.

6.0 Line profile

Submit the route alignment and ground profile with tower spotting data to the owner after issuance of letter of intent (LOA).

7.0 Completion period

7.1 The EHV line covered in this tender shall be completed within the period as mentioned in Book – I (including monsoon season) from the date of LOA.

7.2 Time is essence

The time stipulated in the contract for the completion of works shall be deemed to be the essence of the contract. The contractor shall so organize his resources and perform his work so as to complete it not later than the date agreed to.

7.2.1 The contractor shall submit a detailed activity schedule/bar chart within the time frame agreed consisting of adequate number of activities covering various key phases of work, also clearly indicating the completion period for various groups of activities. This network/chart/activity schedule shall also indicate the infrastructure facilities to be provided by the owner and the dates by which such facilities/activity schedule are needed. The contractor shall discuss the activity schedule and network/bar chart/activity schedule so furnished with the owner and the agreed network/bar chart which may be in the form as submitted or in revised form in line with the discussion on the matter, before signing of contract, shall form part of the contract. During the performance of the contract, if in the opinion of the engineer proper progress is not maintained, suitable changes shall be made in the contractor's operations to ensure proper progress as per scheduled date of completion.

7.2.2 The above activity schedule/bar chart shall be reviewed and periodic review reports shall be submitted by the contractor as directed by engineer.

7.3 Bar chart indicating detailed programme of project implementation shall be furnished by the bidder in the offer. The bar chart shall indicate various activities as following items with dates of commencement and completion of each stage of work.

1 Check survey

2 Supply of Stub setting Template and foundation for towers

3 Supply of 75% Suspension and 25% Angle Tower

4 Supply of tower

5 Erection of towers

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6 Supply of insulator hardwares & accessories for tower, Conductor and earthwire

7 Stringing of conductor & ground wire along with hoisting of insulators with hardwares & installation of accessories and tree cutting with clearing of site

8 Testing and commissioning

Note: The above activities are inter-related and shall commence as the stores are placed site-wise. However, contractor may take-up certain activities in advance with no financial implication on owner.

8.0 Price Schedule

8.1 The bidder shall quote Price on lump sum, % (Percentage) above/below basis, in price Schedule-II enclosed in Book-II.

8.2 The unit prices and total costs shall be applicable for erection including stubs setting of foundation (including soil investigation if necessary), for all types of towers in various soils as indicated in the price schedule enclosed separately. Quantity wise break up of probable types of soils and different types of towers is given in enclosed **price schedule** and Annexure-A in Book-II for the assessment purpose only. Type of earthings and foundation to be used for any location will have to be got approved from the concerned engineer-in-charge at site. The unit price and cost of benching and protection to tower foundation near nallas, river beds, creek banks, hilly/undulated areas etc. required at few locations shall be as per the **price schedule-II**. The quantities of benching and tower footing protection work and stringing of conductors for three phases in route KM are to be indicated in the price schedule for bid evaluation purpose. Tentative quantities of insulator hardwares and conductor and earthwire accessories to be supplied by the contractor are indicated in price schedule enclosed separately. Unit price and total cost of stringing shall include the installation of these items. However, the owner reserves the right to increase/decrease or totally delete these quantities. Any variation in quantities (within the limit of contract value) duly justified by contractor and certified by engineer-in-charge at site shall be paid at the unit rates indicated by the contractor against item nos. in price Schedule-II.

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ANNEXURE-I

GENERAL TECHNICAL REQUIREMENTS

1.0 SYSTEM PARAMETERS

Following are the [illegible] parameters of the [illegible] transmission systems

a	Nominal System Voltage	132/220 KV
b	Frequency	50 Hz
c	System highest voltage	145/245 KV
d	Maximum ambient temperature	50°C
	Minimum ambient temperature	0°C
e	Maximum daily average temperature	32°C
g	Maximum relative humidity (in %)	90
h	Maximum annual rain fall (in mm)	1500 to 3500
i	Number of rainy days/year	90
j	Average number of thunder storm days per annum	50
k	Pollution level category	Moderately polluted as per IEC 71

2.0 LINE DATA

		132 KV line	220 kV line
a	Conductor Code Name & type	0.2 inch² ACSR Panther	0.4 inch² ACSR Zebra
b	Number of Conductors Per phase	One	One
	No. of Earthwires Type and size	One 7/3.15 mm 110 KGF Qty	One 7/3.15 mm 110 KGF Qty
d	Phase Configuration	Vertical	Vertical
e	Max. Wind pressure Earthwire	45 Kg/m² 45 Kg/m²	45 Kg/m² 45 Kg/m²

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f. Ruling design span 320 metres 350 metres

Note : The details applicable for the tender only be considered

3.0 Material to be supplied by the contractor

3.1 Insulator String Hardware inclusive of but not limited to

a) Anchor shackle

b) Ball eye

c) Line and tower side yoke plates

d) Ball clevis

e) Arcing horns

f) Socket eye

g) Clevis Eye

h) Extension link

i) [illegible]

j) Free centre type suspension clamp

k) Compression type dead end clamp

3.2 Accessories for Conductor and Earthwire

a) Mid span compression joints

b) Repair sleeves

c) Copper Earth Bond

d) Vibration Dampers (For conductor only)

e) Suspension Clamp for Earthwire

f) Tension Clamp for Earthwire

g) P.A. Rods

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[illegible] Towers

[illegible] Standard 220/132 KV D/C Horizontal and Special towers are to be fabricated as per the approved structural drawings provided by the owner. The structural drawings would be issued to the successful bidder only. The manufacturer shall fabricate proto type tower (in case the proto assembly inspection has not been conducted by MSETCL before) and offer them for inspection by the representative of MSETCL before taking up mass production of towers.

[illegible] Erection Mark

These shall be marked with a to mark the distinctly on each member of the tower. The notation shall be as follows:

A – BB – CC – DDD

Where A = Owner's code – Alphabet (in this case 'M')

BB = Contractor's Mark – Numerical

CC = Tower Type – Alphabet

DDD = Mark Number – Numerical

The details in respect of 'CC' are given in Statements IF and V. Other details are to be furnished by the Bidder.

For tower members having length more than three (3) mts the markings shall be provided at both the ends.

c) The details of fabrication of towers shall be in conformity with IS:802 (Part-III) 1978 except to the extent modified herein.

d) Butt splices shall be used and the inside angle and outside plate shall be so as to transmit the load and the inside clean angle shall not be less than half the thickness of heavier member connected plus 2mm. Lap splices may be used for connecting members of unequal size. The inside angle of lap splice shall be rounded at the heel to fit the fillet of the outside angle. All splices shall develop full stress in the members connected through bolts. Butt as well as lap splice shall be made as close to the main panel point as possible.

e) Joints shall be so designed as to avoid eccentricity as far as possible. The use of gusset plates for joining tower members shall be avoided as far as possible. However, where the connections are such that the elimination of the gusset plates would result in eccentric joints or where more than three members are joining at a particular point, gusset plates and spacer plates may be used in conformity with modern practice. The thickness of the gusset plates required to transmit stress, shall not be less than that of members connected.

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T.L. Pretender

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d) The use of filler in connection shall be avoided as far as possible. The diagonal web members in tension may be connected entirely to the gusset plate where necessary to avoid the use of filler and it shall be connected at the point of intersection by two or more bolts.

e) The tower structures shall be accurately fabricated to bolt together easily at site without any undue strain on the bolts.

f) No angle member shall have the two leg flanges brought together by closing the angle.

g) The structure shall be designed so that all parts shall be accessible for inspection and cleaning. Drain holes shall be provided at all points where pockets of depressions are likely to hold water.

h) All similar parts shall be made strictly interchangeable. All steel sections before any work is done on them, shall be carefully levelled, straightened and made true to detailed drawings, by methods which will not injure the materials so that when assembled the adjacent matching surfaces are in close contact throughout. No rough edges shall be permitted in the entire structure.

3.7.3 DRILLING AND PUNCHING

a) Before any cutting work is started, all steel sections shall be carefully straightened and trued by pressure and not by hammering. They shall again be trued after being punched and drilled.

b) Holes for bolts shall be drilled or punched with a jig but drilled holes shall be preferred. The following maximum tolerance of accuracy of punched holes is permissible:

i. Holes must be perfectly circular and no tolerance in this respect is permissible.

ii. The maximum allowable difference in diameter of the holes on the two sides of plate or angle is 0.8mm i.e. the allowable taper in a punched hole should not exceed 0.8mm on diameter.

c) All burrs left by drills or punch shall be removed completely. When the tower members are in positions the holes shall be truly opposite to each other. Drilling or reaming to enlarge defective holes shall not be permitted.

d) The angle/plate holes shall be chamfered properly and sharp edges removed.

3.7.4 GALVANISING

Fully galvanised towers and stubs shall be used for the lines. Galvanising of the members of the towers shall conform to IS:2629-1966 and IS:4759-1968. All galvanised members shall withstand tests as per IS:2633-1972. For members, the galvanising shall be done after all fabrication work is completed, except that the nut may be tapped or rerun after galvanising. Spring washers shall be electro galvanised as per Grade 4 of IS:1573-1970.

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[illegible] FASTENERS : BOLTS, NUTS and WASHERS

a) All bolts and nuts shall conform to IS:6639-1972 or IS 12427 - 1988 as applicable and shall be of approved makes only. All bolts and nuts shall be hot Dip galvanized and shall have hexagonal heads and nuts, the heads being forged out of the solid, truly concentric, and square with the shank, which must be perfectly straight. The fasteners shall be of the makes approved by M.S.E.T.C.L., the list of which is available on the website. However, if the bidder desires to procure bolts & nuts from any other vendor the same can be approved by the owner if the credentials of such vendor are submitted for verification to the owner and the owner finds the same to be acceptable for the transmission lines.

b) Fully threaded bolts shall not be used. The length of bolts shall be such that the threaded portion will not extend into the plane of contact of the members. All bolts shall be threaded to take the full depth of the nut and threaded enough to permit firm gripping of the members, but not further. It shall be ensured that the threaded portion of each bolt protrudes not less than 3 mm and not more than 8 mm when fully tightened. All nuts shall fit and tight to the bolt. Threads of bolts and nuts shall have a neat fit and shall be such that they can be turned with finger throughout the length of the threads of bolts and they shall be capable of developing full strength of the bolts.

c) Flat and tapered washers shall be provided where necessary. Spring washers shall be provided for insertion under all nuts. These washers shall be of steel electro-galvanized, positive lock type and 3.5 mm thick for 16mm dia. bolt and 4.5mm thick for 24mm dia bolt.

d) The contractor shall furnish bolt schedules giving thickness of members connected, the nut and the washer, the length of shank, the threaded portion of bolts and sizes of holes and any other relevant details of the same.

e) The bolts shall be of class 5.6 and nuts shall be of property class 5. For normal towers 16mm dia bolts of required length shall be used. For special towers 24 mm dia. bolts may also be used. The ultimate shear stress on bolts shall be 3160 Kg/cm² and ultimate bearing stress shall be 5380 Kg/cm² in case of connection with MS angles and plate the ultimate bearing stress shall be 6440 Kg/cm²

f) To obviate bending stress in bolts or to reduce it to minimum, no bolt shall connect aggregate thickness of more than three (3) times its diameter.

g) Bolts at joints shall be so staggered that nuts may be tightened with spanners without fouling.

h) The minimum bolt spacing and rolled edge distance and sheared edge distances of bolt holes from the centres of bolt holes to be maintained are given in following Table:

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Diameter of bolts (mm)	Hole diameter (mm)	Min Bolt spacing (mm)	Min. end distance (mm)	Min. sheared edge distance (mm)
16	17.5	40	20	23

[illegible] STEP BOLTS/LADDER AND TOWER ACCESSORIES

a. Step Bolts & Ladders

Each tower shall be provided with step bolts of not less than 16 mm diameter and 175 mm long, spaced not more than 450 mm apart and extending from about 2.5 meters above the ground level to the top of the tower. The step bolts shall be provided with two nuts on one end to fasten the bolt securely to the tower and button head at the other end to prevent the feet from slipping away. The step bolts shall be capable of withstanding a vertical load not less than 1.5 KN. For towers, where the height of the super structure exceeds 50 metres, ladders alongwith protection rings as per the Owner approved design shall be provided in continuation of the step bolts on the longitudinal face of the tower from 30 metres above ground level to the top of the super structure. From 2.5m to 30m height of superstructure step bolts shall be provided. Suitable platform using 6mm thick chequered plates alongwith suitable railing for access from step bolts to the ladder and from the ladder to each cross-arm and the groundwire support shall also be provided on tower above 50 mtrs.

b. Anticlimbing Device

Provision for providing fully galvanised barbed wire type anticlimbing device as per drawing enclosed shall be made for all towers. This shall be provided at 3.5 m above ground level on the tower. The galvanised barbed wire and accessories shall be supplied by the Contractor.

c. Danger, Number & Phase Plates

i) The provision for fixing Danger, Number and Phase Plates shall be made on transverse face of the tower during development of the structural drawing. The holes provided for fixing these accessories shall not be more than 4.5m above the ground level and shall be provided above anticlimbing device.

ii) The letters, figures and the conventional skull and bones of danger plates shall conform to IS : 2551-1982 and shall be in a signal red colour on the front of the plate.

iii) Typical drawings of Number plate, phase plate, danger plate are enclosed.

[illegible] Conductor Earthwire and Insulators

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ACSR conductor, G.S earthwire and Insulators are also to be supplied by the contractor as per relevant specifications.

5.0 Stub Setting Templates

Stub templates shall be arranged by the Contractor at his own cost for all types of towers with or without extensions for the line at the site. Stub templates for standard towers and tower with extensions shall be of adjustable type. The stub templates shall be galvanised or painted. One set of each type of stub setting template will be returned by the owner on completion of the project, supply of which shall be included in the scope of the Contractor at no extra cost to the owner.

5.0 Aviation Requirements

The river crossing towers and the crossing span shall be painted and provided with markers respectively to caution the low flying air-craft as given below:

5.1 Span marker of size 600mm x 600mm shall be provided on the earthwire. Each face of the marker shall be divided into two triangles by drawing a line along one of the diagonals of the markers, one of the triangles thus formed shall be painted in orange or red and other in white. These markers shall be suspended from earthwire at intervals of [illegible]. The design of the markers and their fixing arrangement should be such that they can withstand the wind pressure.

5.2 The full length of the towers shall be painted over the galvanised surface in contrasting bands of orange or red and white. The bands should be horizontal and not less than [illegible] of tower length in height. The bands on the extremities should have orange or red color.

6 Surface Preparation

The etching of galvanised surface of erected tower members with suitable etching or wash primer is to be done as per IS:[illegible]-1971 to enhance the adhesion of subsequently applied paint coating. After etching of galvanised surface of tower one coat of zinc primer is to be applied.

7 Painting of Towers

Two coats of alternate colours orange or red and white paint of alternate [illegible] as explained above are to be applied. The painting of towers shall generally conform to relevant provisions in IS: 1477-1977 parts I & II. The paints to be used for painting shall be in accordance with IS: [illegible]-1965.

8 Obstruction lights

Fixed lights red in color, having intensity sufficient to ensure conspicuity considering the intensity of the adjacent lights and the general level of illumination against which they would normally be viewed shall be provided on the river crossing towers. In no case the intensity of the light shall be less than 10 Cd [illegible] of red lights. If the height of the towers are more than 45m above the level of surrounding ground, additional lights shall

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be provided at intermediate levels. The numbers and arrangement of lights at each level to be worked shall be such that the towers are visible from all sides.

5.4 The lighting fixture, paint and L.T. power supply for the aviation light requirements shall be arranged by the owner.

6.0 SPECIAL TOWERS

a) Special towers shall be used for major river crossing, for very long spans and railway track or line crossings. The special towers shall be offered in such a way that after suitable extension the same tower can be used for crossing the spans of 500 M, 600 M, 800 M or 1000 M. These towers including their foundations, and testing, tower drawings and fabrication shall form part of the scope. The Contractor shall submit the most economical design for the towers and foundations.

b) All the requirements for standard towers shall be applicable for special towers. Wind pressure on towers for height beyond 45 metres shall be as per following Table.

Wind (Kg/m²)	Height of tower						
	45m	50m	60m	70m	80m	100m	120m
Light	140	145	150	154	159	165	[illegible]
Medium	210	217	224	230	238	247	[illegible]

6.1 Angle of Deviation for special tower

The angle of deviation to be considered for special tower is minimum 2° and also the minimum clearance to be computed considering the 15° swing of insulator string.

6.2 Factor of safety for special tower

The minimum factor of safety for special tower shall be as follows:

a) 2.0 under normal conditions
b) 2.0 under broken wire conditions

6.3 Maximum tension for conductor and earth wire

The minimum factor of safety for conductor and earth wire shall be 2.0 for the maximum tension corresponding to 2/3 full wind pressure at 0 °C or full wind pressure at 32 °C such that the initial unloaded tension at 32 °C do not exceed 30 % of their ultimate strength and the final unloaded tension at 32 °C do not exceed 25 % of the ultimate strength of conductor and earthwire.

6.4 Wind Loads

a) The procedure for wind load calculation on tower, conductor and earthwire shall be the same as adopted for normal towers.

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(b) The wind pressure acting at an angle of 45° to the tower body and 90° to the conductors acting simultaneously shall also be considered for designing the structure.

6.5 Under normal condition, unbalanced longitudinal pull due to difference in [illegible] ruling span for river crossing towers on one side and span of the line on the other side shall be considered for the design of anchor towers on dead end basis.

6.6 During designing and detailing for the river crossing tower provision for ladder platform etc. shall be made.

6.7 The rates for special towers shall be quoted on the basis of [illegible]. However the payment shall be released as per the approved BOM weight.

7.1 STANDARDS

The manufacturing, fabrication, galvanizing and materials used for manufacture of towers shall conform to the following Indian Standards (IS) Codes and Rules which shall mean latest revisions, with amendments/changes adopted and published, unless specifically stated otherwise in the specification. In the event of supply of equipment conforming to standards other than IS, the features of comparison of the relevant standard and IS shall be brought out and furnished.

Sr. No.	Indian Standards	Title
1	IS 209-1966	Specification for zinc
2	IS 2062-1992	Structural steel (Standard quality)
3	IS-[illegible]	High Tensile Steel
4	IS 800-1962	Code of practice for use of structural steel in general building construction
5	IS 802 Part I 1978 IS 802 (Part-II) 1978	Code of practice for use of structural steel in overhead transmission line Part I Load and permissible stresses Code of practice for use of structural steel in overhead transmission line Part II - Fabrication, Galvanizing, Inspection and packing
	IS 802 (Part-III) 1978	Code of practice for use of structural steel in overhead transmission line towers Part III - Testing
6	IS 1367-1967	Technical supply conditions for threaded fasteners (First Revision)
7	IS 2016-1967	Plain Washers
8	IS 2551-1963	Danger Notice Plates.

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9. IS:2629-1992 Recommended practice for hot dip galvanizing of iron and steel

Sr. No	Indian Standards	Title
10	IS:2633-1994	Method of testing uniformity of coating of zinc coated articles.
11	IS:3063-1994	Single Coil Rectangular Section spring washers for bolts, nuts, screws.
12	IS 5358-1969	Hot dip galvanized coatings on fasteners
13	IS:6610-1991	Specification for heavy washers for steel structures
14	IS:6639-1990	Hexagonal bolts for (ISO/R 272-1968) steel Structures
15	IS:6745-1972	Methods for determination of weight of zinc coating for zinc coated iron and steel articles
16	IS:5613-1993	Code of practice for design, installation and maintenance of overhead power lines Section-1 Designs Section-2 Installation Maintenance

17. CEA (Measures relating to Safety and Electric Supply) Regulations, 2010

18. Publication No. [illegible] Regulation for Electrical Crossing of Railway Tracks amended upto date

19. IS-961 H.T. Steel

20. IS:12427-1988 Specification for Transmission Tower Bolt

21. Indian Electricity Act 2003 amended upto date

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ANNEXURE-II

TECHNICAL PARTICULARS FOR INSULATOR HARDWARES

[illegible] TECHNICAL DESCRIPTION

[illegible] GENERAL

This section details the technical particulars of the Hardware fittings for 132/220 KV lines. The insulator hardwares shall be suitable for 0.2 ACSR Panther conductor (for 132 KV line) and 0.4 ACSR Zebra conductor (for 220 KV line).

[illegible] DETAILS OF HARDWARE FITTINGS

The hardware fittings shall generally be as per drawings enclosed with the specification & suitable for hot line maintenance.

2 DIMENSIONS OF INSULATOR STRING ALONGWITH HARDWARE FITTING

The various limiting dimensions of the various suspension and tension strings along with hardware fittings shall be as per the drawings attached with this specification. The hardware shall be suitable for use with 'Normal' and 'Antifog' type insulators.

[illegible] INTERCHANGEABILITY

The hardware together with ball and socket fittings shall be of standard design so that these hardwares are interchangeable with each other.

[illegible] BALL AND SOCKET DESIGNATION

The dimensions of the ball and socket shall be of 16 mm for 70 KN and 20 mm for 120 KN disc insulators in accordance with the standard dimensions stated in IS:2486 (Part-II) 1974.

[illegible] SECURITY CLIPS AND SPLIT PINS

Security clips for use with ball and socket coupling shall be R-shaped, hump type which provides positive locking of the coupling as per IS:2486 (Part-III) 1974. There shall be no risk of the locking device being displaced accidentally or being rotated when in position. Under no circumstances shall the locking device allow separation of fittings.

[illegible] ARCING HORN

The arcing horn shall be provided on line side of the hardware fittings. The horn shall be either ball ended rod type for 132 KV and tubular type for 220 KV.

[illegible] FREE CENTRE TYPE SUSPENSION CLAMP

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a) The suspension clamp shall have a slip strength between 12.5% to 20% of breaking load of conductor.

b) The suspension assembly shall be designed, manufactured and finished so as to avoid any possibility of hammering between suspension assembly and conductor due to vibration. The suspension assembly shall be smooth so that it shall not damage the conductor.

1.8 DEAD END ASSEMBLY

a) The dead end assembly shall be of compression type with provision for compression jumper terminal at one end. The angle of jumper terminal to be mounted, should be 10° with respect to the vertical axis.

b) The assembly shall not permit slipping of, damage to or failure of the complete conductor or any part thereof at a load less than 95% of the ultimate tensile strength of the conductor.

c) The steel sleeve of dead end assembly shall be made by drop forging method and shall not involve any welded joints.

1.9 FASTENERS

All fasteners shall conform to IS: 12427. All fasteners shall be hot dip galvanised.

1.10 WORKMANSHIP

a) All the equipment shall be of the latest design and conform to the best modern practices adopted in the Extra High Voltage field.

b) The design, manufacturing process and quality control of all the materials shall be such as to give maximum factor of safety, maximum working load, highest mobility, elimination of sharp edges and corners to limit corona and radio interference, best resistance to corrosion and a good finish.

c) After award of contract, the Contractor shall submit to the Owner, within one month, 2 copies of Quality assurance plan for approval.

d) Minimum weight of zinc coating shall be 300 gm/m² for fasteners and 610 gm/m² for all other hot dip galvanised articles.

1.11 BID DRAWINGS

The proposal shall include fully dimensioned assembly and component drawings for all items quoted. All drawings shall be neatly arranged, and all drafting and lettering shall be standard and legible. The minimum size of lettering shall be one eighth of an inch. Dimensions shall be in the metric units. The drawings shall give following information.

i) The list of material indicating quantity, nature, grade and reference standard of the material used for various parts. The thickness of plain/spring washers, size and length of bolts shall also be indicated.

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b) Technical details like ball and socket designation, method of manufacture, Hardness, Proof Load, slip strength, UTS, installation torque, type of Nuts, bolts, plain/spring washers, security clip and identification mark of the manufacturer.

c) After award of contract the contractor shall submit to the Owner, within one month 2 copies of drawings for approval. The owner shall accord approval for the drawings in reasonable period provided the same are as per specification. The Contractor shall be required to furnish all the clarification required by the owner for approving the drawings promptly.

d) Once the drawings have been approved, no alteration or modification should be carried out without prior approval of the Owner.

2.12 TESTS

(A) TYPE TESTS

The bidder shall offer the hardwares and accessories which are already type tested within the last five (5) years and manufactured by the reputed manufacturers approved by MSETCL.

In case the items are not type tested within 5 years as on the date of LOA, fresh type tests as per relevant IS standards and MSETCL specification shall be carried out in presence of purchasers representative, before supply of material.

The list of type tests to be conducted is as follows:

Sr No	Particulars of test	Reference standard
(i)	Suspension hardwares	
1)	Visual examination	
2)	Verification of Dimensions	
3)	Mechanical strength test on clamp and components	
4)	Slip strength test on clamp	IS 2486(I)/ MSETCL specification
5)	Magnetic power loss test on suspension clamp assembly	
6)	Galvanising/Electroplating test	
(ii)	Tension hardwares	
1)	Visual examination	
2)	Verification of Dimensions	
3)	Mechanical strength test on components	
4)	Mechanical/Slip strength test on dead end assembly	IS:2486(I)/MSETCL specification

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5)	Heating cycle test	
6)	Electrical resistance test (Before and after the heat cycle test)	
7)	Galvanizing/Electroplating test	
III)	Tests on locking devices/Security clips:	
1)	Verification of resistance to bending	
2)	Hardness test	IS 2486(IV)
3)	Operation test	

9) **ACCEPTANCE TESTS**

This shall cover those tests which are to be carried out on samples taken at random from a lot for acceptance of the lot.

The item wise list of acceptance tests to be conducted is as follows:

Sr No	Particulars of test	Reference standard
I)	Suspension hardwares:	
1)	Visual examination	
2)	Verification of Dimensions	
3)	Mechanical strength test on clamps and components	IS 2486(I)
4)	Galvanizing/Electroplating test	
II.	Tension hardwares:	
1)	Visual examination	
2)	Verification of Dimensions	
3)	Mechanical strength test on components	IS 2486(I)
4)	Mechanical/slip strength test on dead end assembly	
5)	Galvanizing/Electroplating test	
III)	Tests on locking devices/Security clips:	
1)	Verification of resistance to bending	IS:2486(IV)
2)	Hardness test	
3)	Operation test	

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C) ROUTINE TESTS

This shall cover those tests, which are to be carried out on each item to check the requirements which are likely to vary during production.

The list of routine tests to be conducted is as follows:

Sr No	Particulars of test		Reference standard
i)	Insulator String Fittings.		
1)	Visual Inspection		IS 2486(I)
2)	Mechanical routine test	:	
ii)	Tension Clamps		
1)	Visual Inspection	:	IS 2486(I)

D. TESTS DURING MANUFACTURING.

Stage tests during manufacture shall mean those tests which are to be carried out during the process of manufacturing to ensure quality control such that the end product is of the designed quality conforming to the intent of this specification.
The list of tests to be conducted during manufacturing is as follows:

Sr No.	Particulars of test		Reference standard
a)	Visual inspection, Chemical analysis, Tensile strength, Hardness, Adhesion of zinc coating, Grain size, Homogeneity, Proof load and magnetic particle examination tests for ferrous forgings.	:	As per relevant IS Standards
b)	Visual inspection, Dimensional check, Chemical analysis, Tensile strength and hardness test for steel fabricated components	:	do
c)	Check for [illegible] test for aluminium alloy castings.		.
d)	Visual inspection, Dimensional check and chemical analysis test for aluminium, aluminium alloy tubes and bars	:	do
e)	Chemical analysis of zinc for [illegible]	.	do

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Sr. No.	Particulars of test	Reference standard
iv	Visual inspection, Dimensional check, chemical analysis and hardness test for Stainless steel bolts, U-bolts, Nuts and washers	- do -
v	Visual inspection, Dimensional Check, Resistance to bending, Opening test, Hardness and Resistance to intergranular corrosion tests on security clips.	- do -
vi	Visual inspection, Dimensional check and mechanical strength test for M.S bolts, nuts and plain washers	- do -
vii	Visual inspection, Dimensional check, Twist, Permanent load and Hardness tests on spring washers	- do -

[illegible] ADDITIONAL TESTS

The Owner reserves the right of having at his own expenses any other test(s) of reasonable nature carried out at manufacturer's premises, at site, or in any other laboratory in addition to the aforesaid type, acceptance and routine tests to satisfy himself that the material complies with the specification. The owner also reserves the right to repeat the full series or a particular type test at any time during the pendency of contract.

[illegible] GUARANTEED TECHNICAL PARTICULARS

The Guaranteed Technical Particulars for insulator hardware enclosed with the Annexure shall be duly filled in and submitted along with the offer.

[illegible] IDENTIFICATION MARK

All components of hardware made by forging/casting shall invariably be marked by embossing with identification mark of the manufacturer. The identifying letters and numbers shall be raised / sunk and shall be at least 3 mm high. They shall be embossed on either one or both sides of the assembly. The characters shall be distinct, durable and conspicuous after galvanising.

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1.12 STANDARDS APPLICABLE

Except as modified in this specification, the materials to be supplied shall conform to the latest version with amendments thereof, of the following Bureau of Indian Standards and other International Standards.

Sr. No.	Bureau of Indian Standard No.	Title
1)	IS 2486-1993 Part-I	Metal fittings of insulators for overhead power lines with a nominal voltage greater than 1000 V - General requirements and tests
2)	IS 2486-1989 Part II	Insulator fittings for overhead power lines with a nominal voltage greater than 1000 V - Dimensional requirements
3)	IS 2486-1974 Part-III	Insulator fittings for overhead power lines with a nominal voltage greater than 1000 V - Locking devices
4)	IS 2486-1991 Part-IV	Insulator fittings for overhead power lines with a nominal voltage greater than 1000 V – Tests for Locking devices
5)	IS 2121-1981 Part-I	Conductor and Earth wire accessories for overhead power Lines - Armour Rod
6)	IS 2121-1981 Part-II	Conductor and Earthwire accessories for overhead power Lines - Mid-span & Repair Sleeves
7)	IS 9708-1990	Stockbridge vibration dampers for overhead power lines
8)	IS 2004-1991	Carbon steel forgings for general Engineering Purposes
9)	IS 2062-1992	Steel for general structural Purposes
10)	IS 5082-1981	Wrought aluminium and aluminium sections for electrical purposes
11)	ASTM A 276-96	Standard specification for stainless steel bars and shapes
12)	IS 6603-1972	Stainless steel bars and flats
13)	IS 4759-1996	Hot dip zinc coatings on structural steel and other allied products
14)	IS 2633-1986	Method of testing uniformity of coatings on zinc coated articles
15)	IS 3063-1994	Single coil rectangular section spring washers for bolts, nuts & screws
16)	IS 6639-1972	Hexagonal bolts for steel structures

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17)	IS 2016-1967	Specification for plain washers
18)	IS 4759	Specification for hot dip galvanize coatings on [illegible]
19)	IS 1573-1986	Electroplated coatings of zinc on iron and steel
20)	IS 1363-1984	Black hexagonal bolts, nuts and lock nuts and hex. [illegible]
21)	IS 1367-1991 Part-I	Technical supply conditions for threaded steel fasteners Introduction and general information
22)	IS 1367-1979 Part-III	Technical supply conditions for threaded steel fasteners Mechanical properties and test methods for Bolts, [illegible] Studs with full loadability
23)	IS 1367-1980 Part-VI	Technical supply conditions for threaded steel fasteners Mechanical properties and test Methods for nuts with specified proof loads
24)	IS 1367-1979 Part-IX	Technical supply conditions for threaded steel fasteners Surface discontinuities on Bolts, screws & studs
25)	IS 1367-1979 Part-X	Technical supply conditions for threaded steel fasteners Surface discontinuities on nuts
26)	IS 1367-1983 Part-XIII	Technical supply conditions for threaded steel fasteners Hot dip Galvanized coatings on threaded fasteners
27)	IS 9997-1991	Aluminium alloy redraw rods for Electrical purposes
28)	IS 3703	Code of practice for Magnetic Powder flaw detection

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2.0 GUARANTEED TECHNICAL PARTICULARS FOR INSULATOR HARDWARE SUITABLE FOR ACSR Panther/Zebra

Manufacturer's name and address :

Brand / Drawing No. [illegible] :

[illegible] :

Sr. No.	Item	Material	Grade
A)	**Single Suspension hardware**		
1.	Tower side [illegible] :		
2.	Tower side arcing horn :		
3.	[illegible] Ball [illegible] Socket eye :		
4.	Line side arcing horn :		
5.	Suspension/[illegible] Clamp :		
B)	**Double Suspension hardware**		
1.	Tower side Twisted Shackle :		
2.	Tower side yoke plate :		
3.	Tower side arcing horn :		
4.	Ball eye :		
5.	Socket clevis :		
6.	Line side yoke plate :		
7.	Line side arcing horn :		
8.	[illegible] :		
9.	Line side Twisted [illegible] :		
C)	**[illegible] assembly** [illegible] suspension hardware		
1.	Shackle and [illegible] :		
2.	[illegible] piece :		

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d) Suspension clamp -

D) **Single tension hardware**

1) Anchor Shackle -

2) Horn holder ball link -

3) Tower side arcing horn -

4) Horn holder socket eye -

5) Line side arcing horn -

E) **Double tension hardware**

1) Anchor Shackle -

2) Chain link -

3) Tower side yoke plate -

4) Tower side arcing horn -

5) Ball clevis -

6) Socket clevis -

7) Line side yoke plate -

8) Line side arcing horn -

9) Clevis eye -

F) **Clamp assembly**
(Common for tension hardware)
1) Steel sleeve -

2) Compression tube
and plunger -
1 Maximum [illegible] of
a) Single suspension
hardware -
b) Double suspension
hardware -
c) Single tension hardware -
d) Double tension hardware -

2) Length of suspension
clamp -
3) Slip strength of -

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	requirement clamp	
[illegible]	Magnetic power loss in watts for suspension clamp at 800 Amps.	-
[illegible]	Slip strength of suspension clamp	-
[illegible]	Electrical resistance of tension clamp after compression	-
[illegible]	Relevant specification to which galvanizing conform	-

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ANNEXURE-III

TECHNICAL PARTICULARS OF CONDUCTOR & EARTHWIRE ACCESSORIES

1.0 Accessories suitable for 0.2 ACSR Panther conductor (for 132 kV line), 0.4 ACSR Zebra Conductor (for 220 kV line) and 7/3.15 mm earthwire shall be offered.

2.0 MID SPAN COMPRESSION JOINT (CONDUCTOR)

Mid Span Compression Joint shall be used for joining two lengths of conductor. The electrical resistance of joint shall be less than 75% of measured resistance of equivalent length of conductor. The joint shall not permit slipping off, damage to, or failure of the complete conductor or any part thereof at a load less than 95% of the ultimate tensile strength of the conductor. The joint shall be made of aluminium alloy.

3.0 REPAIR SLEEVE (CONDUCTOR)

Repair Sleeve of compression type shall be used to repair conductor with not more than two strands broken in the outer layer. The sleeve shall be manufactured from aluminium alloy. The repair sleeve shall comprise of two pieces with a provision of seat for sliding of the keeper piece. The edges of the seat as well as the keeper piece shall be so rounded that the conductor strands are not damaged during installation.

4.0 PRE-FORMED ARMOUR RODS

P. A. Rods shall be used for wrapping on the conductor at the suspension clamp position. The rods shall be made of aluminium alloy grade 6061 having tensile strength not less than 35 Kg/mm². The electrical conductivity of each rod shall not be less than 40% of IACS(International Annealed Copper Specification). The shape of ends of each rod shall be Parrot bill. The centre point of each rod shall be marked [illegible] start point.

5.0 VIBRATION DAMPER

Vibration damper of 4R stock bridge type with four different resonant frequencies spread within the specified aeolian frequency band-width shall be used for suspension and tension points in each conductor in each span to damp out aeolian vibrations. Two dampers on each side shall be used at tension points and one damper on each side at suspension points for normal spans. The Bidder shall furnish damper placement chart along with the bid for spans ranging from 100 m to 600 m.

The clamp of the vibration damper shall be made of aluminium alloy. The clamp shall be capable of supporting the damper during installation and prevent damage or chafing of the conductor during erection or continued operation.

The messenger cable shall be made of high tensile strength steel wire with a minimum strength of 135 kg/mm². The damper mass shall be made of cast iron, hot dip galvanized or a permanent mould cast zinc alloy.

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The vibration analysis of the system, with and without damper, dynamic characteristic of the damper shall be submitted by the Bidder along with the bid.

6.0 SUSPENSION CLAMP (EARTH WIRE)

At all suspension towers suitable envelop type suspension clamp should be used to hold earthwire. The suspension clamp shall be provided with an eye hook and M16 size bolt for attaching it to the hanger plate. The design of the assembly shall be such that the direction of run of the earthwire through the clamp shall be same as that of the earthwire.

The suspension clamp shall be provided with M12 size (2 No.) bolts, nuts and plain washers of Mild steel and spring washers of spring steel for connecting earth bond to the tower body.

The suspension clamp shall have a slip strength between 12.5% to 20% of ultimate tensile strength of the earthwire. The breaking load of suspension clamp shall not be less than 24 KN.

7.0 TENSION CLAMP (EARTH WIRE)

At all tension towers suitable compression type tension clamps shall be used to hold earthwire. 16 mm diameter anchor shackle shall be supplied which shall have a hole for attaching the tension clamp to strain plate. The tension clamp shall be provided with jumper plate for attaching jumper terminal to it. The same shall be attached with 2×M12 size bolts, nuts and plain washers of mild steel and spring washer of spring steel. The length of one of the bolts shall be more than the other for connecting earth bond to the tower body.

The electrical resistance of the clamp when compressed on the earthwire shall be less than 75% of measured resistance of equivalent length of earthwire. The slip strength of the assembly shall not be less than 90% of the ultimate tensile strength of the earthwire. The angle of jumper terminal shall be 30° with respect to the vertical line.

The clamp shall be complete with all the components including anchor shackle, bolts, nuts, washers, split pin, jumper arrangement etc.

8.0 MID SPAN COMPRESSION JOINT (EARTHWIRE)

Mid Span Compression Joint shall be used for joining two lengths of earthwire. The joint shall be made of Mild Steel. The joint shall not permit slipping off, at a load less than 90% of the ultimate tensile strength of the earthwire. The electrical resistance of joint shall be less than 75% of measured resistance of equivalent length of earthwire.

9.0 EARTH BOND

The earth bond shall be made of ETP grade 99.9% of copper (IS 2982) tinned flexible copper cable of size 37/0.417 mm and copper area equivalent of 5 mm². The length of earth bond shall not be less than 500 mm. Two crimped copper lugs having suitable holes for 12 mm & 16 mm diameter bolts shall be press jointed at either ends of the copper cable. One 45 mm long galvanised Mild Steel bolt with nut and plain, spring washer shall

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also be provided. This shall be suitable for providing proper bondage between earthwire hardware and tower body. The pull off load shall not be less than 300 kg.

10.0 WORKMANSHIP

a) All the equipment shall be of the latest design and conform to the best modern practices adopted in the Extra High Voltage field.

b) The design, manufacturing process and quality control of all the materials shall be such as to give maximum possible working and reliable durability, elimination of sharp edges and corners to limit corona and radio interference, best resistance to corrosion and a good finish.

c) Minimum weight of zinc coating shall be 500 gm/m² for fasteners and 610 gm/m² for all other hot dip galvanised articles.

11.0 BID DRAWINGS

The proposal shall include fully dimensioned assembly and component drawings for all items quoted. All drawings shall be neatly arranged and all drafting and lettering shall be standard and legible. The minimum size of lettering shall be one eighth of an inch. Dimensions shall be in the customary units. The drawings shall give following information:

a) The bill of material indicating quantity, nature, grade and reference standard of the material used for various parts. The thickness of plain/spring washers, size and length of bolts shall also be indicated.

b) After award of contract the contractor shall submit to the Owner, 2 copies of drawings for approval within one month. The Owner shall accord approval for the drawings in reasonable period provided the same are as per specification. The Contractor shall endeavour to furnish all the clarifications required by the Owner for approving the drawings promptly.

c) Once the drawings have been approved, no alteration or modification shall be carried out without prior approval of the Owner.

12.0 TESTS

A) TYPE TESTS

The contractor shall offer the accessories which are already type tested within the last five (5) years and manufactured by the reputed manufacturers approved by the Board.

In case the items are not type tested within 5 years as on the date of LOA, then all type tests as per relevant IS standards shall be carried out in presence of purchaser's representative before supply of material.

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The list of type tests to be conducted is as follows:

Sr. No.	Particulars of test	Reference Standard
a)	Conductor accessories,	
a)	MSCJ	
1)	Visual examination	
2)	Verification of Dimensions	IS 2121
3)	Mechanical/Slip strength test	
4)	Heat cycle test	
5)	Electrical resistance test (Before and after heat cycle test)	
b)	Repair Sleeves	
1)	Visual examination	
2)	Verification of Dimensions	
3)	Mechanical/Slip strength test	IS 2121
4)	Electrical resistance test	
c)	P.A. Rod	
1)	Visual examination	
2)	Verification of Dimensions	
3)	Slip strength test	
4)	Tensile Strength test	IS 2121
5)	Bend test	
6)	Resilience test	
7)	Electrical resistance test	
d)	Vibration Damper	
1)	Visual examination	
2)	Verification of Dimensions	
3)	Mass pull off test	
4)	Magnetic power loss test	
5)	Clamp slip test (Before & after fatigue test)	IS 9708
6)	Clamp bolt torque test	
7)	Resonance frequency test	
8)	Fatigue test	
9)	Galvanising/Coating test	
10)	Damper characteristics test (Before & after fatigue test)	
11)	Vibration analysis Damper Efficiency test	

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Sl. No.	Particulars of test	Reference standard
II)	**Earthwire accessories**	
A)	**Suspension clamp**	
1)	Visual examination	IS:2486
2)	Verification of Dimensions	
3)	Mechanical strength test	
4)	Clamp slip test	
5)	Galvanising/Electroplating test	
B)	Tension clamp	
1)	Visual examination	IS:2486
2)	Verification of Dimensions	
3)	Mechanical/Slip strength test	
4)	Electrical resistance test	
5)	Galvanising/Electroplating test	
C)	MSCJ	
1)	Visual examination	IS:2121
2)	Verification of Dimensions	
3)	Mechanical/slip strength test	
4)	Electrical resistance test	
5)	Galvanising test	
D)	**Earth Bond**	
1)	Visual examination	IS:2121
2)	Verification of Dimensions	
3)	Slip strength test	

3) ACCEPTANCE TESTS

This shall mean those tests which are to be carried out on samples taken at random from a lot for acceptance of the lot.

The minimum list of acceptance tests to be conducted is as follows.

Sl. No.	Particulars of test	Reference standard
I)	Conductor accessories	
A)	MSCJ	
1)	Visual examination	IS:2121
2)	Verification of Dimensions	
3)	Mechanical/Slip strength test	
B)	**Repair Sleeves**	
1)	Visual examination	IS:2121
2)	Verification of Dimensions	
3)	Mechanical/Slip strength test	

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Sr No	Particulars of test	Reference standard
13)	**P.A. Rod**	
1)	Visual examination	
2)	Verification of Dimensions	
3)	Tensile Strength test	IS 2121
4)	Resilience test	
5)	Electrical resistance test	
7)	**Vibration Damper**	
1)	Visual examination	
2)	Verification of Dimensions	
3)	Mass pull off test	
4)	Fatigue test	IS 9708
5)	Clamp slip test after fatigue test	
6)	Resonance frequency test	
7)	Galvanising/Electroplating test	
II.	Earthwire accessories:	
A)	Suspension clamp	
1)	Visual examination	
2)	Verification of Dimensions	
3)	Mechanical strength test	IS 2486
4)	Galvanising/Electroplating test	
B)	Tension clamp	
1)	Visual examination	
2)	Verification of Dimensions	
3)	Mechanical strength test on clamp & components	IS 2486
4)	Galvanising/Electroplating test	
C)	MSCJ	
1)	Visual examination	
2)	Verification of Dimensions	
3)	Mechanical/slip strength test	IS 2121
4)	Galvanising test	
D)	Earth Bond	
1)	Visual examination	
2)	Verification of Dimensions	IS 2121
3)	Slip strength test	

1.1 ROUTINE TESTS

Bidder shall carry those tests, which are to be carried out on each item as per the requirements which are likely to vary during production.

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The list of routine tests to be conducted is as follows

Sr. No.	Particulars of test	Reference standard
I)	Conductor accessories:	
A)	P.A. Rod	
1)	Visual Inspection	
2)	Verification of Dimensions	IS:2121
B)	MS & P.A. Repair Sleeves	
1)	Visual Inspection	
2)	Verification of Dimensions	IS:2121
C)	Vibration Damper	
1)	Visual Inspection	IS:9708
II)	Earthwire fittings.	
A)	Suspension clamp	
1)	Visual Inspection	IS:2486
2)	Mechanical strength test	
B)	Tension Clamp	
1)	Visual Inspection	IS:2486
C)	MSCJ	
1)	Visual Inspection	
2)	Verification of Dimensions	IS:2121
D)	Earth Bond	
1)	Visual Inspection	IS:2121

[illegible] TESTS DURING MANUFACTURING:

Stage tests during manufacture shall mean those tests which are to be carried out during the process of manufacturing to ensure quality control such that the end product is of the designed quality conforming to the intent of this specification.

The list of tests to be conducted during manufacturing is as follows

Sr. No.	Particulars of test	Reference standard
1)	Visual inspection, Dimensional check, Chemical analysis and mechanical strength tests for malleable Cast Iron castings	As per relevant IS standards
2)	Dimensional check and chemical analysis test for Copper wire/ bars	-do-

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Sr. No.	Particulars of test		Reference standard
3)	Chemical analysis of zinc for galvanising	:	IS

5. **ADDITIONAL TESTS**

The Owner reserves the right of having at his own expense any other test(s) of reasonable nature carried out at manufacturer's premises, at site or in any other laboratory in addition to the aforesaid type, acceptance and routine tests to satisfy himself that the material complies with the specification. The owner also reserves the right to repeat the full series of specified type test at any time during the pendency of contract.

13.0 GUARANTEED TECHNICAL PARTICULARS

The Guaranteed Technical Particulars for conductor and earthwire accessories enclosed with this Annexure shall be duly filled in and submitted along with the offer.

14.0 IDENTIFICATION MARK

All components made by forging/casting shall invariably be marked by embossing with identification mark of the manufacturer. The identifying letters and numbers shall be raised 1 mm and shall be at least 5 mm high. They shall be die stamped or cast on one or both sides of the assembly. The characters shall be distinct, durable and conspicuous after galvanising.

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GUARANTEED TECHNICAL PARTICULARS FOR MSCJ FOR 0.2 sq.in. ACSR Panther/0.4 ACSR zebra

Manufacturer's name and address

Sr. No.	Particulars		Guaranteed Value
1)	Material	:	
2)	Before Compression dimensions		
a)	Aluminium Sleeve		
i)	Outer Diameter	:	
ii)	Inner Diameter	:	
b)	Steel Sleeve		
i)	Outer Diameter	:	
ii)	Inner Diameter	:	
3)	After Compression dimensions		
i)	Corner to Corner	:	
ii)	Flat to Flat	:	
4)	Length before compression	:	
5)	Slip strength	:	
6)	Electrical resistance of Joint after Compression	:	

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GUARANTEED TECHNICAL PARTICULARS FOR REPAIR SLEEVES FOR 0.2 sq. in. ACSR Panther/ 0.4 ACSR Zebra

Manufacturer's name and address :

Sr. No.	Particulars		Guaranteed Value
1)	Material	:	
2)	Before Compression dimensions		
a)	Outer Diameter	:	
b)	Inner Diameter	:	
3)	After Compression Dimensions		
a)	Corner to Corner	:	
b)	Flat to Flat	:	
4)	Length before Compression	:	
5)	Slip strength	:	
6)	Electrical resistance of joint after Compression	:	

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GUARANTEED TECHNICAL PARTICULARS FOR P.A. ROD FOR 0.2 sq in. ACSR Panther/0.4 ACSR Zebra

Manufacturer's name and address :

Sl. No.	Particulars		Guaranteed Value
1)	Material	:	
2)	Dimensions	:	
a)	Length of each rod (in mm)	:	
b)	Diameter of each rod (in mm)	:	
c)	No. of rods per set	:	
d)	Tolerance on length of each rod	:	
3)	Conductor size	:	
4)	Direction of lay	:	
5)	Shape of end	:	
6)	Tensile strength	:	

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GUARANTEED TECHNICAL PARTICULARS FOR VIBRATION DAMPER FOR 0.2 sq.in. ACSR Panther/0.4 ACSR Zebra

Manufacturer's name and address :

[illegible] trade mark :

Sr. No.	Particulars		Guaranteed Value
1)	Type	:	
2)	Material [illegible]		
3)	Standard of	:	
a)	Clamp	:	
b)	Messenger cable	:	
c)	Weights (Damper mass)	:	
4)	Weight of damper mass		
5)	Total weight of damper		
6)	Slip strength of clamp		
a)	Before fatigue	:	
b)	After fatigue	:	
7)	Maximum possible dynamic strain on the conductor with damper	:	
8)	Resonance frequency		
9)	Mass each of [illegible]	:	
10)	Magnetic power loss at 600 Amps	:	
11)	Standard specification to which goods being conform	:	

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GUARANTEED TECHNICAL PARTICULARS FOR SUSPENSION CLAMP FOR EARTHWIRE

Manufacturer's name and address :

Identification mark :

Sr. No	Particulars		Guaranteed Value
1)	Type	:	
2)	Material, Grade & Standard for		
a)	Clamp body	:	
b)	Keeper piece	:	
c)	U/J bolt and nut	:	
d)	Eye bolt	:	
3)	Breaking load of fitting	:	
4)	Slip strength	:	
5)	Length of fitting	:	

GUARANTEED TECHNICAL PARTICULARS FOR COPPER BOND

Sr No.	Particulars		Guaranteed Value
1)	Material, Grade and Standard for		
a)	Connecting lugs	:	
b)	Flexible bond	:	
2)	Stranding	:	
3)	Length	:	
4)	Pull off load	:	

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GUARANTEED TECHNICAL PARTICULARS FOR TENSION CLAMP FOR EARTHWIRE

Manufacturer's name and address :

Type & make :

Sr. No.	Particulars		Guaranteed Value
1	Material, Grade & Standard for		
a)	Clamp body	:	
b)	Sleeve	:	
2	Before compression dimensions		
a)	Outer Diameter	:	
b)	Inner Diameter	:	
3	After compression dimensions		
a)	Corner to Corner	:	
b)	Flat to Flat	:	
4	Slip strength	:	
5	Length before compression	:	
6	Electrical resistance of joint after compression	:	
7	Standard specification to which it is conforming	:	

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GUARANTEED TECHNICAL PARTICULARS FOR [illegible] FOR EARTHWIRE

Manufacturer's name and address :

Sr No.	Particulars		Guaranteed Value
1)	Material, Grade & Standard for Sleeve	:	
2)	Before compression dimensions		
a)	Outer Diameter	:	
b)	Inner Diameter	:	
3)	After compression dimensions		
a)	Corner to Corner	:	
b)	Flat to flat	:	
4)	Length before compression	:	
5)	Slip strength	:	
6)	Electrical resistance of joint after compression	:	
7)	Standard specification to which gtd. meeting conform	:	

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ANNEXURE IV

LIST OF APPROVED VENDORS

[illegible] MSETCL website www.mahatransco.in for [illegible]

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ANNEXURE-V

GENERAL TECHNICAL REQUIREMENTS OF FOUNDATION, STUB SETTING AND EARTHING

1.0 GENERAL

Cement concrete/Reinforced concrete footings shall be used for all types of Towers in conformity with the present day practice followed in the country and the specifications laid herein.

Foundation works shall include all the items of work related to supply and installation of foundations such as foundation survey, excavation, concreting, curing, backfilling, stub setting, providing revetment etc. Supply of materials such as cement, sand, coarse aggregate and reinforcement steel is included in the scope of the contractor.

The foundation designs and drawings for a few types of soil for 220/132 KV towers are available and shall be issued to the successful Bidder. The foundation designs required for any other type of soil shall be developed by the Bidder as per the details given and shall be submitted to the owner for approval.

2.0 CLASSIFICATION OF SOIL AND FOUNDATIONS

2.1 CLASSIFICATION OF SOILS

The soil shall be classified for the excavation based upon the type of soil, subsoil water level and the presence of surface water as under:

a) Normal Soil

Soil which is removed by means of ordinary pick, axe, spade and shovel is normal soil.

b) Wet Soil

Where the sub-soil water table is encountered within the range of foundation depth or/and where pumping or bailing out of water is required due to presence of surface water.

c) Rocky Soil

d) Fissured Rock

Lime stone, laterite, hard conglomerate or other soft or fissured rock which can be quarried or split with crow bars, wedges or pickaxes shall be classified as Fissured Rock. However, if required, light blasting may be resorted to for loosening the material, but this will not in any way entitle the material to be classified as hard rock.

e) Hard Rock

Any rock other than specified under fissured rock above, for which blasting, drilling, chiseling are required for excavation.

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2.4 Black Cotton Soil

Where soil is clayey type but not necessarily black in colour, which shrinks when dry & swells when wet resulting in differential movement, extending to a maximum depth of about 3.5 meters below ground level, the foundation shall be classified as Black cotton.

3.0 Classification of Foundations

The foundation designs shall depend upon the type of soil, sub-soil water level and the presence of surface water which have been classified as follows:

3.1 Normal dry

Where cohesive or non-cohesive soils or sub-soil water are met at 1.5 meter below ground level, the foundations shall be classified as normal dry.

3.2 Wet

Where sub-soil water is met at 1.5 meters or more below the ground level or where surface water is present for long periods with water penetration not exceeding one meter below the ground level e.g. the paddy fields, the foundations shall be classified as wet.

3.3 Partially submerged

Where sub-soil water table is met between 0.75 meter to 1.5 meter below the ground level, the foundation shall be classified as partially submerged.

3.4 Fissured Rock

Where decomposed or fissured rock, Soft Rock, hard gravel, kankar, limestone, laterite or any other soil of similar nature is met, the foundations shall be classified as fissured rock and Undercut type foundations to be used for these types of locations.

3.5 Hard Rock

Where hard rock is encountered at 1.5 meter or less below ground level, the rock excavation by chiseling, drilling and blasting is required.

3.6 Black cotton soil

Where soil is clayey type (but) not necessarily black in colour, which shrinks when dry & swells when wet resulting in differential movement extending to a maximum depth of about 3.5 meters below ground level, the foundation shall be classified as Black cotton.

4.0 Properties of soil

Properties of soil encountered in general in the state of Maharashtra are given in following table:

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PROPERTIES OF EARTH

Sr No	Particulars	Unit	Value
1)	Weight of earth		
a)	Dry	KN/m^3	14.12
b)	In presence of surface water	KN/m^3	[illegible]
c)	In presence of subsoil water	KN/m^3	9.22
2)	Normal Dry		
a)	Ultimate bearing capacity	KN/m^2	[illegible]
b)	Weight of earth	KN/m^3	14.40
c)	Angle of repose	Degrees	30° degree
3)	Soft Rock/Fissured Rock		
a)	Ultimate Bearing Capacity	KN/m^2	612.50
b)	Weight of earth	KN/m^3	14.42
c)	Angle of Repose	Degrees	30°
4)	Wet Fissured Rock		
a)	Ultimate bearing capacity	KN/m^2	612.50
b)	Weight of earth	KN/m^3	9.22
c)	Angle of Repose	Degrees	15°
5)	Hard Rock		
a)	Ultimate Bearing Capacity	KN/m^2	3250.0
b)	Ultimate bond between rock and concrete	KN/m^2	[illegible]

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Sr No.	Particulars	Unit	Value
6	Black Cotton Soil (On Dry portion)		
a)	Ultimate Bearing Capacity	KN/m²	[illegible]
b)	Weight of Earth	KN/m³	[illegible]
c	Angle of Repose	Degrees	[illegible]
7	Black Cotton Soil (On Wet portion)		
a)	Ultimate Bearing Capacity	KN/m²	[illegible]
b)	Weight of Earth	KN/m³	[illegible]
c)	Angle of Repose	Degrees	[illegible]

DESIGN OF FOUNDATIONS

All the four footings of the tower and its extension [illegible] irrespective of [illegible]

The total depth of foundations below the ground level shall not be less than 1.5 metres and more than 3.0 metres. To maintain the interchangeability of stubs for all types of foundations, for each type of tower, the same depth of stub below ground level shall be used for different types of foundation. Common foundation design shall be used for the normal tower and tower with [illegible] extension.

For designing foundations at locations having black cotton soil the soil is to be considered as fully submerged in nature.

In case of fissured rock locations where water table is met at 1.5 meter or more below ground level, wet type fissured rock foundations shall be adopted. If after soil investigation, water level is encountered less than 1.5m below ground level, a separate foundation design for partially submerged soil (as and if applicable) shall be developed by the Contractor for execution.

The foundations shall be designed to withstand the specified loads of the superstructure and for the full [illegible] in conformity with the relevant safety factors.

The reactions on the footings shall be composed of the following type of loads for which they shall be required to be checked:

(a) Maximum tension or uplift along the leg slope

(b) Maximum compression or down thrust along the leg slope

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c) Maximum horizontal shear or side thrust

5.4 The additional weight of concrete in the footing below ground level over the earth weight and the full weight of concrete above the ground level in the footing and embedded stub parts will also be taken into account adding to the down thrust.

5.5 Foundation in [illegible] soil shall be designed with zero degree angle of repose and also as fully submerged condition.

5.6 [illegible] deformed bars [illegible] shall be used for reinforcement.

5.7 [illegible] shall be provided in the chimney portion in all types of soil.

6.0 FACTOR OF SAFETY

6.1 The factor of safety of 2.2 and 1.65 shall be adopted for normal condition and broken wire condition respectively. The working loads on normal tower or extension whichever is critical shall be multiplied by appropriate factor of safety to arrive at the ultimate foundation loads.

7.0 STABILITY ANALYSIS

7.1 In addition to the strength design, stability analysis of the foundation shall be done to check the possibility of failure by overturning, uprooting, sliding and tilting of the foundation.

7.2 The following primary types of soil resistance shall be assumed to act in resisting the loads imposed on the footing in earth.

i) Resistance against uplift

The uplift loads will be assumed to be resisted by the weight of earth in an inverted frustum of a cone/pyramid of earth as per formula defined in drawing enclosed in this specification on the footing pad whose sides make an angle equal to the angle of repose of the earth with the vertical in average soil.

The weight of concrete embedded in earth and that above the ground will also be considered for resisting the uplift. In case where the frustum of earth pyramids of two adjoining legs superimpose each other, the earth frustum will be assumed to be truncated by a vertical plane passing through the centre line of the tower base. The earth weight of uplift shall not be considered with FOS while calculating uplift.

ii) Resistance against down thrust

The down thrust loads combined with the additional weight of concrete above earth will be resisted by the bearing strength of the soil assumed to be acting on the total area of the bottom of the footing.

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j) Resistance against side thrust

The contractor has to check the foundation against side thrust force as detailed in drawing enclosed. If uplift and down thrust are computed in vertical direction for foundation design, full resultant horizontal force shall be taken at footing top for design of the footing to resist side thrust.

8.0 PROPERTIES OF CONCRETE

8.1 The concrete to be used for the foundation shall be of grade M-15 corresponding to 1:2:4 nominal mix ratio or M-20 corresponding to 1:1.5:3 nominal mix ratio with 20mm coarse aggregate for chimney portion and 40mm coarse aggregate for pyramid or slab portion depending on foundation design and relevant foundation drawing.

All the properties of concrete regarding its strength under compression, tension, shear, punching and bond etc. as well as workmanship will conform to IS:456-1978

8.2 The weight of concrete to be considered for design of foundation is given in following Table

WEIGHT OF CONCRETE

Type of Concrete	Weight in dry region KN/M³ (Kg/M³)	Weight in presence of subsoil water KN/M³ (Kg/M³)
Plain Concrete	21.97 (2240)	12.16 (1240)
Reinforced Concrete	23.54 (2400)	13.73 (1400)

9.0 DETAILING OF FOUNDATIONS

9.1 The thickness of concrete in the chimney portion of the tower footing would be such that it provides minimum cover of not less than 50mm from any part of the stub angle to the nearest outer surface of the concrete in respect of all dry locations limiting the minimum section of chimney to 300 mm. The same in respect of all wet locations, the chimney should have all round clearance of 100mm from any part of stub angle considering the minimum chimney size of [illegible] mm x [illegible] mm.

9.2 The chimney top or coping must be at least 225mm above ground level and also the coping shall be extended up to the lower most bolt of joint between the bottom lattices and the main corner legs of the tower.

9.3 The spread of concrete pyramid or slabs shall be limiting to 45° with respect to the vertical. However, bidders can design foundation with reinforced concrete pyramid/slab, in which case the limitation of 45° is not applicable. [illegible] steel bars shall only be used for reinforcement steel.

9.4 At least 50mm thick bed of lean concrete at the base of pyramid with its sides vertical [illegible] below the pyramid to account for the unevenness of soils [illegible] likely

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to be caused to concrete due to direct contact of wet concrete with earth and also for allowing stub / pyramids reaching up to lean edges. This pad will also be provided in cases where pyramids are provided over concrete slabs.

9.5 In case of partially submerged and fully submerged type foundation, at least one base slab of not less than 200mm thick shall be provided. In case of reinforced concrete slab, the slab thickness should not be less than 300mm.

9.6 The minimum distance between the lower edge of the stub angle and the bottom surface of concrete footing shall not be less than 75 mm or more than 100mm in case of dry locations and not less than 100mm or more than 150mm in case of wet locations.

9.7 In case of foundations having steel reinforcement in pyramid or slab and for all wet and partially submerged locations at least 50mm thick pad of lean concrete corresponding to 1:3:6 shall be provided prior to pad/slab mentioned at clauses 9.4 and 9.5 to avoid the possibility of reinforcement rods being exposed to the corrosion of the bottom excavated pit and to avoid direct contact of concrete slab with water.

9.8 The portion of the stub in the pyramid (or slab) shall be designed to take full down thrust or uplift loads by the cleats combined with the bond between stub angles and pyramid concrete. The Contractor shall furnish the calculation for providing of cleats along with the foundation design.

10.0 MARKING OF TOWER LOCATION

The check survey shall be carried out and the markings of foundation as per approved excavation drawing shall be made on the ground.

11.0 EXCAVATION

11.1 Except as specifically otherwise provided, all excavations for footing shall be made to the lines and grades of the foundation. The excavation wall shall be vertical and the

pit dimensions shall be such as to allow a clearance on all sides from the foundation pad. The Contractor should ensure that clearance is maintained as advised by Engineer incharge of owner. Even the foundation pad is maintained as per advice of engineer incharge for quality work. All excavation shall be protected so as to maintain a clean cut grade, until the footing is placed, using timbering, shoring etc., if necessary. Any water, sand, silt or other undesirable materials which may accumulate in the excavated pit shall be removed by the Contractor before placing concrete.

11.2 No extra charge shall be admissible for the removal of the fallen earth in the pit, when once excavated. Shoring, shuttering and timbering as approved by authorized representative of the Owner shall be provided by the Contractor when the soil condition is such that there is likelihood of the caving of earth.

11.3 Where rock is encountered, the holes for tower footings shall preferably be drilled. But where blasting is to be resorted to as an economy measure it shall be done with utmost care to minimize the use of concrete for filling the blasted area. All necessary precautions for handling and use of blasting materials shall be taken. In case where drilling is done, the stubs may be shortened suitably with the approval of the Owner (or

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for Owner's representative. Further it may be noted that the contractor may be required to do controlled blasting if the site conditions so warrant.

12.5.1 When intermediate soil strata is encountered the owner will modify the foundation drawings as per requirement with cutoff position of reinforcement. The Contractor shall supply suitable filter material and be responsible for supply and use of that material.

12.5.2 The Contractor shall record the type of soil encountered during excavation of pits for different locations and soil.

12.6 SETTING OF STUBS

12.6.1 The stubs shall be set correctly in accordance with approved method at the exact location and alignment and precisely at correct levels with the help of stub setting templates and leveling instrument. Stubs shall be set in the presence of Owner's representative available at site where required and for which adequate advance intimation shall be given to the Owner by the Contractor. No extra charges shall be payable for the cutting/filling up of earth required for setting of stub setting template.

12.6.2 Setting of stubs at each location shall be approved by the Owner's representative.

13.0 RAISED FOUNDATIONS

Wherever the towers and extensions are to be located at locations which fall under highest flood level of adjacent area, the chimney shall be suitably raised above HFL. The stub length for such locations shall be suitably increased and provide coupling for the chimney and the stubs.

14.0 BASE PLATES AND ANCHOR BOLTS

At some special locations/terrain locations, it may be necessary to provide anchor bolts and Base plates instead of stubs. These shall be designed and submitted by the Contractor for the approval of the Owner. The Contractor shall supply the anchor bolts, base plates, tower footing and template for setting of anchor bolts.

15.0 CEMENT, AGGREGATES & REINFORCEMENT STEEL

15.1 The cement shall be arranged by the contractor. Also cement should be stocked in an approved manner and only fresh cement not more than three months old from the date of manufacture shall be taken for consideration. Lumpy cement bags shall be rejected by the Contractor.

15.2 a) The Portland cement used in concrete shall conform to IS: 269-1989.

b) The Pozzolana cement if used in concrete shall conform to IS: 1489-1976. The using of Pozzolana cement will be decided at the time of execution of the Contract.

c) The minimum cement content for the various grades of concrete shall be as follows:

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M 20 (1:1.5:3)	400 kg/m³
M 15 (1:2:4)	330 kg/m³
Lean concrete M 10 (1:3:6)	[illegible] kg/m³
M 7.5 (1:4:8)	180 Kg/m³
[illegible] concrete [illegible]	[illegible] kg/m³

(f) The bidder shall use the cement of following brands

(i) L & T
(ii) KESORAM
(iii) ACC
(iv) Ambuja

15.3 Concrete aggregates shall conform to IS:383-1970. It may be noted that the metal to be used shall be black trap metal machine crushed and it should be without [illegible] material.

15.4 The water used for mixing concrete shall be fresh, clean and free from oil, acids and alkalis, organic materials or other deleterious substances. Potable water is generally satisfactory.

15.5 Reinforcement shall conform to IS:432-1966 for M.S. bars and hard drawn steel wire or to IS:1139-1966 or IS:1786 for deformed and cold twisted bars respectively. All reinforcement shall be clean and free from loose mill scales, dust, loose rust and coats of paint, oil or other coatings, which may destroy or reduce bond. Contractor shall supply, fabricate and place reinforcement with fusion bonded epoxy coating to shapes and dimensions as indicated or as required to carry out the intent of drawings and specifications.

16.0 MIXING, PLACING AND COMPACTING OF CONCRETE

16.1 The concrete shall be mixed in the mechanical mixer. However, in case of difficult terrain hand mixing may be permitted at the discretion of Owner's site Engineer. The water for mixing concrete shall be fresh, clean and free from oil, acids and alkalies. Saltish or brackish water shall not be used.

16.2 Mixing shall be continued until there is uniform distribution of material and the mix is uniform in colour and consistency, but in no case the mixing be done for less than two minutes. Normally mixing shall be done close to the foundation, but in case it is not possible, the concrete may be mixed at the nearest convenient place. The concrete shall be transported from the place of mixing to the place of final deposit as rapidly as practicable by methods which shall prevent the segregation or loss of any ingredient. The concrete shall be placed and compacted before setting commences.

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16.3 Steel shutters shall be used for casting all types of foundation. The concrete shall be laid in not more than 150mm layers and consolidated well, so that the cement cream works up to the top and no honey-combing is left in the concrete. The mechanical vibrator shall be employed for compaction of the concrete. However, in case of difficult terrain, manual compaction may be permitted at the discretion of site engineer. After completing the chimney portion to the required height, the top surface should be finished smoothly with a slight slope towards the outer edge for draining of any rain water falling on the stub.

16.4 In wet locations, the site must be kept completely dewatered, both during placing of the concrete and for 24 hours thereafter. There should be no disturbance of concrete by water during this period. No extra charges shall be paid for dewatering.

16.5 After the form work has been removed, if the concrete surface is found to be defective, the damage shall be repaired with rich cement and sand mortar to the satisfaction of the Owner's representative before the foundation pits are backfilled.

17.0 BACK-FILLING AND REMOVAL OF STUB TEMPLATES

17.1 After opening of form work and removal of shoring and timbering if any, backfilling shall be started, after repairs, if any, to the foundation concrete. Backfilling shall normally be done with the excavated soil, unless it consists of large boulders/stones, in which case the boulders shall be broken to a maximum size of 80mm. If such borrowed earth is required for backfilling, this shall be done by the Contractor at his own cost, irrespective of lead.

17.2 The backfilling materials should be clean and free from organic or other foreign materials. The earth shall be deposited in maximum 200mm layers, levelled and wetted and tamped properly before another layer is deposited. Care shall be taken that the backfilling is started from the foundation ends of the pits towards the outer ends. After the pits have been backfilled to full depth, the stub template may be removed.

17.3 The backfilling and grading shall be carried to an elevation of about 75mm above the finished ground level drain out water. After backfilling 50mm high earthen embankment (Bandh) will be made along the sides of excavation pits and sufficient water will be poured in the backfilling earth for at least 24 hours.

18.0 CURING

The concrete after setting for 24 hours shall be cured by keeping the concrete wet continuously for a period of 21 days after laying. The pit may be back filled with selected earth sprinkled with necessary amount of water and well consolidated in layers not exceeding 200mm of consolidated thickness after a minimum period of 24 hours and thereafter both the backfilled earth and exposed chimney top shall be kept wet for the remainder of the prescribed time of 10 days. The uncovered concrete chimney above the backfilled earth shall be kept wet by providing empty cement bags dipped in water fully wrapped around the concrete chimney for curing and ensuring that the bags are kept wet by the frequent pouring of water on them.

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M.S.E.T. Co. Ltd.
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Executive Engineer
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19.0 SPECIAL FOUNDATIONS

The Owner may desire to construct a few special foundations at sources [illegible] made and so if necessary.

19.1 FACTOR OF SAFETY FOR SPECIAL FOUNDATIONS

The factor of safety of 2.75 and 2.2 shall be adopted in normal condition and broken wire conditions respectively. The working loads on normal tower or extensions whichever is critical, shall be multiplied by appropriate factor of safety to arrive at the ultimate foundation loads.

19.2 EARTHING

The footing resistance of all towers shall be measured by the Contractor in dry weather after tower erection and before the stringing of earthwire. All the towers are to be earthed however, if the static tower footing resistance shall exceed 10 ohms. Pipe type earthing and counterpoise type earthing wherever required shall be done in accordance with the stipulations made in IS:3043-1987 and IS 5613 (Part-II/Sec-1 & 2) 1985. The details for pipe and counterpoise type earthing are given in drawing enclosed.

20.0 Benching

When the line route passes through hilly/undulated terrain, for a few tower locations it may be required to level the ground for casting of tower footings at same elevation. All the activities related to make the required area of ground at same elevation for casting of foundations, shall be termed as benching work. Benching work shall include cutting of excess earth and removing it or dumping it to a suitable point of disposal as required by the Owner. The excavated earth should be used for filling the sloping area for leveling the ground. Benching shall be resorted to only after getting specific approval from the Owner. Volume of the earth to be cut shall be measured before cutting and got approved from the Owner. This volume of earth shall be considered for the purpose of payment against the head of benching work. It may be noted that the activity related to making the area of ground to same elevation for level difference less than one meter shall not be considered as benching. No payment shall be made for benching versus excavation up to the level of 1 metre from legs. For level difference more than 3 metre between legs, the bidder shall provide the towers with unequal legs. The required unequal legs with bracings shall be designed by the bidder.

21.0 PROTECTION OF TOWER FOOTING

21.1 The work shall include all necessary stone pitching and concreting after earth filling above ground level and the clearance with stacking of all surplus excavated soil at site for preventing revetment. Special measures for protection of foundation close to or in the river beds, hilly/undulated terrain, etc. shall be arranged by providing [illegible] stone pitching and galvanised wire netting and anchoring pegs [illegible]. The top and sides of the stone revetment shall be done with M-15 concrete (1:2:4 mix). The Contractor shall furnish recommendations for providing protection at these locations wherever required.

21.2 Retaining Wall

In case level difference between tower footing is more, the retaining wall of suitable height at the low lying pit shall be provided with Rubble stone masonry in [illegible] with necessary excavation, lean concrete, rubble stone masonry & providing 100 mm thick M-15 concrete at top of wall. The tower footing will be leveled by back

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Pr[illegible]

Executive Engineer
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filling with excavated soil or borrowed soil inside the retaining wall. The height of retaining wall, its length and width shall be got approved by the contractor before taking up the work from engineer in-charge not below the rank of Executive Engineer.

[illegible] The quantity of excavated earth obtained from a particular location shall generally be utilised in back filling work in pertaining of tower footing of that location unless it is unsuitable for such purposes. In the latter case, the back filling shall be done with borrowed soil. If excavated soil is not sufficient to achieve the leveled filling required, the cost of borrowed earth irrespective of lead, as per the rate provided in the letter of award. The consolidation of earth shall however, be done after backfilling free of cost.

22.0 STANDARDS

22.1 The inspection procedure and materials used for design and construction of foundations shall conform to the following Indian Standards (IS) which shall mean latest revisions with amendments/changes adopted and published, unless specifically stated otherwise in the specification.

22.2 The material and services covered under these specifications shall be performed as per requirements of the relevant standards/codes referred hereinafter against each set of equipment and services. Other internationally acceptable standards which ensure equal or higher performance than those specified shall also be accepted.

Sr. No.	Indian Standards	Title
1	IS:269-1989	Ordinary rapid hardening and low heat Portland Cement
2	IS:383-1970	Coarse and fine aggregates from natural sources for concrete
3	IS:432-1966 (Part I & II)	Mild steel and medium tensile bars and hard drawn steel wire for concrete reinforcement
4	IS:456-1978	Code of practice for plain and reinforced concrete
5	IS:800-1962	Code of practice for use of structural steel in general building construction.
6	IS:1139-1966	Hot rolled mild steel medium tensile steel and high yield strength steel deformed bars for concrete reinforcement
7	IS:1489-1976	Portland Pozzolana Cement
8	IS:1786-1966	Cold twisted steel bars for concrete reinforcement
9	IS:1893-1975	Criteria for earthquake resistant design of structures.
10	IS:3043-1987	Code of practice for earthing (with amendments No.1 & 2)
11	IS:4091-1967	Code of practice for design and construction of foundations for transmission line towers and poles

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ANNEXURE-VI

GENERAL TECHNICAL REQUIREMENTS OF ERECTION WORKS

1.0 General

1.1 The scope of erection work shall include the labour, all tools & plant and all other incidental works in connection with the setting up of site stores, unloading at the destination the various materials, transportation to stores, storage, safe custody, transportation to work site, erection, stringing and testing and commissioning of the line.

1.2 Contractor shall set up required number of stores along the line and the exact location of each stores shall be discussed and agreed to between the Contractor and the Owner.

The insulators packed in wooden crates should be stacked properly so as to avoid any damages. The insulators should be taken to site in packed condition and not in loose condition so that there are no breakages during transit. It will be the responsibility of the contractor to see that damaged insulators are not used.

1.3 All galvanised members shall be thoroughly inspected. If any defects are found in case of hot-dip galvanised members, the members if acceptable to Owner shall be repaired by applying zinc rich protection paint.

1.4 Treatment of Joints

Before starting assembly, the surfaces of joints shall be cleaned and applied with a coat of zinc rich paint, if required. However for the lines in coastal or highly polluted areas, the above painting shall necessarily be carried out.

1.5 Assembly

The method followed for the erection of towers, shall ensure the points mentioned below:

a) Straining of the members shall not be permitted. For bringing them into position it may, however, be necessary to match hole positions at joints and for this purpose drifts not more than 450mm long may be used.

b) Before starting erection of an upper section, the lower section shall be completely braced and all bolts provided and tightened adequately in accordance with approved drawings to prevent any mishap during tower erection.

c) All plan diagonals relevant to a section of tower shall be placed in position before assembly of upper section is taken up.

d) The bolt positions in assembled towers shall be as per IS 5613 (Part-II/Section-2) 1976

e) Tower shall be fitted with number plate, danger plate, phase plates, circuit plate and anti climbing device as described

Executive Engineer
M.S.E.T.C.L.
E.H.V. Project Dn. [illegible]

Executive Engineer
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2.0 Tightening and Punching of Bolts and Nuts

2.1 All nuts shall be tightened properly using correct size spanners and torque wrench. Before tightening, it will be seen that filler washers and plates are placed in relevant gaps between members, bolts of proper size and length are inserted, and one spring washer is inserted under each nut. In case of step bolts, spring washers shall be placed under the outer nuts. The tightening shall progressively be carried out from the top downwards, care being taken that all bolts at every level are tightened simultaneously. The threads of bolts projecting outside the nuts shall be punched at their position on the diameter to ensure that the nuts are not loosened in course of time. If during tightening a nut is found to be slipping or running over the bolt threads, the bolt together with the nut shall be replaced.

2.2 The threads of all the bolts projecting outside the nuts shall be welded at two diametrically opposite places. The circular length of each welding shall be at least 10mm. The welding shall be provided from ground level to first panel or 10m height whichever is higher. After welding, cold galvanized paint having at least 90% zinc content shall be applied to the welded portion. At least two coats of the paint shall be applied. The cost of welding

and paint including application of paint shall be deemed to be included in the tower erection price.

2.3 Instead of tack welding of nuts with bolts, as described above, the Contractor can also suggest some alternative arrangements, like use of epoxy resin adhesive which can serve the purpose of locking the nut permanently with the bolt and thus preventing pilferage of the tower members.

In case the contractor offers some alternative to tack welding, as stated above, he shall have to furnish all the technical parameters of the same, to facilitate the Owner to technically evaluate its acceptability.

3.0 Insulator Hoisting

3.1 Suspension insulator strings shall be used on suspension towers and tension insulator strings on angle and dead end towers. These shall be fixed on all the towers just prior to the stringing. Damaged insulators and fittings, if any, shall not be employed in the assemblies. Before hoisting, all insulators shall be cleaned in a manner that will not spoil, injure or scratch the surface of the insulator, but in no case shall any oil be used for the purpose. Corona control rings shall be fitted in an approved manner. The yoke arrangements shall be horizontal for tension and longitudinal for suspension strings. Torque wrench shall be used for fixing different line materials and their components like suspension clamp for conductor and earthwire, etc. wherever recommended by the manufacturer of the same.

4.0 Paying out of conductor and earthwire

4.1 The Contractor shall be entirely responsible for any damage to the towers, conductor and earthwire during stringing. While running out the conductors and earthwire, care shall be taken that these do not touch and rub against the ground or objects which could cause scratches or damages to the strands. The conductors shall be

Executive Engineer
M.S.E.T.C.L.
E.H.V. Project Dn, Kalyan

Executive Engineer
TL Pratandar

run out of the drums from the top in order to avoid damage due to chafing. Immediately after running out, the conductor shall be raised at the supports to the levels of the clamp and placed into the running blocks. The groove of the running blocks shall be of such a design that the seat is semicircular and larger than the diameter of the conductor/earthwire and it does not slip over or rub against the sides. The grooves shall be lined with hard rubber or neoprene to avoid damage to conductor and shall be mounted on properly lubricated bearings.

4.2 The running blocks shall be suspended in a manner to suit the design of the cross-arm. All running blocks, especially those at the tensioning end, will be fitted on the cross arms with jute cloth wrapped over the steel work and under the slings to avoid damage to the slings as well as to the protective surface finish of the steel work. In case suspension or section towers are used even for temporary terminations, if this be unavoidable, they shall be well guyed and steps shall be taken by the Contractor to avoid damage. Guying proposal along with necessary calculations shall be submitted by the Contractor to Engineer-in-Charge for the approval. Proper T&P shall also be made available to the Owner by the Contractor for checking the tensions in the guy wires. The drums shall be provided with a suitable braking device to avoid damage, loose running out and kinking of the conductor. The conductor shall be continuously observed for loose or broken strands or any other damage. When approaching end of a drum length at least three coils shall be left when the stringing operations are to be stopped. These coils are to be removed carefully, and if another length is required to be run out, a joint shall be made as per the recommendations of the accessories manufacturer.

4.3 Repairs to conductors, if necessary, shall be carried out during the running out operations, with repair sleeves. Repairing of conductor surface shall be done only in case of minor damage, scuff marks etc. keeping in view both electrical and mechanical safe requirements. The final conductor surface shall be clean, smooth without any projections, sharp points, cuts, abrasions etc.

4.4 Conductor splices shall be so made that they do not crack or get damaged in the stringing operation. The Contractor shall use only such equipment/methods during conductor stringing which ensure complete compliance in this regard.

4.5 Derricks shall be used where roads, rivers, channels, telecommunication or overhead power lines, railway lines, fences or walls have to be crossed during stringing operations. It shall be ensured that normal services are not interrupted or damage caused to property. Shut down shall be obtained when working at crossing of overhead power lines. The Contractor shall be entirely responsible for the proper handling of the conductor, earthwire and accessories in the field.

4.6 The sequence of running out shall be from the top downwards, i.e. the earthwire shall be run out first, followed by the conductors in succession. Unbalanced loads on towers shall be avoided as far as possible.

4.7 The proposed transmission line may run parallel for certain distance with the existing 400 KV, 220 KV, 132 KV lines which may remain energized during the stringing period. As a result there is a possibility of dangerous voltage build up due to electromagnetic and electrostatic coupling in the pulling wire, conductors and earth wires which although comparatively small during normal operation can be severe during

Executive Engineer
E.H.V. Project Dn. Kalyan

Executive Engineer
TL Procander

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stretching. It shall be the Contractor's responsibility to take adequate safety precautions to protect his employees and others from this potential danger.

4.3 B, C and D angle type of towers are not designed for one side stringing. Therefore proper guying arrangement shall be made for 'B', 'C' and 'D' type of towers during stringing on one section while the other section is not strung. The Contractor shall submit the detailed proposal along with the calculations for guying arrangement to be approved by Engineer-In-Charge. Proper T&P shall be made available to the Owner by the Contractor for checking the tension in the guy wires. All the expenditure on account of the above work is deemed to be included in the bid price and no extra payment shall be made for the same.

5.0 Stringing of earthwire and conductor

The sequence of stringing shall be first earthwire, then phase conductors.

5.1 An allowance of 500 mm should be given to compensate the conductor creep.

5.2 The contractor shall give complete details of the stringing methods which he proposes to follow. Before the commencement of stringing, the Contractor shall submit the stringing charts for the conductor and earthwire showing the initial and final sags and tension for various temperatures and spans, along with equivalent spans in the lines for the approval of the Owner. The stringing charts shall be prepared for every span based on tower schedule and shall cover the entire line details.

6.0 Jointing

6.1 All the joints on the conductor and earthwire shall be of compression type, in accordance with the recommendations of the manufacturer for which all necessary tools and equipment like motorised compressors, dies, presses etc. shall have to be arranged by the Contractor. Each part of the joint shall be cleaned by wire brush to make it free of rust or dirt etc. and be properly greased with anti-corrosive compound, if required and as recommended by the supplier before the final compression is done with the compressors.

6.2 All the joints or splices shall be made at least 30 meters away from the structures. No joints or splices shall be made in the spans crossing over main roads, railways, small rivers with tension spans. Not more than one joint per sub-conductor shall be allowed in one span. The compression type fittings used shall be self centering type or care shall be taken to mark the conductors to indicate when the fitting is centered properly. During compression or splicing operation the conductor shall be handled in such a manner as to prevent lateral or vertical bearing against the dies. After pressing the joint the aluminium sleeve shall have all corners rounded, burrs and sharp edges removed and smoothened.

6.3 During stringing of conductor to avoid any damage to the joint the Contractor shall use a suitable protector with mid span compression joints in case joints are to be passed over pulleys/tensioner rollers. The size of the groove of the pulley shall be such that the joint along with protector can be passed over it smoothly.

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M.S.E.T. Co. Ltd.
E.H.V. Project Dn., Kalyan

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TL Pretender

7.0 Sagging-in-Operation

7.1 The conductors and earth wire shall be pulled up to the desired sag and left in running blocks for at least one hour after which the sag shall be re-checked and adjusted, if necessary, before transferring the conductors from the running blocks to the suspension clamps. The conductor shall be clamped within 36 hours of sagging in.

7.2 The sag will be checked in the first and the last span of the section in case of sections up to eight spans and in one intermediate span also for sections with more than eight spans. The sag shall also be checked when the conductors have been drawn up and transferred from running blocks to the insulator clamps.

7.3 The running blocks, when suspended from the transmission structure for sagging, shall be so adjusted that the conductors on running blocks will be at the same height as the suspension clamp to which it is to be secured.

7.4 At sharp vertical angles, the sags and tensions shall be checked on both sides of the angle, the conductor and earthwire shall be checked on the running block for equality of tension on both sides. The suspension insulator assemblies will normally assume vertical positions when the conductor is clamped.

7.5 Tensioning and sagging operations shall be carried out in calm weather when rapid changes in temperature are not likely to occur.

7.6 Tensioning and sagging of conductors and Earth wire shall be done accordance with the approved stringing charts before the conductors and earthwire are finally attached to the towers through the clamps for the earthwire and insulator strings for the conductor. The "initial" stringing chart shall be used for the conductors and "final" stringing chart for earthwire should be employed for this purpose. Dynamometers shall be employed for measuring tension in the conductor and earthwire. The dynamometers employed shall be periodically checked and calibrated with a standard dynamometer.

8.0 Clipping In

8.1 Clipping of the conductors in position shall be done in accordance with the recommendations of the manufacturer. Conductor shall be fitted with the Armour rods where it is made to pass through suspension clamps.

8.2 The jumpers at the section and angle towers shall be formed to parabolic shape to ensure maximum clearance requirements. Pilot suspension insulator string shall be used, if found necessary, to restrict the jumper swings to the design values.

8.3 Fasteners in all fittings and accessories shall be secured in position. The security clip shall be properly opened and sprung into position.

9.0 Fixing of Conductor/Earthwire Accessories

Vibration dampers for conductor and other conductor and earthwire accessories to be supplied by the Contractor shall be installed by the Contractor as per the design requirements and respective manufacturer's instructions within 24 hours of the conductor/earthwire clamping. While installing the conductor and earthwire accessories, proper

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care shall be taken to ensure that the surfaces are clean and smooth and no damage shall occur to any part of the accessories.

10.0 Replacement

If any replacements are to be effected after stringing and tensioning or during maintenance, leg members and bracings shall not be removed without reducing the tension on the tower with proper guying or releasing the conductor. If the replacement of cross arm becomes necessary after stringing, the conductor shall be suitably tied to the tower at tension points or transferred to suitable roller pulleys at suspension points.

11.0 Retainables

The Contractor shall not be required to return to the owner empty wooden drums of conductor and earthwire and shall dispose off the same at his cost.

12.0 Final checking, testing and commissioning

After completion of the works, final checking of the line shall be done by the Contractor to ensure that all the foundation works, tower erection and stringing have been done strictly according to the specifications and as approved by the Owner. All the works shall be thoroughly inspected keeping in view the following main points:

a) Sufficient backfilled earth is lying over each foundation pit and it is adequately compacted.
b) Concrete chimneys and their copings are in good and finely shaped conditions.
c) All the tower members are correctly used strictly according to final approved drawing and are free of any defect or damage, whatsoever.
d) All bolts are properly tightened and punched/tack welded.
e) The stringing of the conductors and earthwire has been done as per the approved sag and tension charts and desired clearances are clearly available.
f) All conductor and earthwire accessories are properly installed.
g) All other requirements to complete the work like fixing of danger plate, phase plate, number plate, anti-climbing device, aviation signal (wherever required) etc. are properly installed.
h) Wherever required it should be ensured that revetment is provided.
i) The original tracings of profile, route alignment and tower designs, structural drawings, bill of material, shop drawings of all towers other than the towers designed by the Owner are submitted to the owner for reference and record.
j) The line insulation is tested by the Contractor by providing his own equipment, labour etc. to the satisfaction of the owner.
k) All towers are to be properly earthed.
l) The line is tested satisfactorily for commissioning purpose.

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ANNEXURE – VII

TECHNICAL SPECIFICATION FOR PORCELAIN DISC / LONGROD INSULATORS

1.0 GENERAL

This section details the technical particulars of Porcelain disc / Longrod insulators for 132kV / 220 kV / [illegible] kV Transmission Lines. The insulators shall conform in all respects to high standards of Engineering, design, workmanship and latest revisions of relevant standards.

The insulators shall be disc insulators or porcelain longrod insulators made of electro porcelain.

2.0 STANDARDS APPLICABLE

2.1 Except as modified in this specification, the insulators to be supplied shall conform to the latest edition, with amendments thereof, of the following Bureau of Indian Standards and Equivalent International Standards.

Sr. No.	Indian Standard	Title	International Standard
1	IS 206	Method for Chemical Analysis of Slab Zinc	
2	IS 209	Specification for Zinc	BS 3436
3	IS 731	Porcelain insulators for overhead power lines with a nominal voltage greater than 1000V	BS 137(I&II) IEC 274
4	IS 2071 Part (1) to (3)	Method of High Voltage Testing	
5	IS 2486	Specification for Insulator Fittings for overhead power lines with a nominal voltage greater than 1000V	
	Part I	General Requirements and Tests	BS 3288
	Part II	Dimensional Requirements	IEC 120
	Part III	Locking Devices	IEC 372
	Part IV	Tests for Locking Devices	IEC 372
6	IS 2629	Recommended practice for Hot Dip Galvanization for iron and steel	
7	IS 2633	Testing for Uniformity of Coating of Zinc coated articles	
8	IS 3188	Dimensions for Disc Insulators	IEC 305

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Sr. No.	Indian Standard	Title	International Standard
9	IS: 6745	Determination of Weight of Zinc coating on Zinc coated iron and steel articles	
10	IS: 8263	Methods of RIV Test of HV Insulators [illegible]	IEC: 437, NEMA Pub. No. 107
11	IS: 8269	Methods for Switching impulse test on HV insulators	IEC: 506
12		Thermal Mechanical performance test and mechanical performance test on string insulator units	IEC: 575
13		Tests on insulators of Ceramic material or glass for overhead lines with a nominal voltage greater than 1000V	IEC: 60383

2.2 Insulators conforming to any other International standards are also acceptable provided always that such standard are equivalent to or better than the corresponding standards specified in 2.1 above. However, in such an event the salient points of comparison between the standards adopted and the standards quoted herein shall be detailed in the offer. One copy of authentic English version of such standards shall be furnished (in physical form) alongwith the offer.

3.0 GENERAL REQUIREMENTS

a) All raw materials to be used in the manufacture of insulators shall be subject to strict raw material quality control and to stage testing/quality control during manufacturing stage to ensure the quality of the final end product. Manufacturing shall conform to the best engineering practices adopted in the field of extra high voltage transmission. Bidders shall therefore offer insulators as are guaranteed by them for satisfactory performance on transmission lines.

b) The design, manufacturing process and material control at various stages shall be such as to give maximum working load, highest mobility, best resistance to corrosion, good finish, elimination of sharp edges and corners to limit corona and radio interference voltage.

c) The design of the insulator shells shall be such that stresses due to expansion and contraction in any part of the insulator shall not lead to deterioration. Shells with cracks shall be eliminated by temperature cycle test followed by mallet test. Shells shall be dried under controlled conditions of humidity and temperature.

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iii) The cap and pin shall be designed to transmit the mechanical stresses to the shell by compression and develop uniform mechanical strength in the insulator. The cap shall be circular with the inner and outer surfaces concentric and of such design that it will not yield or distort under loaded conditions. The head portion of the pinball shall be suitably designed so that when the insulator is under tension the stresses are uniformly distributed over the pinhole portion of the shell. The pinball shall move freely in the cap socket either during assembly of a string or during erection of a string or when a string is placed in position.

iv) Insulator units after assembly shall be concentric and coaxial within limits as permitted by Indian Standard specifications.

v) The insulator design shall be such that when units are coupled together to form a string, there shall be no contact between the shell of one unit and metal of the adjacent unit.

vi) Metal caps shall be free from cracks, seams, shrinks, air holes, blowholes and rough edges. All metal surfaces shall be perfectly smooth with no projecting parts or irregularities which may cause corona. All load bearing surfaces shall be smooth and uniform so as to distribute the loading stresses uniformly. Pins shall not show any macroscopically visible cracks, inclusions and voids.

vii) Caps, Pins shall not be manufactured by joining, welding, shrink fitting or by any other process from more than one piece of metal.

viii) The insulator design shall be such that the insulating medium shall not directly engage with hard metal. The surface of porcelain shall be coated with resilient paint to offset the effect of difference in thermal expansion of these materials.

ix) The porcelain longrod insulators shall have sheds of 'open aero-dynamic' profile with good self cleaning properties. Insulator shed profile, spacing, projection etc. shall be strictly in accordance with the recommendations of IEC-60815.

x) For 400 KV and 220 KV strings, the porcelain longrod insulators shall be supplied with intermediate ball pins.

4.4 DETAILS OF INSULATORS:

I. DISC INSULATORS:

a) The insulator strings shall consist of standard discs for a three phase 50 Hz effectively earthed 400 KV/220 KV/132 KV transmission system in a moderate to polluted atmosphere. Discs shall be cap and pin, ball and socket type.

b) The size of disc insulator, minimum creepage distance, the number to be used in different type of strings, their electromechanical strength and mechanical strength of insulator string along with hardware fitting shall be as follows:

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Type of String		Size of Disc insulator (mm)	Minimum creepage distance of each disc (mm)	No. of standard discs (Nos.)	Mechanical strength of insulator string with H/W fitting (KN)
400 KV					
Single Suspension "I" string/pilot string	(N) (AF)	255x145 255x145	320 430	23 23	120 120
Double Suspension "I" string	(N) (AF)	255x145 280x145	320 430	2x23 2x24	240 240
Single Suspension "V" string	(N) (AF)	280x170 280/305x170	320 430	2x23 2x23	210 210
Double Suspension "V" string	(N) (AF)	280x170 280/305x170	320 430	2x2x23 2x2x23	420 420
Double (N) Tension string	(AF)	280x170 280/305x170	320 430	2x23 2x24	320 320
Quadruple Tension String	(N) (AF)	280x170 280/305x170	320 430	2x2x24 2x2x24	640 640
220 KV					
Single Suspension	(N) (AF)	255x145 255x145	320 430	14 14	70 70
Double Suspension	(N) (AF)	255x145 280x145	320 430	2x14 2x14	2x70 2x70
Single tension	(N) (AF)	255x145 280x145	320 430	15 15	120 120
Double tension	(N) (AF)	255x145 280x145	320 430	2x15 2x15	2x120 2x120
132 KV					
Single Suspension	(N) (AF)	255x145 280x145	320 430	9 9	70 70
Double Suspension	(N) (AF)	255x145 280x145	320 430	2x9 2x9	2x70 2x70
Single tension	(N) (AF)	255x145 280x145	320 430	10 10	120 120
Double tension	(N) (AF)	255x145 280x145	320 430	2x10 2x10	2x120 2x120

NOTE: Details applicable for strings required only be considered.

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1.2 LONGROD INSULATORS:

a) The insulator strings shall consist of standard longrod insulators for a three phase 50 Hz effectively earthed 400 KV/220 KV/132 KV transmission system in a moderately polluted atmosphere. The insulators shall be cap and pin, ball and socket type.

b) The length of longrod insulator, minimum creepage distance, the number of units per string for different type of strings and mechanical strength of insulator string alongwith hardware fitting shall be as follows.

Type of String		Length of longrod insulator (mm)	Minimum creepage distance of each string (mm)	No. of units per string (Nos.)	Mechanical strength of insulator string with H.W. fitting (KN)
400 KV					
Single Suspension 'I' string	(N)	[illegible]	7360	1x3	120
	(AP)	[illegible]	9890	1x3	120
Double Suspension 'I' string	(N)	[illegible]	7360	2x3	240
	(AP)	[illegible]	9600	2x3	240
Single Suspension 'V' string	(N)	4075	7080	2x3	210
	(AP)	[illegible]	10320	2x3	210
Double Suspension 'V' string	(N)	4075	[illegible]	2x2x3	420
	(AP)	4075	10320	2x2x3	420
Double Tension string	(N)	[illegible]	7680	2x3	[illegible]
	(AP)	[illegible]	10320	2x3	[illegible]
Quadruple Tension string	(N)	[illegible]	7680	2x2x3	[illegible]
	(AP)	4075	10320	2x2x3	[illegible]
220 KV					
Single Suspension	(N)	2070	4480	1	70
	(AP)	2098	6020	1	70
Double Suspension	(N)	[illegible]	4430	2x1	140
	(AP)	2030	6020	2x1	140
Single Tension	(N)	[illegible]	4690	1	[illegible]
	(AP)	[illegible]	6450	1	120
Double Tension	(N)	2175	4500	2x1	240
	(AP)	2175	6450	2x1	240

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Single Susp.	[illegible]	[illegible]	2880	1	70
String	[illegible]	[illegible]	4870	1	70
Double Susp.	[illegible]	[illegible]	[illegible]	1x2	70
String	[illegible]	[illegible]	[illegible]	1x2	70
Single	[illegible]	[illegible]	[illegible]	1	120
Tension	[illegible]	[illegible]	[illegible]	1	120
Double	[illegible]	[illegible]	[illegible]	1x2	240
Tension	[illegible]	[illegible]	3490	1x2	240

NOTE: Details applicable for strings required only be considered.

The Electro-mechanical Strength of individual disc/longrod in strings mentioned above are as follows:

Sr. No.	Type of String	Electro-Mechanical strength of individual disc/longrod insulator
A)	**400 KV**	
1)	Single/Double Suspension 'I' string	120 KN
2)	Single Suspension 'Pilot' string	120 KN
3)	Single/Double Suspension 'V' string	[illegible] KN
4)	Double Tension string	160 KN
5)	Quadruple Tension string	160 KN
B)	**220/132 KV**	
1)	Single/Double Suspension string	70 KN
2)	Single/Double Tension string	120 KN

NOTE: Details applicable for strings required only be considered.

9.0 DRAWINGS:

9.1 The Bidder shall furnish full details drawings of each insulator and/longrod indicating all dimensions for scrutiny and approval. All drawings shall be neatly arranged, and all [illegible] and lettering shall be shown in [illegible]. The drawings shall give following information.

i) [illegible] indicating quantity and [illegible] of material used for various parts.

ii) Details like Ball and Socket designation, Maximum Axial & Radial Runout, Minimum & [illegible] Creepage distance, Colour of Glaze, Mark, mechanical strength, [illegible] and weight of insulator.

iii) Electrical characteristics like [illegible] power frequency withstand and flashover voltage under dry and wet conditions, Lightning impulse withstand and flashover voltage, Switching surge impulse withstand voltage, Visible discharge and Radio interference voltage.

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f) After award of contract, the bidder shall submit 3 sets of drawings to CE (O&M) giving details as mentioned above, for scrutiny and approval. Once the drawings have been approved, no alteration or modification will be carried out without prior approval of the Purchaser.

4.0 SPECIFIC TECHNICAL REQUIREMENTS:

i) NON-METALLIC PARTS (PORCELAIN)

a) PORCELAIN

The porcelain used in the manufacture of the shells shall be ivory white, nonporous, of high dielectric, mechanical and thermal strength, free from internal stresses, blisters, laminations, voids, foreign matter, imperfections or other defects which might render it in any way unsuitable for insulator shells. Porcelain shall remain unaffected by climatic conditions, ozone, acid, alkalis, zinc or dust. The manufacturing shall be by the wet process and impervious character obtained by thorough vitrification.

b) PORCELAIN GLAZE

Surfaces to come in contact with cement shall be made rough by sand glazing. All other exposed surfaces shall be glazed with ceramic materials having the same temperature coefficient of expansion as that of the insulator shell. The thickness of glaze shall be uniform throughout and the colour of glaze shall be brown. The glaze shall have a visible luster, shall be smooth on surface and be capable of satisfactory performance under extreme tropical climatic weather conditions and prevent ageing of the porcelain. The glaze shall remain under compression on the porcelain body throughout the working temperature range.

c) FILLER MATERIAL

Cement to be used as a filler material shall be quick setting, fast curing portland cement. It shall not cause fracture by expansion or loosening by contraction. Cement shall not react chemically with metal parts in contact with it and its thickness shall be as small and as uniform as possible.

ii) METALLIC PARTS

a) BALL PINS / TWIN BALL PINS

These shall be made of forged steel of grade 55 Si 7 [illegible] or equivalent by drop forging method and normalised. They shall not be made by jointing, welding, shrink fitting or by any other process from more than one piece of metal. The ball pins shall be free from forging defects. The bidder shall specify the grade, composition and mechanical properties of steel used in manufacture of ball pin in Quality Assurance Plan.

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b. METAL CAP

The caps shall be cast from black heart malleable cast iron of grade BM 320 (IS: 14329) or spheroidal graphite cast iron. The caps shall be made in single piece and shall be free from casting defects like cracks, cold shut etc.

The Bidder shall also specify the grade, composition and mechanical properties of steel used for manufacture of caps, in Quality Assurance Plan.

c. INTERMEDIATE ARCING HORN

For 220KV and 400 KV longrod insulators besides arcing horn on tower / line side of insulator strings, intermediate arcing horns alongwith fixtures and fasteners may be provided by the insulator manufacturer. The arcing horn shall be of mild steel (GI).

d. SECURITY CLIPS

i) These shall be made of Stainless Steel grade AISI 304/316 (ASTM A276) or Phosphor Bronze.

ii) The security clips to be used as locking device for ball and socket coupling shall be 'R' shaped hump type to provide for positive locking of the coupling as per IS 2486 (part III). 'W' type security clips are also acceptable. The legs of the security clips shall allow for spreading after installation to prevent complete withdrawal from the socket. The locking device shall be resilient, corrosion resistant and of sufficient mechanical strength. There shall be no possibility of the locking device to be displaced or be capable of rotation when placed in position and under no circumstances shall it allow separation of insulator units.

iii) The hole for the security clip shall be countersunk and the clip shall be of such design that the eye of the clip may be engaged by a hot line clip puller to provide for disengagement under energized conditions.

iv) The force required for pulling the R-clip into its unlocked position shall not be less than 50 N (5 Kgs) or more than 500 N (50 Kgs).

v) The force required for pulling the W-clip into unlocked position shall not be less than 20 N (2 Kgs) or more than 250 N (25 Kgs)

7.9 GALVANISING

i) All ferrous parts shall be hot dip galvanized in accordance with IS: 2629 and IS: 2633. Before galvanization, the steel surfaces shall be thoroughly cleaned of any paint, grease, rust, scale, acid/alkali or such other foreign matters as are likely to interfere with the galvanizing process or with the quality and durability of the zinc coating. Pickling shall be very carefully done and shall be proper.

ii) Where ball fittings are galvanized, all die flashing on the shank and on bearing surface of the ball shall be carefully removed without reducing the designed dimensional requirements.

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c) The zinc used for galvanizing shall be of grade Zn 98.5% or zinc (99.95%) as per IS: 209. The mass of zinc coating shall not be less than 610 gm/m² (86 micron).

d) The galvanized surface shall consist of continuous and uniformly thick coating of zinc, firmly adhering to the surface of steel. The finished surface shall be clean and smooth and shall be free from defects like discoloured patches, bare spots, unevenness of coating, spelter which is loosely attached to the steel, globules, spiky deposits, blistered surface, flaking or peeling off etc. The presence of any of these defects noticed on visual or microscopic inspection shall render the material liable to rejection.

e) There shall be no flaking or loosening when struck squarely with a chisel faced hammer. The galvanized components shall withstand minimum four one minute dips in standard copper sulphate solution as per IS: 2633.

f) Defect in any component indicating presence of impurities in the galvanizing bath in quantities larger than that permitted by the specifications, or lack of quality control in any manner in the galvanizing plant, shall render the entire production in the relevant shift liable to rejection.

8.0 BALL AND SOCKET DESIGNATION:

The dimensions of ball and socket for 120 KN and 160 KN discs shall be 20 mm in accordance with the standard dimensions stated in IS: 2486 (Part II)/IEC: 120.

9.0 INTERMEDIATE BALL PIN DESIGNATION:

The dimensions of intermediate ball pin shall be in accordance with standard dimensions stated in IEC: 471.

10.0 DIMENSIONAL TOLERANCES:

a) DISC INSULATORS

The dimensions of the disc insulators shall be within the limits specified below.

	Standard	Maximum	Minimum
Diameter of Disc (in mm)			
120 KN (N)	255	266	244
120 KN (AF)	280	291	269
160 KN (N)	280	291	269
160 KN (AF)	280/300	291/311	269/289
Ball to Ball Spacing between Discs (in mm)			
120 KN (N/AF)	145	149	141
160 KN (N/AF)	170	175	165

b) LONGROD INSULATORS

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The tolerance on all dimensions e.g. diameter, length and creepage distance shall be as follows:

±(0.04d + 1.5) mm when d ≤ 300 mm
±(0.025d + 6) mm when d > 300 mm

Where d being the dimensions in millimeters for diameter, length or creepage distance as the case may be.

However, for creepage distance no negative tolerance shall be applicable.

11.0 INTERCHANGEABILITY:

The insulators inclusive of ball and socket fittings shall be of standard design suitable for use with hardware fittings of any make conforming to relevant Indian Standards.

12.0 CORONA AND RIV PERFORMANCE:

All surfaces shall be even, smooth, without cuts, abrasions or projections. No part shall be subjected to excessive localized pressure. The metal parts and porcelain shall not produce any noise-generating corona under all operating conditions. The insulators and metal parts shall be so designed and manufactured that it shall avoid local corona formation and not generate any radio interference beyond specified limit under operating conditions.

13.0 SUITABILITY FOR LIVE LINE MAINTENANCE:

a) The insulators shall be compatible for use with hot line or live line maintenance techniques so that usual hot line operation can be carried out with ease, speed and safety.

b) All insulators shall be designed to facilitate cleaning and insulators shall have the minimum practical number of sheds and grooves. All grooves shall be so proportioned that any dust deposit can be removed without difficulty either by wiping with cloth or by remote washing under live line condition.

14.0 FREEDOM FROM DEFECTS:

Insulators shall have none of the following defects:

a) Ball pin shake
b) Cementing defects near the pin like small blowholes, small cracks, lumps etc.
c) Sand fall defects on the surface of the insulator

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15.0 STRING CHARACTERISTICS

The characteristic of the complete string shall be as follows.

Sr. No	STRING TYPE → PARTICULARS ↓		SUSPENSION 400 KV	SUSPENSION 220 KV	SUSPENSION 132 KV	TENSION 400 KV	TENSION 220 KV	TENSION 132 KV
1	Switching Surge Withstand Voltage (Dry & Wet) (KVp)	N	1050	–		1050		
		AF	1050		–	1050		–
2	Dry Lightning Impulse Withstand Voltage (KVp)	N	1400	1050	650	1400	1050	675
		AF		1080	670		1100	680
3	50% Lightning Impulse flashover voltage (KVp)	N	1550	1100	680	1770	1200	710
		AF		1130	700		1125	720
4	Dry Power frequency withstand voltage (KV rms)	N	540	510	325	540	530	275
		AF		520	345		530	280
5	Wet Power frequency withstand voltage (KV rms)	N	580	460	300	680	500	250
		AF		460	330		500	305
6	Corona extinction Voltage (KV rms)	N	320	176	105	320	176	105
		AF	320	176	105	320	176	105
7	Maximum RIV for complete string including corona control rings, arcing horns, clamps etc at 1.1 times max. line to Earth Voltage (µV)	N	500	500		500	500	
		AF	500	500		500	500	–
8	Maximum voltage across any disc	N	10%	13%		10%	13%	
		AF	10%	13%	–	10%	13%	

16.0 TESTS

16.1 TYPE TESTS

(a) The bidder shall offer the insulators that are already type tested within the last five years and manufactured by reputed manufacturers approved by MSETCL. In case the insulators are not type tested within last 5 (five) years as on the date of opening of bids, then type tests as specified here under shall be carried out in presence of purchaser's representative before supply of materials.

(b) In case of manufacturers of foreign origin, reports for all the type tests specified under Clause No. 16.1.1 of this specification, conducted in internationally accredited laboratories (accreditation based on ISO/IEC Guide 25/17025 or EN 45001) by the National

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accrediting body of the country where laboratory is located or at the manufacturer's works in presence of users representative can also be submitted alongwith the offer as evidence to establish the fulfilment of above requirement. However, in such a case all type tests as specified under clause No. 15.1 of this specification shall be repeated by the successful bidder, after award of contract, in presence of Purchaser's representative, at the cost of bidder. The arrangement of journey of purchaser's representative to & from his headquarter to the place of testing shall be made by the bidder at his cost.

c) In case, the test(s) on insulator have been conducted earlier than 5 years, all the respective type test(s) shall be carried out by the successful bidder after award of contract, in presence of purchaser's representative, free of cost.

d) If there is any change in manufacturing process or insulator design since after earlier passing of the type tests, all the type tests as specified under Clause No. 15.1 shall be carried out by the successful bidder, after award of contract, in presence of purchaser's representative, free of cost.

15.1 LIST OF TYPE TESTS

The list of type tests to be conducted is as follows.

1) On Disc Type Insulator Unit.

Sr. No.	Description of test		Reference Standard
a)	Visual examination	:	IS:731
b)	Verification of dimensions test	:	IS:731
c)	Thermal Mechanical performance test	:	IEC: 575 and Annexure-I of this specification
d)	Power frequency voltage flashover test a) Dry b) Wet	:	IEC: 60383
e)	Lightning impulse voltage withstand test (Dry)	:	IEC: 60383
f)	50% Lightning impulse voltage flashover test (Dry)	:	IEC: 60383
g)	Visible Discharge test (Dry)		IS:731
h)	Radio Interference Voltage test (Dry)	:	IEC: 437 & as per Annexure of this specification
i)	Residual strength test (For 160KN disc insulator only)	:	As per Annexure-I of the specification
j)	Steep wave front test (For 160KN disc insulator only)	:	As per Annexure-II of this specification

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II) On complete insulator string with hardware fittings:

i) The type tests on 132KV and 220KV strings specified hereunder, shall be conducted on Single Suspension (1x70 KN) and Double tension (2x120 KN) insulator strings alongwith hardware fittings except for mechanical strength test which shall be conducted on all strings mentioned.

ii) The type tests on 400KV strings specified hereunder, shall be conducted on Single 'I' Suspension (1x120 KN) and Double tension (2x160 KN) insulator strings alongwith hardware fittings.

Sr No.	Particulars of test	Reference Standard
A)	**On 132KV String of 70KN & 120KN Insulators**	
a)	Power frequency voltage withstand test i) Dry ii) Wet	IEC 60383
b)	Lightning impulse voltage withstand test (Dry)	IEC 60383
c)	50% Lightning impulse voltage flashover test (Dry)	IEC 60383
d)	Mechanical strength test on i) Single suspension string ii) Double suspension string iii) Single tension string iv) Double tension string	As per Annexure-II of this specification
B)	**On 220KV String of 70KN & 120KN Insulators**	
a)	Power frequency voltage withstand test i) Dry ii) Wet	IEC 60383
b)	Lightning impulse voltage withstand test (Dry)	IEC 60383
c)	50% Lightning impulse voltage flashover test (Dry)	IEC 60383
d)	Voltage distribution test (for Disc insulator only)	IEC 60383
e)	RIV test under dry conditions	As per Annexure-II of this specification
f)	Mechanical strength test on i) Single suspension string ii) Double suspension string	As per Annexure-II of this specification

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iii) Single Tension string
iv) Double Tension string

Sr. No.	Particulars of test		Reference Standard
(D)	On 400KV Strings of 120KN & 160KN Insulators		
I.	On 1st sample		
a)	Power frequency voltage withstand test with corona control/grading rings and arcing horn i) Dry ii) Wet	:	IEC 60383 and Annexure-A of this specification
b)	Switching Surge voltage withstand test (Wet)	:	IEC 60383 and Annexure-A of this specification
c)	Lightning Impulse voltage withstand test (Dry)	:	IEC 60383 and Annexure-A of this specification
d)	50% Lightning Impulse voltage flashover test (Dry)	:	IEC 60383 and Annexure-A of this specification
e)	Voltage distribution test	:	IS 731 and Annexure-A of this specification
f)	Corona test in [illegible] under dry condition	:	As per Annexure-A of this specification
g)	Mechanical strength test i) Single Tension string ii) Double Tension string	:	As per Annexure-A of this specification
II	On 2nd sample		
a)	Dynamic test/Vibration test	:	As per Annexure-A of this specification
III	On 3rd sample		
i	[illegible]	:	As per Annexure-A of this specification

16.2 ACCEPTANCE TESTS

Test shall mean those tests, which are to be carried out on samples taken from each lot offered for predespatch inspection for the purpose of acceptance of the lot.

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15.2.1 LIST OF ACCEPTANCE TESTS:

The following acceptance tests shall be conducted on 70KN, 120KN and 160KN disc / long rod insulators in presence of purchasers representative for the purpose of acceptance of a lot.

Sr. No.	Particulars of test		Reference Standard
a)	Visual examination	:	IS 731
b)	Verification of dimensions	:	IS 731
c)	Temperature cycle test	:	IS 731
d)	Galvanizing test	:	IS 731
e)	Mechanical performance test	:	IEC 60575
f)	Test on locking device for ball and socket coupling	:	IS 2486(IV)
g)	Eccentricity test (Axial & Radial Runout)	:	IEC/60383/IS 731
h)	Electro mechanical strength test	:	IS 731
i)	Puncture test (Only for Porcelain Disc insulators)	:	IS 731
j)	Porosity test (Only for Disc insulators)	:	IS 731
k)	Power frequency voltage withstand test (Dry) (Only for Long rod)	:	IEC 60383
l)	Mechanical strength test (Long rod insulators only)	:	IEC 60383-1

15.3 ROUTINE TESTS:

These shall cover those tests which are to be carried out on each insulator to check the requirements which are likely to vary during production.

15.3.1 LIST OF ROUTINE TESTS:

The following routine tests shall be conducted on each insulator and test be carried by the manufacturer.

Sr. No.	Particulars of test		Reference Standard
a)	Visual inspection	:	IS 731
b)	Mechanical routine test	:	IS 731

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c)	Electrical routine test (For disc insulators only)	:	IEC 60383

16.4 TESTS DURING MANUFACTURING:

Stage tests during manufacturing shall mean those tests, which are to be carried out during the process of manufacturing to ensure quality control such that the end product is of the designed quality conforming to the intent of this specification.

16.4.1 LIST OF TESTS DURING MANUFACTURING:

The following tests, including but not limited to, shall be conducted on raw and in process material during the process of manufacturing:

Sr. No.	Particulars of test		Reference Standard
a)	Fineness, Raw appearance, Fired appearance, Free Magnetic Iron content, Grain size, Chemical Analysis, Free Moisture Content etc. raw materials like Quartz Powder, Feldspar Powder, China Clay, Ball Clay etc.	:	Relevant Indian /International/ Plant standard
b)	Raw appearance, Fired appearance, Chemical Analysis of Glaze material	:	Relevant Indian /International/ Plant standard
c)	Visual inspection, Grain size, Compressive Strength, Cylinder water content, Initial and final setting time, Auto Clave Expansion of Cement	:	Relevant Indian /International/ Plant standard
d)	Hydraulic / Pneumatic Proof load test, High frequency test on insulator Shell	:	Relevant Indian /International/ Plant standard
e)	Visual inspection, Dimension Gauge Checking, Chemical Analysis, Tensile Strength, Hardness, Grain size, Inclusion rating, Heat treatment, Magnetic Particle Inspection on ball pins		As per Annexure - I of this specification
f)	Visual inspection, Dimension Gauge Checking, Chemical Analysis, Tensile Strength, Hardness, Microstructure, Magnetic Particle Inspection on MCI caps	:	As per Annexure - I of this specification
g)	Visual inspection, Dimensional verification, Resistance to [illegible] Bending, Open/Close test, Hardness test on Security Clip	:	As per Annexure - I of this specification
	Chemical analysis of Zinc used for galvanizing	:	As per Annexure - I of this specification

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17.0 TEST VALUES:

For all type and acceptance tests, the acceptance values shall be the values guaranteed by the Bidder in the guaranteed technical particulars or the acceptance value specified in this specification or the relevant standard whichever is more stringent for that particular test.

18.0 TEST PROCEDURE AND SAMPLING NORMS:

a) The test procedure and sampling norms for carrying out type tests, acceptance tests and routine tests shall be as per reference standards specified under clause No. 15.0 of this specification.

b) The test procedure and sampling norms for carrying out tests during manufacturing shall be as per relevant Indian/ International Standard where applicable and plant standards for others. The sampling norm for conducting tests on bought out items shall be as indicated in Annexure-A of this specification.

c) The Bidder shall furnish details regarding sampling norm and reference standard followed in Quality Assurance Plan.

19.0 ADDITIONAL TESTS:

The Purchaser reserves the right for carrying out any other test(s) of a reasonable nature at the works of the supplier or at any other recognized laboratory/research institute in addition to the above mentioned type, acceptance and routine tests at the cost of the Purchaser to satisfy himself that the material complies with the intent of this specification.

20.0 IDENTIFICATION MARK:

a) The shell of each disc/longrod insulator shall be legibly and indelibly marked with the trade mark/name of the manufacturer, the month and year of manufacture, country of manufacture, guaranteed electro-mechanical strength in Kilo-Newton's abbreviated by KN to facilitate easy identification and proper use. The marking shall be printed and not impressed and the same shall be applied before firing.

b) The metal cap of each disc/longrod insulator shall bear the name of manufacturer by embossing. The identifying letters shall be at least 5 mm high. The characters shall be distinct, durable and conspicuous after galvanizing.

21.0 INSPECTION:

a) The work and materials covered by this specification shall be subject to inspection by the authorized representative of the Purchaser at manufacturer's & sub vendor's works.

b) Inspector shall have free access at all times to all parts of the shop where raw material is stocked and where material is being manufactured and shall be provided with all reasonable facilities for inspection and tests. Equipments and instruments required for

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carrying out the tests shall be furnished by the manufacturer. The material shall be despatched without inspection unless such inspection is waived in writing by Purchaser.

d) Inspection by purchaser or waival of inspection shall neither relieve the manufacturer from the responsibility of supplying materials conforming to the requirements of this specification nor invalidate any claims which may be made because of defective or unsatisfactory material, workmanship, galvanizing etc.

e) The correct grade and quality of raw material shall be used by the manufacturer. To ascertain the grade of material, the Purchaser may at his discretion get the material tested at an approved laboratory of his choice.

f) The arrangement of journey (by air) of purchaser's representative(s) to and from the headquarter to the place of testing and boarding/lodging shall be made by the bidder at his cost.

22.0 PACKING & FORWARDING:

a) All the insulators/disc insulators shall be packed in strong seasoned wooden crates. The gross weight of the crates alongwith insulators shall not normally exceed [illegible] kg for disc insulators and 65 Kg for longrod insulators to avoid handling problem.

b) The packing shall be of sufficient strength to withstand rough handling during transit, storage at site and subsequent handling in the field.

c) Suitable cushioning, protective padding, dunnage or spacers shall be provided to prevent damage or deformation during transit and handling.

d) All packing cases shall be marked legibly and correctly so as to ensure safe arrival at their destination and avoid the possibility of goods being lost or wrongly despatched on account of faulty packing and faulty or illegible markings. Each wooden case/crate shall have all the markings stencilled on it in indelible ink.

23.0 GUARANTEED TECHNICAL PARTICULARS FOR INSULATORS:

The Guaranteed Technical Particulars for Insulators enclosed as SCHEDULE-"HC" shall be duly filled in and submitted alongwith the offer.

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SCHEDULE-III

A) GUARANTEED TECHNICAL PARTICULARS FOR DISC INSULATORS

Sr. No.	INSULATOR TYPE ► PARTICULARS ▼	70 KN (N)	70 KN (AF)	120 KN (N)	120 KN [illegible]	160 KN [illegible]	210 KN (N)
1	Manufacturer's name & address and country						
2)	Size and designation of Ball & socket and standard to which it will conform to						
3	Outside diameter of disc (mm)						
4	Spacing (mm)						
5	[illegible]						
6)	[illegible]						
7	[illegible]						
8)	Creepage [illegible]						
	[illegible]						
9	Withstand voltage of disc						
a)	Power frequency						
i)	Dry (kV rms)						
ii)	Wet (kV rms)						
b)	Impulse withstand voltage						
[illegible]	[illegible]						
i)	Dry (kV peak)						

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Sr. No.	INSULATOR TYPE ► PARTICULARS ▼	[illegible] KN (N)	70 KN (AF)	120 KN (N)	120 KN (AF)	160 KN (N)	120 KN (AF)
[illegible]	[illegible] of [illegible]						
[illegible]	[illegible]						
[illegible]	[illegible] KV (rms)						
[illegible]	[illegible] KV (rms)						
9.2	50% Lightning impulse voltage (1.2/50 µs)						
a)	[illegible] KV (peak)						
b)	[illegible] KV (peak)						
10	[illegible] creepage [illegible]						
11	[illegible] voltage KV max.						
12	Max. RIV at 1 MHz and 10 KV [illegible]						
13	Weight [illegible] kgs.						

NOTE : [illegible]

Signature of Bidder

Name

Designation

Date

[illegible]

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SCHEDULE: IIC

II-C GUARANTEED TECHNICAL PARTICULARS FOR 400KV AND 220KV DISC / LONGROD INSULATOR STRING

Sr. No.	STRING TYPES → PARTICULARS ↓	SINGLE SUSPENSION (70 KN)	DOUBLE SUSPENSION (2x70KN)	SINGLE TENSION (120KN)	DOUBLE TENSION (2x120 KN)
1	No. of insulator discs per string				
2	Withstand voltage of complete string				
2.1	Power frequency				
(i)	Dry (kV rms)				
(ii)	Wet (kV rms)				
2.2	Impulse voltage (1.2/50 µsec)				
(i)	(+) (kV peak)				
(ii)	(-) (kV peak)				
3	Flashover voltage of complete string				
3.1	Power freq. (kV rms)				
(i)	Dry (kV rms)				
(ii)	Wet (kV rms)				
3.2	50% Lightning impulse voltage (1.2/50 µsec)				
(i)	(+) (kV peak)				
(ii)	(-) (kV peak)				
4	Corona inception voltage (kV rms)				

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Sr. No.	STRING TYPE → PARTICULARS ↓	SINGLE SUSPENSION (90 KN)	DOUBLE SUSPENSION (2x90KN)	SINGLE TENSION (120KN)	DOUBLE TENSION (2x120 KN)
11	Corona extinction voltage (kV) (rms)				
12	Max. RIV at [illegible] string including corona control rings/grading rings at 1.1 times maximum line to ground voltage (micro volts)				
13	Max. leakage current [illegible] across [illegible] of the string				
14	[illegible] strength of complete string (kN)				

NOTE 1) Separate data sheets to be submitted for each voltage class.
2) [illegible]

Signature of the Bidder

Name

Designation

Date

Company name [illegible] of the Bidder

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SCHEDULE-III (C)

GUARANTEED TECHNICAL PARTICULARS FOR 400KV DISC / LONGROD INSULATOR STRING

Sr. No.	STRING TYPE ► PARTICULARS ▼	SINGLE 'I' SUSPENSION ([illegible] KN) NAP	DOUBLE 'I' SUSPENSION ([illegible] KN) NAP	QUAD TENSION ([illegible] KN) NAP
1)	No. of insulator discs per string			
2)	Withstand voltage of complete string			
2.1	Power frequency			
a)	Dry (KV rms)			
b)	Wet (KV rms)			
2.2	Impulse voltage (1.2/50 µsec)			
a)	+ve (KV peak)			
b)	-ve (KV peak)			
3)	Flashover voltage of complete string			
3.1	Power frequency			
a)	Dry (KV rms)			
b)	Wet (KV rms)			
3.2	50% Lightning impulse voltage (1.2/50 µsec)			
a)	+ve (KV peak)			
b)	-ve (KV peak)			
4)	[illegible] voltage (kV rms)			
5)	[illegible] voltage (kV rms)			

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(vi)	Max. RIV for complete string (including corona rings) – rating [illegible] [illegible] [illegible] voltage [illegible]				
[illegible]	[illegible]				
[illegible]	[illegible]				

Signature of the Bidder

Name ...

Designation ...

Date ...

Common authorised seal of the bidder ...

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ANNEXURE - I

TEST PROCEDURE

1.0 PROCEDURE FOR MOUNTING INDIVIDUAL DISC AND COMPLETE STRING FOR MEASUREMENT OF RIV, VOLTAGE DISTRIBUTION & VISIBLE DISCHARGE

a) The insulator unit or insulator string shall be suspended vertically by means of an earthed wire rope or other suitable means from a supporting structure. The distance between the uppermost point of the insulator metal work and the supporting structure shall be [illegible] than [illegible]. No other earthed object shall be nearer [illegible] than [illegible] times the length of the insulator string, [illegible] is greater. A length of conductor in the form of a straight [illegible] shall be attached to the lower fitting of the insulator unit or insulator string so that it lies in a horizontal plane and the distance from the lowest metal part [illegible] the upper surface of the conductor shall be as short as possible but greater than [illegible] the diameter of the largest insulator.

b) The diameter of the conductor shall be [illegible] of the length of the insulator unit or insulator string with a minimum of [illegible].

c) The length of the conductor shall be [illegible] of the insulator unit or insulator string, [illegible] of the vertical axis.

d) Rounded [illegible] conductor.

e) The test voltage shall be applied between the conductor and earth.

2.0 MOUNTING PROCEDURE FOR COMPLETE STRING FOR WET POWER FREQUENCY, WET SWITCHING SURGE AND DRY IMPULSE WITHSTAND TESTS

2.1 The insulator string shall be suspended vertically [illegible] tower body [illegible] simulated by a horizontal member, the insulator string being [illegible] the tower body at [illegible] and [illegible] supporting the insulator string shall be earthed. The width of each member facing the insulator string shall be [illegible] of the length of the insulator string. The distance between the axis of the insulator string and the vertical member simulating the tower body shall be between [illegible] times the length of the insulator string. The distance between the uppermost point of the insulator string and the lower face of the horizontal member simulating the cross arm shall be equal to about [illegible]. The member simulating the tower body shall extend at least beyond the lower [illegible].

2.2 [illegible] the length of the insulator string [illegible] between [illegible] of the length of the insulator string [illegible] each end shall be protected by means of [illegible] of the insulator string [illegible].

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c. The test voltage shall be applied between the conductor and earth [illegible] the connection being made at one end of the conductor [illegible]

d. During the test, no object other than those described [illegible] the end of the insulator string than 1.5 times [illegible]

e. [illegible] shall be complete with [illegible]

5.0 TESTING PROCEDURE FOR DYNAMIC [illegible] TEST

Complete string is to be subjected to mechanical [illegible] keeping the [illegible] every day stress [illegible]. The string [illegible] frequencies and possible amplitude as already agreed between purchaser and supplier [illegible] cycles. After 5 million cycles, the string shall be [illegible] EHV suspension string & quad tension string, the [illegible] conductor. All discs shall be thoroughly checked for any damage [illegible] pins/caps. Thereafter, all the discs shall be [illegible] mechanical failing load test and porosity test [illegible] the dynamic test if it withstands all these tests.

6.0 TESTING PROCEDURE FOR WET POWER FREQUENCY WITHSTAND TEST (As per IEC 60383/IS 731)

a. The insulator string shall be mounted as per [illegible]

[illegible] in accordance [illegible]

[illegible] shall be applied [illegible]

[illegible] A voltage of about 75% of the test voltage [illegible] shall be applied and then increased gradually with a rate of rise of about 2% [illegible] voltage per second. The test voltage [illegible] shall be maintained [illegible] puncture shall occur during this period.

7.0 TESTING PROCEDURE FOR WET SWITCHING SURGE WITHSTAND TEST (As per IEC 60383/IS 731)

a. The insulator string shall be mounted as per [illegible]. The impulse generator shall be adjusted to produce [illegible] impulse waves of both positive and negative polarity [illegible]. The tests shall be made under the conditions [illegible]

b. The withstand test shall be performed at the specified [illegible] with application of corrections for atmospheric conditions. Fifteen impulses shall be applied to the insulator string under test. If the number of flashovers [illegible] not exceed two, the insulator string shall be considered to have [illegible] requirement.

c. The insulators shall not be damaged by the [illegible]

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[illegible] of the insulator [illegible] cracking of the cement or other material used for assembly is permitted.

6.0 TESTING PROCEDURE FOR DRY LIGHTNING IMPULSE VOLTAGE WITHSTAND TEST (As per IEC [illegible])

6.1 The insulator string shall be [illegible] proper [illegible] arrangement [illegible] impulse [illegible] shall be used. However, when [illegible] flashover voltage, it will suffice to test with that polarity.

6.2 The impulse generator shall be adjusted to produce a standard 1.2/50 [illegible] the specified [illegible] of the impulse withstand voltage [illegible]

6.3 Five such impulses shall be applied. If there is no flashover or puncture, the insulator shall be considered to have passed the test. If during the application of these five impulses, puncture occurs or if there is more than one flashover, the insulator shall be considered to have failed to comply with the test requirement. If only one flashover occurs, a new series of ten impulses shall be applied. The insulator will be considered to have passed the test if during this new series of impulses there is no flashover or puncture.

6.4 The insulator shall not be damaged by the test but slight marks on the surface of the insulating parts or chipping of the cement or other material used for assembly is permitted.

7.0 TESTING PROCEDURE FOR MECHANICAL STRENGTH TEST ON STRING

7.1 The complete [illegible] consisting of [illegible] number of discs [illegible] hardware [illegible] shall be mounted on the Tensile Testing Machine.

7.2 The string shall [illegible] be subjected to a tensile load equal to [illegible] of the specified minimum ultimate tensile strength (UTS) which shall be increased at a steady rate [illegible]. This load shall be maintained [illegible] the string shall be [illegible] and the string components shall be [illegible] deformation [illegible] and/or if there is any [illegible] deformation caused by the application of the above load, the string shall be deemed to have failed in the test.

7.3 [illegible] the string shall [illegible] be increased [illegible] UTS and the load shall be further increased at a steady rate till the specified minimum UTS is reached and held there for one minute. [illegible] The string shall be deemed to have passed the test if the [illegible] guaranteed E&M strength.

8.0 TESTING PROCEDURE FOR [illegible] LOAD TEST

8.1 The insulator string shall be subjected to [illegible] power frequency [illegible]. After successful completion of this test, the insulator string shall be subjected

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vertically/horizontally and subjected to a [illegible] of the [illegible] mechanical strength for duration of 24 hours.

(v) After the completion of above period [illegible] examination [illegible] shall again be subjected to [illegible]. The string shall be deemed to have passed the test [illegible] power frequency [illegible] test.

9.0 TESTING PROCEDURE FOR VOLTAGE DISTRIBUTION (DRY) TEST

The voltage across each insulator unit [illegible] gap method. The result obtained shall be converted into percent [illegible] to give a result [illegible] specified values.

10.0 TESTING PROCEDURE FOR CORONA [illegible] TEST (Dry)

The sample assembly when subjected to power frequency voltage shall have a corona extinction voltage of not less than the value specified [illegible] condition [illegible] no evidence of corona on any part of the sample [illegible] photographed in a darkened room.

11.0 TESTS ON INDIVIDUAL DISCS

11.1 VISUAL EXAMINATION

a. Visual examination shall be [illegible] insulator shall approximate to the [illegible] permitted and shall not [illegible] physical distance of shape [illegible] microscope, [illegible] in the [illegible] shall be [illegible]

b. The area specified as glazed on the drawing shall be [illegible] glaze, free from cracks and other defects prejudicial [illegible]

c. Out of the area specified as glazed on the drawing [illegible] shall not exceed.

$$1 + \frac{DF}{2000}\ \text{cm}^2$$

Also the area of any single glaze [illegible] shall not exceed

$$0.5 + \frac{DF}{20000}\ \text{cm}^2$$

Where

D = the greatest diameter of the insulator [illegible]
F = the creepage distance of the insulator [illegible]

11.2 VERIFICATION OF DIMENSIONS:

The dimensions of the insulator shall be [illegible] approved drawings. Unless otherwise specified, the tolerances in the [illegible]

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± (0.04D [illegible]) mm for D less than or equal to 300 mm and
± (0.05D [illegible]) mm for D greater than 300 mm.

Where D = Specified insulator diameter in mm
The tolerance on spacing shall be ± (0.03S + 0.3) mm
Where S = Specified insulator spacing in mm

[illegible] ECCENTRICITY TEST (AXIAL RUNOUT & RADIAL RUNOUT)

The insulator unit shall be vertically mounted on a fixture using dummy pins and [illegible] shall be used for the axial run out. The [illegible] shall be maintained in contact with the bottom of the outermost portion of the disc. [illegible] insulator shall be rotated with reference to the fixture and the [illegible] shall be allowed to [illegible] but always maintaining contact with the bottom of the outermost portion. After one full rotation of the disc, the maximum and minimum position the dial [illegible] on the scale can be found out. Difference between the above two readings shall satisfy the guaranteed value for axial run out.

Similarly [illegible] with vertical slider the radial run out shall be measured. The [illegible] shall be maintained on the scale to establish contact with the [illegible] of the disc [illegible] rotated on the fixture [illegible] full rotation between the maximum and minimum position on the [illegible] found out. The difference between the above readings shall satisfy the [illegible] value for radial run out.

[illegible] DRY LIGHTNING IMPULSE VOLTAGE WITHSTAND TEST

Please refer to Clause No. [illegible] for Testing Procedure

[illegible] WET POWER FREQUENCY WITHSTAND TEST

Please refer to Clause No. [illegible] for Testing procedure

[illegible] RADIO INTERFERENCE VOLTAGE TEST (As per IS 8263)

[illegible] Insulators shall be [illegible] at [illegible] given above. [illegible] noise level may be affected by fibres or dust settling on the insulators, the insulators may be wiped with a clean cloth before taking measurements. The atmospheric conditions during tests shall be recorded. It is not known what correction factors apply to radio interference testing, but it is known that test [illegible] relative humidity exceeding 80%.

[illegible] CISPR [illegible] (IS 8263). The [illegible]

[illegible] specified test voltage shall be applied [illegible] maintained for at least 5 minutes. The voltage shall then be [illegible] specified test voltage, raised again [illegible] 30% value. At each step [illegible] voltage shall be plotted.

[illegible] voltage steps [illegible] 10% of the specified test voltage.

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f. The leakage [illegible] radio interference [illegible] at the specified test voltage, [illegible] the radio interference [illegible] specified radio interference test [illegible] radio interference [illegible] specified [illegible] test voltage and [illegible] the specified test voltage. [illegible] it is preferable to make radio interference measurements [illegible] radio interference characteristics [illegible] made on [illegible] type.

11.7 TEST PROCEDURE FOR THERMAL MECHANICAL PERFORMANCE TEST (As per IEC 575)

The test shall be performed according to [illegible]

a) This test has an initial stage of the disc insulator regularly in the mechanical loading and unloading and a concluding stage of testing the insulator unit to failure. Such a failure load test constitutes the basis of the thermal mechanical performance test for judging the test results.

b) During the initial stage of test, the insulator units shall be subjected to four 24 hours cycles of cooling and heating and to a tensile load equal to 60% of the specified electromechanical failing load. The tensile load shall be applied to the insulators at room temperature before starting the first thermal cycle.

c) Each 24 hours cycle shall comprise a cooling to -30 ± 5°C and a heating to +40 ± 5°C. The temperature limits [illegible] may be suitably changed where the prevailing conditions so require. The temperature minimum shall be that of cooling, then heating. The temperature [illegible] maintaining at minimum and maximum temperatures each for at least [illegible] the temperature [illegible]

d. The tensile load shall be completely removed and [illegible] end of each heating period [illegible]

e. On completion of the fourth 24 hours cycle [illegible] tensile load shall be removed on the same day. After this [illegible] shall be subjected [illegible] to electromechanical failing load [illegible]

f. The performance of the test shall be assessed by comparison of the failing load values with the failing load obtained during the [illegible] electromechanical strength test.

11.8 RESIDUAL STRENGTH TEST

The test shall be done according to the clause [illegible] subjected [illegible] 22 [illegible] results [illegible]

11.9 POLARISED LIGHT INSPECTION (Only for Toughened glass insulators)

The disc insulator shall be held over a polarised light source and the stress lines observed through. There shall be no uneven stress distribution in the toughened glass insulators. This shall be carried out on 100% glass shells.

11.10 STEEP WAVE FRONT TEST (Only for Glass disc Insulators)

Following test shall be carried out on 10 insulator units [illegible] at random from the lot offered for acceptance.

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(c) Each insulator unit shall be subjected to five successive positive and five negative impulse flashovers with a wave having minimum effective rate of rise of 2500 kV per microseconds.

(d) Each unit shall then be subjected to three dry power frequency voltage flashovers.

Acceptance Criteria

An insulator shall be deemed to have met the requirement of this test if it has been successfully subjected to the ten impulse flashovers, the arithmetic mean of the three subsequent dry power frequency voltage flashover values equals or exceeds 95% of the specified dry power frequency flashover voltage.

An insulator shall be deemed to have failed to meet the requirement of above criteria, if:

(i) It has not flash over when the oscillogram or peak voltage indicator shows a marked reduction in voltage

or

(ii) Any one of the subsequent three dry power frequency voltage flashover value is less than 95% of the value specified.

In case of failure of any one unit either in the steep wave front or power frequency voltage test, these tests shall be conducted on double the number of units.

[illegible] MECHANICAL FAILING LOAD TEST

The test shall be carried out in accordance with [illegible] and [illegible] following [illegible]

(i) X greater than or equal to R + [illegible]

Where

X = Mean value of the electro mechanical/mechanical failing load

R = Rated electro mechanical/mechanical failing load

S = Standard deviation

(ii) The minimum sample size shall be taken [illegible] kN and [illegible] However, for larger quantity, IEC 591 shall be applicable.

(iii) The individual electro mechanical/mechanical failing load shall be at least equal to the rated value. Also electrical puncture shall not occur before the ultimate fracture.

12.0 HYDRAULIC INTERNAL PRESSURE TEST ON SHELLS

The test shall be carried out on 100% disc insulator shells before assembly. [illegible] should withstand applied pressure for the stated time of [illegible]

13.0 HIGH FREQUENCY TEST ON SHELLS

The test shall be carried out on 100% disc insulator shells before assembly. The insulators should withstand applied high frequency voltage for 3 seconds without puncture.

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3) TESTS ON [illegible] FITTINGS

1) Forged Components (Ball Pins)

a) Visual inspection: All material [illegible] shall be visually checked for [illegible] defects and general appearance.

b) Dimensional check: On random [illegible] shall be [illegible]

c) Gauge Check: The test shall be conducted on 100% samples with 'Go' and 'No Go' gauges. The acceptance norms shall be [illegible] as per relevant IS.

d) [illegible]: The [illegible] shall be [illegible]

e) Hardness test: The test shall be conducted on [illegible] samples per [illegible] The acceptance [illegible] IS 1500 [illegible]

f) Grain Size: The test shall be conducted on [illegible] samples [illegible] The acceptance [illegible] ASTM [illegible]

g) [illegible]: The test shall be conducted [illegible] The acceptance [illegible] ASTM [illegible]

h) Chemical analysis: The test shall be conducted on [illegible] of 1 sample per heat [illegible] as per IS 1500 [illegible]

i) [illegible]: [illegible] shall be subjected to proof load [illegible] The [illegible] breaking load shall be [illegible]

2) Magnetic Particle Inspection: The test shall be conducted on [illegible] samples as per IS 3703 for detection of longitudinal and transverse cracks. The [illegible] shall be free [illegible] sub-surface cracks.

2) Malleable Cast Iron Cap

a) Visual inspection: All material (100%) shall be visually checked for [illegible] casting defects and identification marks. The surface shall be free from casting defects and shall be smoothly finished. The cap shall bear [illegible] of the manufacturer.

b) Dimensional check: [illegible] samples per [illegible]

c) Gauge Check: The test shall be conducted on 100% samples with 'Go' and 'No Go' gauges. The acceptance [illegible]

d) [illegible]: The test shall be conducted on [illegible] IS [illegible]

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e) Chemical analysis: The test shall be conducted on minimum of 1 sample per 5000 nos. The acceptance norm shall be chemical composition conforming to grade [illegible] or equivalent.

f) Proof Load test: At random check of not less than 2 samples per lot of [illegible]. The sample shall be subjected to proof load limit and held for one minute. The load shall be released and there shall not be any crack or permanent deformation. [illegible] sample shall be subjected to further [illegible] [illegible] [illegible] tensile breaking test shall be passed.

g) Magnetic Particle Examination: The test shall be conducted on 100% samples as per IS 3703 for detection of longitudinal and transverse cracks. There shall not be any surface or sub surface cracks.

iv) Security clip

i) Visual inspection: All material (100% samples) shall be inspected for dimension and surface irregularities. The acceptance norm shall be as per IS [illegible]

ii) Dimensional check: At random check of not less than 1% sample per lot. The acceptance norm shall be dimension as per IEC 372/IS 2486(IV)

iii) Resistance to [illegible]: At random check of not less than 1 sample per lot. The acceptance norm shall be as per IEC 372/IS 2486(IV)

iv) Strength test: At random check of not less than 1 sample per lot. The acceptance norm shall be as per IEC 372/IS: 2486(IV)

v) Hardness test: At random check of not less than 2 samples per lot. The acceptance norm shall be hardness not less than 137 BHN for R clip and 145 BHN for W clip.

vi) Chemical analysis: At random check of not less than 1 sample per lot. The acceptance norm shall be chemical composition conforming to AISI 304/316 grade as per ASTM A 276

v) Hot Dip Galvanized components

a) Test on Raw material

i) Chemical analysis of Zinc: At random check of not less than one sample per lot. The acceptance norm shall be grade Zn98 [illegible] of zinc ≥ 99.95% as per IS 209

b) Galvanizing Checking

i) Visual inspection: All material (100% samples) shall be visually checked as per IS 2629. The finished surface shall be clean, smooth and shall be free from defects like discoloured patches, bare spots, unevenness of coating, spelter which is loosely attached to the steel, globules, spiky deposits, blistered surface, flaking or peeling off etc.

ii) Uniformity of zinc coating: At random check of not less than 2 samples per lot. The test shall be conducted as per IS 2633 and the samples shall withstand [illegible] dips in standard (CuSO4) solution without showing signs of [illegible] deposit.

iii) Thickness of zinc coating: At random check of not less than 2 samples per lot. The acceptance norm shall be thickness of coating not less than 610 gm/sq.m.

iv) Adhesion test of zinc coating: At random check of not less than 2 samples per lot. There shall be no flaking or loosening when struck [illegible] times with [illegible].

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ANNEXURE- VIII

TECHNICAL SPECIFICATION FOR 0.2 ACSR "PANTHER" AND 0.4 ACSR "ZEBRA" CONDUCTOR FOR EHV TRANSMISSION SCHEMES

1.0 GENERAL

[illegible] specification covers the ACSR aluminium conductor to be used for the 220 kV [illegible] [illegible] [illegible] lines.

[illegible] specification provides for the design, manufacture, engineering, inspection and testing before despatch, packing and delivery of ALUMINIUM CONDUCTOR [illegible] [illegible] ACSR for EHV overhead transmission purposes in Maharashtra State.

2.0 STANDARDS

2.1 Except as modified in this Specification, the conductor shall conform to the following Indian Standards, which shall mean latest revisions, amendments thereof. Equivalent international and internationally recognized standard to which some of the conductors generally correspond are also listed below:

Sr. No.	Indian Standards	Title	International Standards
1	IS 209	Specification for Zinc	BS 3436
2	IS 398 Part [illegible] [illegible] as relevant	Specification for Aluminium conductors for overhead Transmission Purpose.	IEC 209 BS 215 (Part-II)
3	IS 1778	Reels and Drums for bare conductors	BS 1559
4	IS 1521	Method of Tensile Testing of Steel wire	ISO 6892
5	IS 2629	Recommended practice for Hot Dip Galvanising of Iron and Steel	
6	IS 2633	Method of testing of uniformity of coating on zinc coated articles	
7	IS 4826	Galvanised Coatings on round steel Wires	ASTM A [illegible]
8	IS 6745	Methods of Determination of weight of Zinc Coating of zinc coated Iron & Steel Articles	BS 443
9	IS [illegible]	EC grade Aluminium rod produced by rolling (Second Revision)	
10	IS 5484	EC grade Aluminium rod produced by continuous casting and rolling (First Revision)	
11	IS 7623	Specification for Lithium Soap Grease	

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5.0.0 PRINCIPAL PARAMETERS

5.1.0 The details of ACSR conductors are tabulated below

Sr.No.	Particulars	Values For ACSR panther	Values For ACSR Zebra
(a)	Stranding and wire diameter	Aluminium 30/3.00 mm, Steel 7/3.00 mm	Aluminium 54/3.18 mm Steel 7/3.18 mm
(b)	Number of Strands		
	(i) Steel Centre	1	1
	(ii) 1st Steel Layer	6	6
	(iii) 1st Aluminium Layer	12	12
	(iv) 2nd Aluminium Layer	18	18
			[illegible]
(c)	Sectional area of Aluminium in Sq. mm	212.1	428.9
(d)	Sectional area of Steel in Sq. mm	49.5	55.6
(e)	Total sectional area in Sq. mm	261.5	484.5
(f)	Overall Diameter in mm	21.00	28.62
(g)	Approximate weight in Kg/Km	974	1621
(h)	Calculated D.C. Resistance at 20 degree Celsius in Ohm/Km	0.[illegible]	0.0686[illegible]
(i)	Minimum Breaking load in KN	89.67	130.3[illegible]
(j)	Modulus of Elasticity in GN/Sq.metre	80.00	[illegible]

5.2.0 The details of Aluminium strand are as below

Sr. No.	Particulars	Values For ACSR panther	Values For ACSR Zebra
(a)	Minimum Breaking Load of Strand before stranding in KN	1.17	1.29
(b)	Minimum Breaking Load of Strand after stranding in KN	1.11	1.23
(c)	Maximum D.C. Resistance of Strand at 20 Degree Celsius in Ohm/Km	4.0[illegible]	3.6[illegible]

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(d) Properties of Steel Strands are as below:

Sr. No.	Particulars	Values For ACSR panther	Values For ACSR Zebra
(i)	Minimum Breaking Load of Strand before stranding in KN	[illegible]	[illegible]
(ii)	Minimum Breaking Load of Strand after stranding in KN	1.33	[illegible]
(iii)	Minimum weight of Zinc Coating after stranding in Gm/Sq. Metre	260	260

[illegible] GENERAL TECHNICAL REQUIREMENTS

The conductor shall be suitable for satisfactory operation under the following tropical climate conditions.

Sr. No.	Particulars	Values
(a)	Maximum Ambient Air Temperature	50 Degree C
(b)	Minimum Ambient Air Temperature	[illegible] Degree C
(c)	Average Daily Ambient Air Temperature	40 Degree C
(d)	Relative Humidity	10-100%
(e)	Maximum Rainfall/Annum	1450 mm
(f)	Maximum Altitude above Mean Sea level	1000 meters
(g)	Maximum Wind Pressure	[illegible] Kg/Sq.m
(h)	Isoceraunic level	[illegible] Days/year

[illegible] PHYSICAL CONSTANTS OF MATERIALS

[illegible] Physical Constants of Hard Drawn Aluminium

(a) Resistivity:

The resistivity of aluminium depends upon its purity and its physical condition. For the purpose of this specification the maximum value permitted is [illegible] ohm sq.mm/m at 20 Degree C and this value has been used for calculation of the maximum permissible value of resistance.

Note: It is not intended to check the resistivity from the measured values of resistance.

(b) Density:

At a temperature of 20 Degree C the density of hard drawn aluminium has been taken as 2.703 gm/cubic cm.

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(c) Constant-Mass Temperature Co-Efficient of Resistance:

At a temperature of 20 Degree C the constant-mass temperature co-efficient of hard drawn aluminium measured between two potential points rigidly fixed to the wire, the metal being allowed to expand freely, has been taken as 0.004 per Degree C.

(d) Co-Efficient of Linear Expansion:

The Co-Efficient of Linear Expansion of hard drawn aluminium at 0 Degree C has been taken as 23 x 10^{-6} per Degree C. This value holds good for all practical purposes over the range of temperature from 0 Degree C to highest safe operating temperature.

3.2.11 Physical Constants For Galvanised Steel Wires:

(a) Density:

At a temperature of 20 Degree C, the density of galvanised steel wire is to be taken 7.80 gm/cubic cm.

(b) Co-Efficient of Linear Expansion

In order to obtain uniformity in calculations, a value of 11.5 x 10^{-6} per Degree C may be taken as the value for the co-efficient of Linear Expansion of galvanised steel wires used for the cores of steel reinforced aluminium conductors.

3.2.12 MATERIALS

(a) The conductor shall be manufactured from EC Grade aluminium rods suitably hard drawn on wire drawing machines. The aluminium rods used shall comply with IS 9997 and IS:5484. The mechanical and electrical properties of aluminium wire shall comply with the requirements given in relevant standard.

(b) Galvanised Steel wire shall be drawn from high carbon steel rods produced by either acid or basic open hearth process, electric furnace process or basic oxygen process. The mechanical and chemical properties of wire shall comply with the requirements given in relevant standard. The chemical composition of high carbon steel wire is given below for guidance only.

Sr. No.	Element	Percentage Composition
1	Carbon	0.50 to 0.85
2	Manganese	0.50 to 1.10
3	Phosphorus	Not more than 0.035
4	Sulphur	Not more than 0.045
5	Silicon	0.10 to 0.35

(c) The Zinc used for galvanising shall be electrolytic high grade Zinc not less than 99.95% purity. It shall conform to and satisfy all the requirements of IS 209. Galvanising may be done by hot process. Neutral Grease may be applied to the core wire.

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[illegible] FREEDOM FROM DEFECTS

[illegible] strength and [illegible] [illegible] scratches, fittings, [illegible] [illegible] [illegible] mechanical properties [illegible] [illegible] standing.

[illegible] WIRE SIZE

[illegible] NOMINAL SIZE

The aluminium and galvanised [illegible] [illegible] standard [illegible] diameters specified [illegible] [illegible] [illegible] the zinc coating.

[illegible] TOLERANCE ON NORMAL SIZE

(a) ALUMINIUM WIRES: A tolerance of [illegible] [illegible] of 'Panther'/'Zebra' conductor.

(b) GALVANISED STEEL WIRES: [illegible] tolerance [illegible] [illegible] the nominal diameter.

NOTE: [illegible] 5.2.2 shall apply to both the [illegible] [illegible] as per Clause 2.3 of IS 398 (Part II) [illegible] Australian [illegible].

[illegible] JOINTS IN WIRES

(a) Aluminium Wires: No joints shall be permitted in the aluminium wires in the [illegible] layer of the ACSR conductor. Joints in the inner layers are permitted [illegible] [illegible] [illegible] [illegible] by cold pressure butt welding.

NOTE: Joints are not permitted in the aluminium [illegible] [illegible] [illegible] [illegible].

(b) Galvanised Steel Wires: There shall be [illegible] [illegible] [illegible] steel wires [illegible] [illegible] steel [illegible].

NOTE: Joints have not been permitted [illegible] [illegible] the breaking strength of the conductor [illegible] of the joints.

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Executive Engineer
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3.4.0 STRANDING

(i) The wires used in the construction of galvanised steel reinforced aluminium conductor shall, before stranding, satisfy all the relevant requirements of this specification.

(ii) The lay ratio of the different layers shall be within the limits given in the following table:

LAY RATIO OF ALUMINIUM CONDUCTOR GALVANISED STEEL REINFORCED

Sr. No.	Particulars	For ACSR Panther	For ACSR Zebra
1	Number of Wire	Aluminium 30 Steel 7	Aluminium 54 Steel 7
2	Ratio of Diameter	1	1.0
3	Lay-Ratio for Steel Core (6 Wire Layer)	Minimum 13 Maximum 28	Minimum 13 Maximum 28
4	Lay-Ratio for Aluminium Wire		
(i)	Out side Layer	Minimum 10 Maximum 14	Minimum 10 Maximum 14
(ii)	Layer immediately beneath outside Layer	Minimum 10 Maximum 16	Minimum 10 Maximum 16
(iii)	Innermost layer of conductor with three Al Wire layers	Minimum 10	Minimum 10 Maximum 17

NOTE: For the purpose of calculation, the mean lay ratio shall be taken as the arithmetic mean of the relevant minimum and maximum values given in the above table.

(iii) While stranding, pre-forming and post-forming method should be used for stranded steel core in order to relieve the residual stress of the wire to avoid flaring of conductor.

(iv) In all constructions, the successive layers shall have opposite directions of lay, the outermost layer being right-handed. The wires in each layer shall be evenly and closely stranded.

(v) In conductors having multiple layers of aluminium wires, the lay ratio of any aluminium layer shall not be greater than the lay ratio of the aluminium layer immediately beneath it.

3.5.0 STANDARD LENGTH OF THE CONDUCTOR

The standard length of the "Panther" / "Zebra" conductor shall be minimum 1800 / 2000 metres. Tolerance of ± 5 % on standard length offered by the bidder shall be permitted. All lengths outside this limit of tolerance shall be treated as random length.

3.6.0 GUARANTEED TECHNICAL PARTICULARS

The bidder shall furnish the guaranteed technical particulars of items offered in the format enclosed in SCHEDULE 'A' of this specification.

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TL Pretendor

[illegible] TESTS

The conductor offered in the tender should have been successfully type tested in line with the standard and technical specifications within the last five years from the date of opening of tender. The bidder shall submit copy of the type test reports as specified in Annexure-I with the offer.

[illegible] The type tests, acceptance tests, routine tests and tests during manufacture shall be carried out on the conductor. For the purpose of this clause:

[illegible] Type tests shall mean those tests, which are to be carried out to prove the design, process of manufacture and general conformity of the material to this specification. These tests shall be carried out on samples prior to commencement of commercial production against the order. The bidder shall indicate his schedule for carrying out these tests in the offer.

[illegible] Acceptance tests shall mean those tests, which are to be carried out on samples taken from each lot, offered for pre-despatch inspection, for the purpose of acceptance of that lot.

[illegible] Routine tests shall mean those tests, which are to be carried out on each strand/spool/length of the conductor to check requirements which are likely to vary during production.

[illegible] Tests during manufacture shall mean those tests, which are to be carried out during the process of manufacturing by the supplier to ensure the desired quality of the end product to be supplied by him.

[illegible] For all type tests and acceptance tests, the acceptance values shall be the values guaranteed by the bidder in the Guaranteed Technical Particulars of the proposal or the acceptance value specified in this specification, whichever is more stringent for that particular test.

[illegible] DESCRIPTIONS OF TESTS

[illegible] TYPE TESTS

The following Type Tests shall be conducted once on each sample/samples of conductor for every 500 kms or part thereof of production from each manufacturing facility.

[illegible] TEST FOR SURFACE CONDITION

A sample of the finished conductor having a minimum recommended length of 5 m with compression type dead end clamps compressed on both ends in such a manner as to permit the conductor to take its normal straight line shape, shall be subjected to a tension of 50% of the ultimate breaking load of the conductor.

The surface shall not depart from its cylindrical shape nor shall the strands move relative to each other so as to get out of place or disturb the longitudinal smoothness of the conductor. The measured diameter at any place shall not be less than the sum of the minimum specified diameters of the individual aluminium and steel strands.

Executive Engineer
M.S.E.T. Co. Ltd
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(f) ULTIMATE TENSILE STRENGTH TEST

Circles perpendicular to the axis of the conductor shall be marked at two places on a sample conductor of minimum 5 metre length suitably compressed with Tension Clamps at either end. Tensile load shall be applied to the sample and shall be increased at a steady rate up to 50% of the Ultimate Tensile Strength of the conductor and held for one minute. The circles drawn shall not be distorted due to relative movement of strands. The applied load shall then be increased at steady rate until the failing load is reached. This value shall not be less than the guaranteed breaking load of the conductor.

D.C. RESISTANCE TEST

On a conductor sample of minimum 5 metre length, two contact clamps shall be fixed. The resistance shall be measured by a Kelvin Double Bridge by placing the clamps initially zero metre and subsequently one metre apart. The test shall be repeated at least 5 (five) times and the average value recorded. The value obtained shall be corrected to the value at 20 degree C as per IS: 398 (Part II). The resistance corrected at 20°C shall conform to the requirements of this specification.

6.2.2 ACCEPTANCE TESTS

The following acceptance tests shall be carried out on the samples in presence of the purchaser's representative and the test values shall conform to IS:398-V.

(a) VISUAL AND DIMENSIONAL CHECK ON DRUM

The drums shall be visually and dimensionally checked to ensure that they conform to the requirements of this specification.

(b) CHECK FOR JOINTS, SCRATCHES ETC.

Conductor drums shall be rewound in the presence of the purchaser's representative. The purchaser's representative shall visually check for scratches, joints etc. and that the conductor generally conform to the requirements of this specification.

(c) DIMENSIONAL CHECK ON ALUMINIUM AND STEEL STRANDS

The individual strands shall be dimensionally checked to ensure that they conform to the requirement of this specification.

(d) LAY-RATIO TEST ON VARIOUS LAYERS

The lay ratios of various layers shall be checked to ensure that they conform to the requirements of this specification.

(e) ELONGATION AND TORSION TEST

The test procedure shall be as specified in IS:398 (Part-V)-1992. The material shall conform to the requirements of this specification and Clause No.4.4 & 4.5 of IS:398 (Part-V).

Executive Engineer
M.S.E.T.C.L.
E.H.V. Project Dn., Kalyan

Executive Engineer
TL Pretender

(a) **BREAKING LOAD TEST ON INDIVIDUAL ALUMINIUM AND STEEL STRAND**

For the purpose of acceptance test, this test shall be made on both aluminium and steel. The tensile test shall apply to all wires of ACSR conductors. The tensile strength of any of the wires shall not be less than the values [illegible] in this specification.

When an automatic [illegible] testing machine is used [illegible] and [illegible] separation of the jaws of the testing machine [illegible] greater than 100 mm/minute.

(b) **RESISTANCE TEST**

As per Clause [illegible] of IS-398-V, the measurement of resistance shall be made on samples of ACSR conductor, and shall be carried out to demonstrate at least one part in [illegible] and conform to the specified values. Certificate [illegible] accuracy of the apparatus shall be provided.

(c) **[illegible] TEST ON WELDED JOINTS OF ALUMINIUM STRAND**

As per procedure mentioned in IS-398 (Part [illegible]).

(d) **VERIFICATION OF LENGTH** by rewinding method

(e) **QUANTITY OF DRUMS TO BE VERIFIED FOR LENGTH**

As per Clause No. [illegible]

(f) **GALVANISING TEST**

The test procedure shall be specified in IS [illegible]. The [illegible] shall conform to the requirement of this specification.

NOTE: All the above tests except test mentioned at [illegible] shall be carried out on aluminium and steel strands after stranding only.

(g) **DRUMS TESTS**

(a) [illegible] as per specification.

(b) [illegible] on the drums.

(c) Check [illegible] as per specification.

(d) All above drum tests shall be carried out [illegible] shall be [illegible] inspection.

Executive Engineer
M.S.E.T.C.L.
E.H.V. Project Dn., Kalyan

Executive Engineer
TL [illegible]

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6.2.4 TESTS DURING MANUFACTURE

(a) Chemical Analysis of Zinc Used for Galvanizing.

Samples taken from the zinc ingots shall be chemically/spectrographically analyzed. The same shall be in conformity to the requirements stated in this specification.

(b) Chemical Analysis of Aluminium used for making Aluminium Strands.

Chemical Analysis of Aluminium samples taken from the Aluminium ingots/coils/strands shall be chemically/spectrographically analyzed. The same shall be in conformity to the requirements stated in this specification.

(c) Chemical Analysis of Steel used for making Steel Strands.

Chemical Analysis of the samples taken from the Steel ingots/coils/strands shall be chemically/spectrographically analyzed. The same shall be in conformity to the requirements stated in this specification.

6.3 TESTING EXPENSES.

6.3.1 The purchaser may ask for repetition of Type Test at his own expense, prior to manufacture.

6.3.2 In case of failure in any type test, the bidder is either required to modify the design of the material & repeat the particular type test successfully at his own expenses. The decision of the purchaser in this regard shall be final and binding.

6.3.3 Bidder shall indicate the laboratories in which he proposes to conduct the type tests. He shall ensure that the tests can be completed in these laboratories within the time schedule guaranteed by him in the appropriate schedule. (Name of Laboratories to be uploaded with the offer).

6.3.4 The entire cost of testing for the acceptance tests, routine tests and tests during manufacture specified herein shall be treated as included in the quoted unit price of conductor, except for the expenses of the inspector/purchaser's representative.

6.4 ADDITIONAL TESTS:

The purchaser reserves the right of having at his own expenses, any other test(s) of reasonable nature carried out at Bidder's premises, at site, or at any other place in addition to the aforesaid type, acceptance and routine tests to satisfy himself that the material comply with the specification.

6.5 SAMPLE BATCHES FOR TYPE TESTING.

6.5.1 The supplier shall offer at least three drums for selection of samples required for conducting all the type tests.

6.5.2 The Supplier is required to carry out all the type tests & acceptance tests successfully in the presence of purchaser's representative before mass production & dispatch respectively.

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The bidder/manufacturer may carry out the type tests [illegible] in presence of owner's representative at Govt. testing laboratory to establish the [illegible] order. However on receipt of purchase order, the bidder will conduct type tests [illegible] in presence of owner's representative.

6.6 TEST REPORTS

6.6.1 Four copies of type test reports shall be furnished to the Purchaser within one month of conducting the tests. One copy will be returned duly certified by the purchaser to the supplier within three weeks thereafter and on receipt of same the supplier shall commence commercial production of the conductor.

6.6.2 Four copies of the acceptance test reports shall be furnished to the purchaser. One copy will be returned, duly certified by the purchaser, and only thereafter, shall the conductor be dispatched.

6.6.3 All records of routine test reports shall be maintained by the supplier at his works for perusal/inspection by the purchaser.

6.6.4 All test reports of tests conducted during manufacture shall be maintained by the supplier. These shall be produced for verification as and when requested for by the purchaser.

6.7 TEST FACILITIES

6.7.1 The following additional test facilities shall be available at supplier's works:

a) The testing equipments with valid calibration certificates of various testing equipments including tensile testing machine, resistance measurement facilities, burette, thermometer, barometer etc.

b) Standard resistance for calibration of resistance bridges.

c) Finished conductor shall be checked for length verification and surface finish on separate rewinding machine at reduced speed (variable from [illegible] metres per minute). The rewinding facilities shall have appropriate clutch system and free of vibrations, jerks etc. with traverse laying facilities.

6.7.2 Test for zinc coating by volumetric method or by [illegible] method.

6.8 RE-TEST AND REJECTION

6.8.1 Each drum of conductor selected for testing shall be tested for compliance with the requirements of IS-398 Pt. [illegible] Should any selected drum not meet any of the test requirements, that particular drum or wire shall be withdrawn. In respect of each failure two test pieces shall be selected from two different drums in the lot and tested for the test under which the failure occurred. If either of the two test pieces fails, the lot shall be rejected.

6.8.2 Rejected drums shall be marked and segregated.

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6.4 The Purchaser reserves the right to have carried out any/all type tests mentioned under Clause No. 6.2.1 at his own expense on samples of conductor selected from the lot supplied at site. The entire conductor shall be rejected if the test results are not satisfactory.

7.0 INSPECTION

7.1 The Purchaser's representative shall, at all time, be entitled to have access to the works and all places of the manufacture where the conductor shall be manufactured or prepared and the representatives shall have full facilities for unrestricted inspection of Supplier's works, raw materials, manufacture of the conductor and for conducting necessary tests as detailed herein.

7.2 The Supplier shall keep the Purchaser informed in advance of the time of starting and of the progress of manufacture of conductor in its various stages so that arrangements could be made for inspection.

7.3 No material shall be despatched from its point of manufacture before it has been satisfactorily inspected and tested, unless the inspection is waived off by the Purchaser in writing. In the latter case also, the conductor shall be despatched only after satisfactory testing for all tests specified herein have been completed.

7.4 The acceptance of any quantity of conductor shall in no way relieve the Supplier of any of his responsibilities for meeting all requirements of the specification, and shall not prevent subsequent rejection if such conductor is later found to be defective.

7.5 At least 50% of the total number of drums subject to minimum of 4 in any lot put up for inspection, shall be selected at random to ascertain the length of conductor by following method:

"At the works of the manufacturer of the conductor, the conductor shall be transferred from one drum to another at the same time measuring its length with the help of a graduated pulley and Cyclometer. The difference in the average length thus obtained and as declared by the Supplier in the packing list shall be applied to all the drums of the conductor in the lot offered during checking."

8.0 QUALITY ASSURANCE PLAN

8.1 The Supplier shall invariably furnish following information along with his offer, failing which his offer shall be liable for rejection.

i) Statement giving list of important raw materials, names of sub-suppliers for the raw materials, list of standards according to which the raw materials are tested, list of tests normally carried out on raw materials in presence of purchaser's representative, copies of test certificates.

ii) Information and copies of test certificates as in (i) above in respect of bought out materials.

iii) List of manufacturing facilities available.

iv) Level of automation achieved and list of areas where manual processing exists.

v) List of areas in manufacturing process, where stage inspections are normally carried out for quality control and details of such tests and inspections.

vi) List of testing equipment available with the Bidder for final testing of equipment specified and test plant limitation, if any, vis-a-vis the type, special, acceptance and routine tests

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specified in the relevant standards. These deviations shall be very clearly brought out in schedule of deviation from specified test requirements.

8.7 The supplier shall within 30 days of placement of order submit Quality Assurance Plan to CE(T&C/QA&I) for scrutiny and approval.

8.8 The supplier shall submit the routine test certificates of raw materials in case of [illegible]

9.0 PACKING & FORWARDING

9.1 The conductor shall be supplied in non-returnable, strong, wooden drums provided with lagging of adequate strength, constructed to protect the conductor against all damage and displacement during transit, storage and subsequent handling and stringing operation in the field. The drums shall generally conform to IS 1778-1980, amendment No.1, June 1988, except otherwise specified hereinafter. A specimen wooden drum drawing No. [illegible] for ACSR "Panther" Conductor and No. [illegible] for ACSR "Zebra" Conductor is enclosed for ready reference.

9.2 The drums shall be suitable for wheel mounting and for letting off the conductor under a minimum controlled tension of the order of 5 KN.

9.3 The bidder should submit the proposed drum drawing along with the bid. However, the drums shall be in line with the requirements as stated herein. After placement of the LOA, the supplier shall submit three copies of full dimensioned drawing of the drum he wishes to supply, for Purchaser's approval before taking up manufacturing of conductor.

9.4 All wooden components shall be manufactured out of seasoned soft wood free from defects that may materially weaken the component parts of the drums. Preservative treatment for anti-termite/anti-fungus (Aldrine/Aldruin) shall be applied to the entire drum with preservatives of a quality which is not harmful to the conductor.

9.5 The flanges shall be of two/three ply construction with each ply at right angles to the other and nailed together. The nails shall be driven from the inner face flange, punched and then clenched on the outer face. The tolerance in the thickness of each ply shall be ±3 mm only. There shall be at least 3 nails per plank for ply with maximum nail spacing of 75 mm. Where a slot is cut in the flange to receive the inner end of the conductor, the entrance shall be in line with the periphery of the barrel.

9.6 The wooden battens used for making the barrel of the conductor shall be of segmental type. These shall be nailed to the barrel supports with at least two nails. The battens shall be closely butted and shall provide a round barrel with smooth external surface. The edges of the battens shall be rounded or chamfered to avoid damage to the conductor.

9.7 Barrel studs shall be used for construction of drums. The flanges shall be holed and the barrel supports slotted to receive them. The barrel studs shall be threaded over a length on either end, sufficient to accommodate washers, spindle plates and nuts for fixing flanges at the required spacing. The barrel studs should be tack welded with the nuts after tightening.

9.8 Normally, the nuts on the studs shall stand protruded of the flanges. All the nails used on the inner face of the flanges and the drum barrel shall be counter sunk. The ends of barrel shall generally be flushed with the top of the nuts.

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9.9 The inner cheek of the flanges and drum barrel surface shall be painted with bitumen based paint.

9.10 Before reeling, card board or double corrugated or thick bitumenised waterproof bamboo paper shall be secured to the drum barrel and inside of flanges of the drum by means of a suitable commercial adhesive material. The paper should be dried before use. Medium grade kraft paper shall be used in between the layers of the conductor. After reeling the conductor the exposed surface of the outer layer conductor shall be wrapped with thin polythene sheet across the flanges to preserve the conductor from dirt, grit and damage during transportation and handling and also to prevent ingress of rain water during storage/transport.

9.11 A minimum space of 75 mm shall be provided between the inner surface of the external protective lagging and outer layer of the conductor.

9.12 Each batten shall be securely nailed across grains as far as possible to the flange edges with at least 2 nails per end. The length of the nails shall not be less than twice the thickness of the battens. The nail shall not protrude above the general surface and shall not have exposed sharp edges or allow the battens to be released due to corrosion.

9.13 Outside the protective layer, there shall be minimum of two binders consisting of hoop iron/galvanised steel wire. Each protective layer shall have two recesses to accommodate the binders.

9.14 The conductor ends shall be properly sealed and secured with the help of U-nails on the side of the flanges. The end securing shall be done by taking out at least 500 mm of steel core on either ends by U-nails. The composite conductor shall be bound by use of galvanised steel wire/aluminium wire at three locations at least 75 mm apart or more covered with PVC adhesive tape so as to avoid loosening of conductor layers in transit and handling.

9.15 Only one length of conductor shall be wound on each drum.

10.0 MARKING

Each drum shall have the following information stencilled on it in indelible ink along with other essential data:

(a) Contract/Award letter number

(b) Name and address of consignee

(c) Manufacturer's name and address

(d) Drum number

(e) Size of conductor

(f) Length of conductor in metres

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(g) Gross weight of drum with conductor

(h) Weight of empty drum with lagging

(i) Arrow [illegible] rotation

(j) ISI Marking

Note: [illegible]

9.0 REQUIREMENT OF DOCUMENTS

9.1 Following information shall be furnished along with the offer in hard and soft copy

Certificate of accreditation of the testing laboratory where the type test are [illegible] conducted

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SCHEDULE 'C'

GUARANTEED TECHNICAL PARTICULAR OF ACSR "PANTHER"/ "ZEBRA" CONDUCTOR

(The form of information to be furnished by the bidder as per clause No. [illegible] of the
specification)

(1) Code word of Conductor offered

(2) Maker's address and country of

(a) Aluminium wire

(b) Steel wire :

(c) Complete Conductor :

(3) Whether the Supplier has valid ISI Certification for the conductor offered? (Please furnish copies of documentary proof)

(4) Details of quantities of conductor of same or higher number of strands supplied during the last five years (Please furnish copies of documentary proof).

(5) Average annual turnover during the last five years (Please furnish copies of documentary proof)

(6) Details of type test conducted on similar conductor during last five years (Please furnish copies of documentary proof)

(7) Stranding and wire diameter in mm

(a) Aluminium

(b) Steel

(8) Tolerance on diameter of wires

(a) Aluminium

(b) Steel

(9) Cross Sectional area in Sq.mm.

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(k) Overall Diameter of conductor in mm
(l) Appro. wt in kg/km of complete conductor

(m) Minimum breaking load in KN for

(i) Aluminium

(ii) Steel

(n) Zinc coating of steel strand

(i) Thickness of coating in mm in number of dips (Preece Test) and Strand

(ii) Minimum weight of coating in gm/sq mm

(o) [illegible] in the core wire

(p) Maximum working tension at 0 degree C [illegible] wind pressure [illegible] kg/sq m [illegible]

(q) [illegible]

(i) Aluminium

(ii) Steel

(iii) Complete Conductor

(r) Resistance of strands at 20 degree C

(i) Aluminium strand

(ii) Complete Conductor

(s) Continuous maximum current rating of conductor in still air at 40 degree C ambient temperature in Amps.

(t) Temperature rise for the above current in degree C

(u) [illegible] 75 degree C [illegible] conductor [illegible] degree C

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(a) Steel Core (i) 6 Wire layer

(b) Aluminium (i) 12 Wire layer

(ii) 18 Wire layer

(23) Whether the drum on which the conductor is wound is conforming to the specification
(The detailed dimensional drawing shall be submitted with the offer).

(24) Physical Constants [illegible] conductor

(i) Modulus of elasticity of

(a) Aluminium strand

(b) Steel strand

(c) Complete conductor

(ii) Co-efficient of linear expansion per degree C
°C

(a) Aluminium strand

(b) Steel strand

(c) Complete conductor

(iii) Resistivity of Aluminium used
in the conductor [illegible] 20°C

(24) Standard length of each piece in Km

(25) Tolerance, if any, on standard length

(26) No. of standard lengths in one reel

(27) Whether [illegible] of 25-30 metre [illegible]

(28) Diameter of the reel [illegible]
(29) Weight of the conductor in one reel in Kgs

(30) Weight of the reel in Kgs

(31) Gross weight of the reel including weight of the conductor

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(32) Standard according to which the conductor

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and its manufacture and testing.

(iii) Whether the bidder has valid ISI mark for the [illegible] items offered (Furnish documentary evidence).

(iv) Whether the bidder has adequate facilities for [illegible] forming, galvanising and [illegible] [illegible]

(v) [illegible] facilities available for testing [illegible] conducted

(vi) Other particulars, if any

Signature of the Bidder

Name

Designation

Date

Address of the Bidder
Rubber Stamp/Seal of
The Bidder

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ANNEXURE - IX
TECHNICAL SPECIFICATION FOR 7/3.15MM GALVANISED STEEL EARTH-WIRE

1.0 GENERAL

This section details about the Galvanised Steel (GS) earthwire required for 220/132 KV EHV lines. The earthwire offered, shall conform to the technical requirements as stated under this specification and latest Indian Standard Specifications.

2.0 SYSTEM PARTICULARS

(a) The 7/3.15mm GS earthwire is required for shielding of EHV Transmission Lines.

(b) (i)	System		3 Phase 50 Hz	
(ii)	Line Voltage	Normal	220KV	132KV
		Maximum	245 KV	145KV
(iii)	Tower configuration			
i)	Single Circuit		Delta	Delta
ii)	Double Circuit		Vertical	Vertical
iii)	BIL (Impulse)		1050 KV (peak)	650KV (peak)
iv)	Power Frequency withstand voltage (rms)		460 KV (rms)	275KV (rms)
v)	Max. wind pressure on power conductors and groundwire in Kg/sq.mm		45	45
vi)	No. of conductors per phase		One	One
viii)	Earthing		Effectively earthed	Effectively earthed

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[illegible] TECHNICAL PARTICULARS OF EARTHWIRE SIZE 7/[illegible]mm

Physical properties

[illegible] Material : [illegible]

[illegible] No. of steel wires in strand (Nos.) : [illegible] [illegible] [illegible]

[illegible] Nominal diameter of galvanized steel wire (mm) : Std [illegible] [illegible] [illegible]

[illegible] Total sectional area (sq mm) : [illegible]

[illegible] Approximate weight (kg/km) : [illegible]

[illegible] Minimum breaking load of strand (KN) : Std [illegible] Max [illegible] Min [illegible]

[illegible] Elongation of steel wire [illegible] : [illegible]

[illegible] Co-efficient of linear expansion (per deg.C) : [illegible]

[illegible] Modulus of elasticity (Kg/sq mm) : [illegible]

[illegible] Permissible variation in diameter of individual zinc coated wires for a nominal diameter of 3.15mm (per cent) : [illegible]

[illegible] Overall diameter of earthwire (mm) : [illegible]45

[illegible] Minimum weight of zinc coating (gm/sq m) : [illegible]

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xiv)	Calculated D.C. resistance at 20 deg. C [illegible]	3.41	
xv)	[illegible]	Minimum	125
		Maximum	165
xvi)	Direction of lay of [illegible]	Right hand	
xvii)	Degree of [illegible]	7.7	

5.7 [illegible] Technical Particulars

5.7.1 Material

The [illegible] shall be steel made by open hearth, basic oxygen or electric furnace process and of such quality and purity that when drawn to size of wire specified and coated with zinc, the finished strand and individual wires shall be of uniform quality and have the properties and characteristics as prescribed in this specification. The [illegible] have following composition [illegible] IS 12776: 2002

Element	Composition
Carbon	[illegible]
Manganese	0.40 – [illegible]
Phosphorus	0.045 Max
Sulphur	0.045 Max
Silicon	[illegible]

5.7.2 Galvanising

[illegible]

5.7.3 Stranding

[illegible] shall be stranded with uniform tension. Stranding shall be sufficiently close to ensure no appreciable reduction in diameter [illegible] The 7 wire strand shall consist of central wire with 6 wire layer [illegible] not more than [illegible] the specified overall diameter of the strand.

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3.2.3 Ductility of steel

The zinc coated wire shall not fracture when wrapped [illegible] turns per minute in a close helix of at least two turns [illegible] fracture. For extra high strength steel [illegible] the nominal diameter of the individual wire of the strand.

3.2.4 Joints and splices

There will be no joints and splices [illegible] 250 [illegible] no joint in any of the wires [illegible] strands, if any, in the [illegible]

Weight of coating

The weight of zinc coating [illegible] shall be not less than [illegible]90 gm/sq m.

Tests of coating

The weight of the zinc coating shall be determined by stripping test in accordance with ASTM methods A90, test for weight of coating on zinc coated iron or steel articles.

Adherence of coating

The zinc coated wire shall be capable of being wrapped [illegible] turns per minute in a close helix [illegible] at least [illegible] times the nominal diameter of the wire [illegible] without cracking or flaking of the [illegible] with the bare fingers.

Finish

The zinc coated wire shall be free from imperfections not consistent with good commercial practice. The zinc coating shall be continuous and of reasonably uniform thickness.

Tests

All type tests and routine tests as per standard [illegible] shall be carried out by the [illegible] copies of the type test certificate shall be submitted with the bid [illegible] copies.

Standards

The [illegible] shall conform to [illegible] latest edition of ASTM designation A 475 [illegible] specification [illegible] zinc coated steel wire.

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[illegible] Standard (as amended up to date) except where specified otherwise in this specification. The material(s) conforming to any International standard which ensure equal or better performance shall also be acceptable.

5.5 **Sag Tension Charts**

The supplier shall be required to [illegible] sets of sagging charts for earthwire, showing initial and final [illegible] for various temperatures and spans. [illegible] shall be [illegible].

5.6 **Guaranteed Technical Particulars**

[illegible] guaranteed technical particulars of the specification and submit the same with the tender.

6 **TESTS**

6.1 The earthwire offered in the tender should have been successfully type tested in line with the standard and technical specifications within the last five years from the date of opening of tender.

6.2 [illegible] type tests [illegible] shall be [illegible].

6.2.1 Type tests shall mean those tests which are to be carried out to prove the process of manufacture and general conformity of the material to these specifications. These tests shall be carried out on samples prior to commencement of commercial production.

6.2.2 Acceptance tests shall mean those tests which are to be carried out on samples taken from each lot offered for pre-despatch inspection for the purpose of acceptance of that lot.

6.2.3 Routine tests shall mean those tests, which are to be carried out on each [illegible] to check requirements, which are likely to vary during production.

6.2.4 Tests during manufacture shall mean those tests which are to be carried out during the process of manufacture and end inspection by the Contractor to ensure the desired quality of the end product to be supplied by him.

6.2.5 The norms and procedure of sampling for these tests will be as per the Quality Assurance Programme to be mutually agreed to by the Contractor and Board or as per [illegible] Standard.

6.3 The standard [illegible] tests will be carried out [illegible] specified in Annexure [illegible] mutually agreed [illegible] in the Quality Assurance Programme.

6.3.1 For all type and acceptance tests, the acceptance values shall be the values guaranteed by the bidder in the guaranteed technical particulars of this proposal or the acceptance value specified in these specifications, whichever is more stringent for that particular test.

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4.1 Type Tests

The following tests shall be carried out [illegible] sample [illegible] for every 500 tons of production [illegible] as per [illegible]

(a) UTS Test
(b) DC Resistance Test
(c) [illegible]

MSETCL Specification [illegible]

4.2 Acceptance tests

a)	Visual check for joints, scratches	:	MSETCL Specification Annexure-I
b)	Dimensional check on steel [illegible]	:	-do-
c)	Check for lay ratio of various layers		-do-
d)	Wrap test on steel strands		-do-
e)	DC resistance test on aluminium strands	:	-do-
f)	Strand [illegible]		-do-
g)	Breaking load test on steel strand		As per [illegible]
h)	Elongation test on steel strand		-do-
i)	Torsion test		-do-
j)	Galvanization test on steel strands		[illegible]
k)	Length & [illegible] verification by measuring machine		

Note

[illegible]

4.3 Routine Tests

(a) Check to ensure that the joints are as per specification.
(b) Check that there are no cuts, fins etc. on the strands.
(c) Check for correctness of stranding.
(d) [illegible] as per specification.

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3.6 Test During Manufacture

(a)	Chemical analysis of Zinc used for galvanizing	)	
		)	MSETCL Specification
(b)	Chemical analysis for steel [illegible]	)	Acceptance
	[illegible]	)	

4 Testing Expenses

4.1 The purchaser may ask for repetition of type test at his own expense [illegible]

4.2 In case of failure in any type test the bidder is either required to modify the design of the material or repeat the particular type test successfully at his own expense. The decision of the purchaser in this regard shall be final and binding.

4.3 Bidder shall indicate the laboratories in which he proposes to conduct the type tests. He shall ensure that the tests can be completed in these laboratories within the time schedule guaranteed by him in the appropriate schedule.

4.4 The entire cost of testing for the acceptance and routine tests and tests during manufacture [illegible] shall be treated as included in the quoted unit price [illegible]

4.5 Additional Tests

The owner reserves the right of having at his own expenses any other test(s) of reasonable nature carried out at contractor's premises, at site, or any other place in addition to the aforesaid type, acceptance and routine tests to satisfy himself that the material comply with the specification.

4.6 Sample Batch for Type Testing

4.6.1 The [illegible] for selection of samples required for conducting all the type tests.

4.6.2 The supplier is required to carry out all the acceptance tests successfully in the presence of purchaser's representative before dispatch.

5 TEST REPORTS (DOCUMENTS IN PHYSICAL FORM)

5.1 At least 4 (four) copies of type test reports shall be furnished. One copy of type test reports will be returned duly certified by the Board. Only after receipt of the report, the commencement of production of the said material should start.

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5.2 [illegible] copies of the type test reports shall be furnished. [illegible] copy will be returned duly certified [illegible] after which the [illegible] should be dispatched.

5.3 [illegible] reports should [illegible] for inspection by the Company's [illegible]

6 INSPECTION

6.1 [illegible] representative shall [illegible] all places of manufacture [illegible] specification [illegible]

6.2 The contractor shall keep the Company informed in advance of the time of starting and of the progress of manufacture of material in its various stages so that arrangements can be made for inspection.

6.3 No material shall be dispatched from its point of manufacture before it has been satisfactorily inspected and tested [illegible] by the Company in writing. In the latter case also, the material [illegible] only after satisfactory [illegible] tests specified herein have been completed.

6.4 The acceptance of any quantity of material shall in no way relieve the Contractor of any of his responsibilities for meeting all requirements of the specification and shall not prevent subsequent rejection if such material are later found to be defective.

7 PACKING

The [illegible] wire shall be suitably packed [illegible] drums [illegible] handling and stacking [illegible] IS 1778-1980 except [illegible] The general construction of [illegible] shall be [illegible]

7.1 Standard Length

The standard length of the galvanized [illegible] standard lengths [illegible] accepted.

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Random Length

Random length will be accepted provided no length is less than 70% of standard length and total quantity of random lengths is not more than ten (10%) percent of the total quantity in each shipment.

Only one length of earthwire shall be wound on each drum.

[illegible] shall be applied to earthwire to avoid white rust

5 MARKING

5.1 Each drum shall have the following information stenciled on it in indelible ink along with other essential data:

(a) Contract/LOA No.
(b) Name and Address of Consignee
(c) Manufacturer's Name and Address
(d) Drum No. & Lot No.
(e) Size of Earthwire
(f) Length of Earthwire in mtr
(g) Gross weight of the drum with earthwire.
(h) Weight of empty drum with laggings
(i) Arrow marking for unwinding.
(j) Position of the earthwire ends
(k) Number of lengths on the reel/drum.
(l) [illegible] marked with the passed mark

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ANNEXURE - [illegible]

TESTS

1. **UTS Testing of Earthwire**

A sample of earthwire of about 5m length will be subjected to the ultimate tensile strength test. The earthwire shall not fail [illegible] less than [illegible]

2. **Surface Condition Test**

A sample of earthwire [illegible] length shall be subjected to [illegible] of [illegible] the surface shall [illegible] the mechanical [illegible] of the earthwire.

3. **D.C. Resistance Test**

On a sample of earthwire 5m length two contact clamps shall be fixed. The Resistance shall be measured by Kelvin bridge by placing the clamps initially from one end and subsequently one metre apart. The test shall be repeated at each metre length and the value recorded. The value obtained shall be corrected to the value at 20 deg C.

4. **Visual Check for Joints/lengths**

Two drums from each lot [illegible] which [illegible] shall be selected [illegible] in the presence of the inspector and actual length of earthwire measured. The weight of the earthwire also will be measured by weighing empty drum and drum with earthwire. The inspector shall visually check for scratches, joints etc. and see that the earthwire generally conforms to the requirements of this specification. The expenditure [illegible] if any will be to the bidder's account. The firm should have the facility for winding and unwinding for inspection purpose.

5. **Visual Check on Drums**

The drums shall [illegible] visually [illegible]

6. **Chemical analysis of Zinc used for galvanizing**

Samples taken from the zinc ingots shall be chemically analysed [illegible] as per IS 209. The purity of zinc shall not be less than 99.95%.

7. **Wrapping Test**

One specimen cut from each of the samples of galvanised steel wire shall be wrapped [illegible] eight times [illegible] The wire shall not break.

8. **Lay Length Check**

The lay length shall be checked to ensure that it is [illegible] the requirement of the specification.

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E.H.V. Project Dn. Kalyan

Executive Engineer
TL [illegible]

ANNEXURE – B

DRAWING, CHARTS & DESIGN DATA TO BE SUBMITTED IN PHYSICAL FORM

(7) Bidder shall furnish full details of earthwire drum offered. The drawing shall indicate

- i) Size & weight of drum
- ii) Marking used
- iii) Identification marks
- iv) Any other information which may be useful to the user

(8) Successful bidder during the execution of contract, shall submit the sag tension charts of earthwire for approval.

(GUARANTEED TECHNICAL PARTICULARS)

Sr. No.	Description	Unit	Specified values	Offered Values
1	2	3	4	5
	Maker's name, address and country			
2	Percentage composition of steel wire element			
	i) Carbon	%	0.55 (Max)	
	ii) Sulphur	%	0.05 (Max)	
	iii) Phosphorus	%	0.04 (Max)	
	iv) Manganese	%	0.40 - 0.9	
	v) Silicon	%	0.15 to [illegible]	
3	Particulars of steel strand			
	a) No. of strands	Nos	7	
	b) Diameter of strand			
	Standard	mm	3.15	
	Maximum	mm	3.2[illegible]	
	Minimum	mm	[illegible]	
	c) Sectional area of strand	sq mm		
4	Galvanizing of steel strand			
	a) Uniformity of coating (number of 1 minute dips withstand)			
	Minute duration of dips			
	i) One	Nos	[illegible]	

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E.H.V. Project Division

Executive Engineer
TL Pentander

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	(ii)	Half	%	
	(c)	Minimum weight of zinc coating	gm/sq m	240
5		Standard overall diameter of steel wire	mm	9.45
6		Total area of cross section of steel wire	sq mm	[illegible]
		Calculated ultimate tensile strength of steel wire	Kg/mm²	[illegible]
7		[illegible] as per [illegible]		[illegible]
8		Standard [illegible] of steel wire (minimum)	Kg	[illegible]
[illegible]		[illegible] over the drum length	%	10.84
11		[illegible] of steel wire	Kg	
12		[illegible]	Kg	
13		Modulus of elasticity of steel wire	Kg/mm²	[illegible]
14		Coefficient of linear expansion	deg C	[illegible]
15	(a)	Details of the lay of stranded wire (i) Maximum (ii) Standard (iii) Minimum	mm mm mm	165 135
	(b)	Direction of lay of outer layer	Right Hand	Right
16		Weight of earth wire	Kg/Km	426
17		Standard length of steel wire in each drum	Metre	2750
18		Standard weight of steel wire on the drum	Kg	
19		Weight of empty drum	Kg	
20		Gross weight of the drum	Kg	
21		Dimensions of the drum [illegible]	cm/MM	
22		[illegible] steel wire and [illegible] charges, wherever applicable	Rs/Km	
[illegible]		Standard according to which the steel wire will be manufactured	IS/[illegible]	

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H.V. Project Dn, Kalyan

Executive Engineer
TL Pre[illegible]

nl

34. Other particulars, if any

[illegible] Separate winding & unwinding facilities for inspection purpose whether provided? Yes/No

Name of the Firm

Signature of the Bidder

Designation

Date

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M.S.E.T. Co. Ltd.
E.H.V. Project Dn. Kalyan

Executive Engineer
TL Pretender

SECTION - II

1.0 SURVEY AND ALIGNMENT

1.1 Check Survey

1 The Contractor shall [illegible] proposed [illegible] within [illegible] Month from the date of communication of award [illegible] shall include [illegible] river crossings, [illegible] crossings, [illegible] other [illegible] crossings [illegible]

1.2 Route Marking

Tower Location

1.2.1 Sag Template

Sag template curve drawing and tower spotting data shall be supplied by the owner to the successful bidder on award of contract. Sag template prepared based on the supplied sag template curve drawing shall only be used for tower spotting on the profiles. [illegible] of the approved template prepared on rigid transparent plastic sheet shall be arranged by the Contractor [illegible] for the purpose of tower spotting. The template shall be of the same scale as that of the profile.

1.2.2 Tower Spotting

With the help of approved sag template and tower spotting data, tower locations shall be marked on the profiles. While locating the towers on the profile sheet, the following shall be considered:

a) Span

The normal [illegible] span of the line [illegible] points shall [illegible] a normal span [illegible] angle towers.

b) Extension

An individual span shall be as near to the normal design span as possible. In case an individual span becomes too short with normal towers on account of undulations in ground profile, one or both the supports of the span may be extended by inserting standard body extension [illegible] specification.

c) Loading

There shall not be any upward force on suspension towers under normal working conditions and the suspension towers shall support at least the minimum weight span as provided in the designs. In case uplift is unavoidable, it shall be examined if the same can be overcome by adding standard body extensions to the towers failing which tension towers designed for uplift shall be employed at such positions.

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E.H.V. Project Dn., Kalyan

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TL Pratandor

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(i) **Road crossing**

At all important road crossings, the towers shall be fitted with single suspension or tension or double tension insulator strings depending on the type of towers and the importance of the road being crossed but the ground clearance at the roads under maximum temperature and in still air shall be such that even with conductor broken in adjacent span, the ground clearance of the conductor from the road surface will not be less than 8.0 meters. At all national highways tension towers with double tension string shall be used. The crossing span however, will not exceed 250 meters in any case.

(ii) **Railway Crossing**

Railway Crossing shall be supported on 15°/30° or 60° type towers on either side, depending on the merits of each case and shall be constructed in conformity with the specification laid down by the Railway Authorities. Necessary copies of tracings and prints of plan, profile etc. required for the approval of railway crossings shall be supplied by the Contractor.

River Crossing

In case of Major River Crossings, towers shall be of suspension type using double suspension strings and the anchor towers on either side of the main River crossing shall be 60° type tower with double tension string. Clearance required by the navigation authority shall be provided. For non-navigable river, clearance shall be reckoned with respect to highest flood level (HFL).

(iii) **Power Line Crossings**

Where this line is to cross over another line of the same voltage or lower voltage, [illegible] type tower with suitable extensions shall be used. Provision to prevent the possibility of its coming into contact with other overhead lines shall be made in accordance with the CEA (Measures relating to Safety and Electric Supply) Regulations, 2010. In order to reduce the height of the crossing towers, it may be advantageous to remove the ground wire of the line to be crossed (if this is possible and permitted by the Owner of the line to be crossed). All the works related to the above proposal shall be deemed to be included in the scope of the contractor without any extra cost of the Owner.

(iv) **Telecommunication Line Crossing**

The angle of crossing shall be as near to 90 Deg. as possible. However, deviation to the extent of 30° may be permitted under exceptionally difficult situations. When the angle of crossing has to be below 60°, the matter will be referred to the authority in charge of the telecommunication system. On a request from the Contractor, the permission of the telecommunication authority will be obtained by the Owner. Also, in the crossing span, power line supports will be as near the telecommunication line as possible, to obtain increased vertical clearance between the wires.

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1.2 Clearance from Ground, Buildings, Trees etc.

Clearance from ground, buildings, trees and telephone lines shall be provided in conformity with the CEA (Measures relating to Safety and Electric Supply) Regulations, 2010 as amended up to date.

[illegible] Preliminary Schedule

The profile sheets duly spotted, along with preliminary schedule [illegible] tower type, type of foundation, [illegible] and cross details shall be submitted for the approval of the Owner.

[illegible] The detailed check survey shall be made as per the alignment.

1.2.5 Preliminary line alignment and Soil resistivity [illegible]

During execution of the project, if due to some unavoidable reasons the route is required to be diverted then the contractor shall have to obtain the preliminary line alignment for the diverted portion for the owner's approval. The alignment shall be plotted on Survey of India topo maps [illegible] including all railway lines, P&T lines, rivers, canals, roads etc. up to [illegible] on either side of the route of the transmission line shall be shown on the same. After getting approval for the diverted alignment, final tracing of the route alignment drawing shall be handed over to the owner.

The soil resistivity along the diverted line alignment shall also be measured by the Contractor [illegible]

[illegible] All the expenditure on account of the above shall be deemed to be included in the bid price and no extra payment shall be made for the same.

1.3 Check Survey of Tower Location

1.3.1 The check survey shall be conducted to make a check and detailed survey and to locate and peg mark the tower positions on ground conforming to the approved profile and tower schedule. [illegible] the centre of the tower location shall be taken [illegible] for determining the amount of earthwork required to meet approved design parameters.

1.3.2 The survey [illegible] by the Owner [illegible] to the Contractor [illegible] tower schedule for the approval of the Owner. The tower schedule shall show [illegible] all towers, type of tower, span length, type of foundation for each tower and the deviation at all angle points [illegible]

[illegible] approved tower schedule [illegible] by the Owner.

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TL Protection

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1.3.5 The Owner may get certain tower foundations constructed by other agencies. However, the Contractor shall be responsible for check survey, benchmarking on the ground and charting of pegs.

1.4 Way Leaves and Trees Cutting

1.4.1 Any way leave which may be required shall be arranged by the Contractor after submission of the detail of [illegible]. Necessary help if required for establishing [illegible] and right of way shall given by the representatives of the MSETCL. However the tree cutting required for way leave approval [illegible] shall be carried out by the contractor with the permission from Forest/ Local authority. The payment for compensation of trees, crops and structures shall be made by the successful bidder.

1.4.2 The Owner shall not be held responsible for any claims on account of damage done by the contractor or his gangs to trees, crops or other property without specific approval from the Owner.

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SCHEDULES (A TO J)

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn., Kalyan

Executive Engineer
TL [illegible]

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SCHEDULES

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Executive Engineer
T. Pro[illegible]

Executive Engineer
M.S.E.T. Co. Ltd.

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SCHEDULE-'M'

DEVIATION FROM SPECIFICATION

All the deviations from this specification shall be set out by the Bidder, clause by clause, in this Schedule. Unless specifically mentioned in this schedule, the tender shall be deemed to conform to the Specification.

Sr. No.	Part/Section/Clause No.	Details of deviation	Justification Reasons

Name of the firm

Signature of the Bidder

Designation

Date

Seal of company

Executive Engineer
TL Pretender

Executive Engineer
M.S.E.T. Co. Ltd.
EHV Project Dn., Kalyan

SCHEDULE -B

SUMMARY SHEET OF LUMPSUM PRICE BID
FOR
LINES ([illegible])

Sr. No.	Name of the Work	Total Lumpsum Bid price	
		In figures	In words
1	Supply of Materials and construction of [illegible] 132KV [illegible] line [illegible] including [illegible] & [illegible]	---	---
	Total		

Place

Signature

Name

Designation

Date

Company Seal

Executive Engineer
TL Project Div.

Executive Engineer
M.S.E.T.Co. Ltd.

SCHEDULE [illegible] FOR EHV LINE

PRICE SCHEDULE

Sr. No.	Description	Price in Rupees
1	2	3
[illegible]	Price Schedule of Supply of material [illegible]	
[illegible]	Estimated cost (As per schedule [illegible])	
[illegible]	% Lower/Higher quoted by the bidder [illegible]	
[illegible]	Corresponding value of supply of material at above % Lower/Higher quoted	
[illegible]	Bid Price for Supply of Equipment/material [illegible] taxes, duties, levies, Octroi, freight charges etc. [illegible] in Rs.	
[illegible]	Price Schedule of Erection including foundations for line	
[illegible]	Estimated cost (As per schedule [illegible])	
[illegible]	% Lower/Higher quoted by the bidder [illegible]	
[illegible]	Corresponding value for erection at above % Lower/Higher quoted	
[illegible]	Bid Price for Erection including foundation [illegible] in Rs.	
[illegible]	BID PRICE = (A4 + B4), in Rs.	
	TOTAL PRICE (in Words).. Only	

[illegible]

Notes:

1. [illegible]
   For Supply [illegible] % Above / Below [illegible]
   Rs. [illegible]
   For ETC [illegible] % Above / Below (Calculated) Value
   Rs. [illegible]
   (Percentage rate should be equally distributed to all items)
2. [illegible]

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E.H.V. Project Dn., Kalyan

Executive Engineer
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(Break up of taxes and duties should be percentagewise)

3. No other taxes/Duties will be payable.

4. The Prices have been quoted for all the activities for construction of line including Supply and E&C as per Specification.

5. The Schedule of Qty and Billing Schedule of Price are enclosed herewith. In case of any variation [illegible] price [illegible] be corrected leading to above quoted price for Supply and E&C.

6. All items / materials required for completion of job as per specification have been considered in the offer.

7. The discount, if any, shall be distributed proportionately for each item rate.

8. The [illegible] & Others will be considered for evaluation of the bids. Bidder should note & agree the working of price variation as per Clause No. 21.2 [illegible] Book I Commercial terms and conditions.

SEAL OF COMPANY

SIGNATURE ____________

NAME ___

DESIGNATION ______

COMPANY'S ADDRESS ___ ___

DATE ______

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E.H.V. Project Dn. Kalyan

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TL Pretender

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SCHEDULE – [illegible]

[illegible] Sheet No. [illegible]

Tender Specification No.

Name of Project

Name of Bidder & Address

DETAILS OF [illegible]

Sr. No.	Particulars / Legislation	Registration No.	Period of Validity / [illegible]
1	Valid Electrical [illegible]		
2	Maharashtra Value Added Tax (MVAT) Act 2005		
	Service Tax Act		
	Any other Law		
	Total		

SIGNATURE & SEAL OF THE BIDDER

DATE

PLACE

Executive Engineer
E.H.V. Project Dn., Kalyan

Executive Engineer
TL Pretender

SCHEDULE "C"

QUALIFYING REQUIREMENT DATA SCHEDULE- Form – 3

Bidder Specification No.
Name of Project
Name of Bidder & Address
DETAILS OF EXPERIENCE IN RESPECT OF FABRICATION & SUPPLY OF TOWER MATERIAL/SUBSTATION STRUCTURE MATERIAL

A) Contractual Source for the Tower/Substation Structure Supply

Contract Associate
Please specify
Please Tick ____ Yes

B) Details of source i.e. Manufacturer of tower/substation structure material

Name & Address: Telephone No.
Fax No.
Contact person

Supporting Capacities
(a) Manufacturing Capacity/Year
(b) Quantity of manufactured tower/SS supplied by manufacturer during last three years

Sr. No.	Year Supplied	Voltage Class of Towers/Substation Structure	Quantity MT	Supplied to

(C) Details of present engagement

Sr. No.	Customer	Order Qty.	Present Status	Pending	Date of order	Date of completion/ Expected date of completion

SIGNATURE & SEAL OF THE BIDDER

DATE
PLACE

Executive Engineer
M.S.E.T. Co. Ltd.
[illegible] Dn. Kalyan

Executive Engineer
TL Pretender

SCHEDULE – 'C'

[illegible] REQUIREMENT & QUANTITY OF [illegible] Form No. [illegible]

Tender Specification No.
Name of Project
[illegible]
DETAILS OF [illegible] AVAILABLE

Sr. No.	Type/Description of Tools, Plant, Machinery available	Capacity / Nature of use	Quantity available	Status

SIGNATURE & SEAL OF THE BIDDER

DATE
PLACE

Executive Engineer
M.S.E.T.C.L.
E.H.V. Project Dn., Kalyan

Executive Engineer
TL Pretender

SCHEDULE-[illegible]

QUALIFYING REQUIREMENT DATA SCHEDULE ([illegible])

TENDER SPECIFICATION NO.
NAME OF PROJECT
BIDDER'S NAME & ADDRESS

[illegible] list of [illegible] executed works for [illegible] KV [illegible] in the support of Qualifying Requirement

Sr. No.	Name of line	Order Ref & Date	Tender value (Rs. Lakhs)	Line Area (KMs)	Total line Length in Ckt KM	Scope of Work					Date of completion
						Survey*	Profiling & Spotting*	Tower Design*	Tower Erection & [illegible]	[illegible]	
1	2	3	4	5	6	7	8	9	10	11	12

Remarks: 1) Copies of Users certificates should be enclosed.
2) Bidder is requested to indicate Yes/No regarding scope of work.

Date
Place

SIGNATURE & SEAL OF THE BIDDER

Executive Engineer
M.S.E.T. Co. Ltd.

Executive Engineer
TL Procurement

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SCHEDULE 'Q'

QUALIFYING REQUIREMENT DATA SCHEDULE (Form No. 5)

[illegible]
[illegible]

Name of Firm : M/s [illegible]

DETAILS OF SUPERVISORY STAFF EMPLOYED BY THE BIDDER

Sr. No.	Name of Supervisory staff / Designation	Educational Qualification	Date of joining the organisation	Details of project executed with voltage class
1				
2				
3				
4				
5				

SIGNATURE & SEAL OF THE BIDDER

DATE
PLACE

Executive Engineer
M.S.E.T.Co.Ltd.
E.H.V. Project Dn. Panvel

Executive Engineer
TL Protender

२८३

SCHEDULE "C"

QUALIFYING REQUIREMENT DATA SCHEDULE, Form No.6

Tender Specification No.

Name of Project

Name of Bidder & Address

DETAILS OF FULFILMENT OF CONSORTIUM / ASSOCIATE CONDITIONS

Sr. No.	Particulars	Remarks
1	Name of Principal /lead bidder	
2	Name of Consortium / Associate	
3	Details of Qualifying Requirements fulfilled by the principal bidder 1) 2) 3)	
4	Details of Qualifying Requirements fulfilled by the consortium Associate 1) 2) 3)	

NOTE: The principal / lead bidder & consortium Associate both to fulfill the Qualifying Requirements Jointly.

SIGNATURE & SEAL OF THE BIDDER

DATE

PLACE

Executive Engineer
M.S.E.T.Co. Ltd.
E.H.V. Project Dn, Kalyan

Executive Engineer
TL Pretender

POWER PROJECTS

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SCHEDULE – 'C'

QUALIFYING REQUIREMENT DATA SCHEDULE (Form No. [illegible])

[illegible]
[illegible]
Name of Bidder's Address
DETAILS OF ANNUAL TURNOVER FOR LAST THREE YEARS IN TRANSMISSION [illegible]

SR. NO.	Financial Year (Specify)	Annual Turnover in Rs. Lakhs

Average Annual Turnover for last three financial years: Rs. Lakhs

NOTE: The above details should be duly certified by the Chartered Accountant.

SIGNATURE & SEAL OF TENDERER

DATE
PLACE

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

Executive Engineer
TL Pretender

SCHEDULE - 'C'

QUALIFYING REQUIREMENT DATA SCHEDULE Form No.4

Tender Specification No.
Name of Project
Name of Bidder & Address
DETAILS OF NET WORTH

Sr. No.	Financial Year	Equity Capital *	Reserves *	Revaluation Reserves *	Intangible Assets *	Misc. Exp. to the extent not written off & carry forward losses *	Net Worth
1							
2							
3							
4							

(* All the figures are in Rs. Lakhs)

Note: - Audited Balance Sheet & Profit & Loss Statement Attached.
1. Details of Solvency Letter from a Nationalised Bank / Scheduled Bank.
   a) Name of a Bank with address & telephone / fax No.
   b) Amount for which the Bank agrees to provide adequate cash flow
   c) Letter from a Bank is Enclosed   Yes / No

SIGNATURE & SEAL OF THE BIDDER

DATE
PLACE

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn., Kalyan

Executive Engineer
TL Pretender

PUNE

SCHEDULE-6
QUALIFYING REQUIREMENT DATA SCHEDULE FORM No.6
(SAMPLE FORM)
LETTER OF ASSURED LINE OF CREDIT

Bid No.

(To be provided by a Certified Commercial Bank [illegible] Bank's Letter Head)

Maharashtra State Electricity Transmission Company Ltd.
Represented by
Chief Engineer (Transmission Projects) Office
Prakashganga, Bandra-Kurla Complex
Bandra (East), Mumbai-400051, INDIA

Subject: Irrevocable Assurance of Providing a Revolving Line of Credit for Turnkey construction work of

Dear Sir,

WHEREAS ___ ___ ___ (name and address of Bidder) (hereinafter called the Bidder) intends to submit a Bid for design, manufacture and supply of all materials, [illegible] civil works, erection, testing and commissioning including [illegible] for the construction work of [illegible] KV transmission line [illegible] ___ ___ for ___ transmission line [illegible] on a turnkey basis (hereinafter called "the Bid"), of [illegible] KV transmission lines [illegible] Tender issued by the Maharashtra State Electricity Transmission Company Limited (MSETCL) (hereinafter called the Owner) on ___ 20__ and

WHEREAS the Bidder has requested that an [illegible] revolving line of credit [illegible] in the event that it is determined to be [illegible] in order to be eligible for award of contract.

NOW ALL THESE PEOPLE by these presents that We ___ [illegible] having our registered office at ___ [illegible] Rupees ___ only [illegible] the Works under the [illegible] line of credit [illegible]

We [illegible] that this assurance [illegible] evaluation of the Bidder's financial capabilities, and further that [illegible] revolving line of credit until such time as the Works are completed and taken over by the Owner.

SIGNED AND DELIVERED [illegible] Seal of the said Bank on the ___ day of ___ 20__

Date ___ Signature of the Bank ___

Witness ___ Seal ___

Executive Engineer
M.S.E.T. Co. Ltd.
H.V. Project Div., Kalyan

Executive Engineer
TL Protection

(204)

(Signature, name and address)

SCHEDULE – D

SCHEDULE OF UNIT PRICE

Note :

The Bidder shall indicate the unit rate for all the equipments /material to be supplied against this specification / and also the unit rate for erection, testing & commissioning of each item so as to enable calculation of revised order value due to any increase/decrease in scope of work that may become necessary during execution.

Name of the LINE : ....

PROFORMA OF TAXES AND DUTIES FOR SUPPLY WORKS- ENCLOSED SEPERATELY

For Erection Portion :

PROFORMA FOR TAXES AND DUTIES FOR ERECTION- ENCLOSED SEPERATELY

Executive Engineer
M.S.E.T.C.L.
EHV Project Dn., Kalyan

Executive Engineer
TL Protender

PUNE

SCHEDULE-[illegible]

PERFORMANCE SECURITY FORM

(PERFORMANCE GUARANTEE IN LIEU OF SECURITY DEPOSIT)
(To be Stamped in accordance with Stamp act)

The Bank of ....(Name & Address) hereby agree [illegible] irrevocably and unconditionally to pay at Mumbai within 48 hours [illegible] to the Maharashtra State Electricity Transmission Co. Ltd. or any Officer authorized by it on its behalf of any amount up to and not exceeding Rs. ....(In Words) ... Rupees [illegible] to the said Electricity Transmission Co. Ltd on behalf of M/s. [illegible] who have tendered [illegible] contract hereafter for said scope of works for the Maharashtra State Electricity Transmission Co. Ltd. against order No. [illegible] dated [illegible] value of order is Rs. [illegible]

This agreement shall be valid and binding on this Bank up to and inclusive of [illegible] and shall not be terminable by notice or any change in the constitution of the Bank or the firm of contractors or by any other reasons whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or variations or alterations made, given, conceded or agreed with or without our knowledge or consent by or between parties to the said within written contract. The validity of this Bank Guarantee will be extended by us for further period [illegible] prior to its present validity period at the request of Maharashtra State Electricity Transmission Co. Ltd.

In case of any dispute arising out of or in connection [illegible] the courts at Mumbai will have jurisdiction.

[illegible] our liability under this Guarantee is restricted to Rs. [illegible]
(Rs. [illegible]) Our Guarantee shall remain in force until [illegible]

Date [illegible] Signature ....

Address Name & Designation ....
(Bank ....)
(Bank's Rubber Seal)

Place ....

Witness

Signature

Name

(Official Address)

Executive Engineer
E.H.V. [illegible] Dn, Kalyan

Executive Engineer
(T) Pretender

(209)

SCHEDULE "F"

BID SECURITY FORM
BANK GUARANTEE IN LIEU OF BID SECURITY EQUIVALENT TO 1% OF ESTIMATED COST

([illegible] Stamped [illegible])

Ref: ......

Date: ......

Bank Guarantee No.

In accordance with invitation to Bid for the work of construction of EHV lines as per scope of tender No. ______, in accordance with the tender specification ______ M/s. (Bidders) ______ M/s. ______ Address ______ (hereinafter called Tenderer) ______ wish/wishes to participate in the said tender and as a bank guarantee for the sum of Rs. ___ (in words Rs. ______) as specified in the invitation to bid valid for ...... days from ___ is required to be submitted by the tenderer, this bank hereby guarantees and undertakes, during the above said period, to immediately pay on written request by Maharashtra State Electricity Transmission Co. Ltd. (Owner) the amount ______ to the said Electricity Transmission Co. Ltd. without any reservation. The guarantee ___ would remain valid upto 4 P.M. on ___ ([illegible] days) [illegible] 8 months after last date for submission of bid and if any further extension to this is required, the same shall be extended on receiving instructions from the [illegible] on whose behalf this guarantee has been issued.

Witness

(Signature)

(Signature)

(Name)

(Official Address)

Mailing address
Including Fax No.
(Official Bank)

Seal of the Bank

Executive Engineer
M.S.E.T. Co. Ltd

Executive Engineer
TL Pretender

2-15

SCHEDULE '[illegible]'

PROFORMA OF JOINT UNDERTAKING BY THE COLLABORATOR/ ASSOCIATE ALONG WITH THE BIDDER

(On Non-judicial Stamp paper of appropriate value)

THIS DEED OF UNDERTAKING executed this [illegible] by [illegible] a Company incorporated under the Laws of [illegible] and having its Registered office at [illegible] (hereinafter called the "Collaborator/ Associate" which expression shall include its successors, executors and permitted assigns) and Bidder/"Contractor" which expression shall include its Successors, executors and permitted assigns in favour of Maharashtra State Electricity Transmission Co. Ltd. having its Registered office at Mumbai (hereinafter called the "Owner" which expression shall include its successors, executors and assigns).

WHEREAS THE OWNER invited Bids as per its Specification No. [illegible] for the supply of materials, erection and stringing of [illegible] KV [illegible]

AND WHEREAS clause 3.0 of Section I, Vol. I [illegible] that [illegible] and the Bidder [illegible] the Collaborator/ Associate must fulfill the qualifying requirements [illegible] jointly and severally bound and responsible for the successful performance of the contract in the event the Bid is accepted by the Owner resulting in a "Contract".

AND WHEREAS the Bidder has submitted its Bid to the Owner vide Proposal No. [illegible] dated [illegible] based on the Collaboration/Association of the Collaborator/Associate.

NOW THEREFORE THIS UNDERTAKING WITNESSETH AS UNDER:

In consideration of the award of the Contract by the Owner to the Bidder [illegible] the Collaborator/Associate and the Bidder/Contractor do hereby declare that they shall be jointly and severally bound unto the [illegible] for the successful performance of the Contract and shall be fully responsible for the design, manufacture, erection, testing and successful performance of the [illegible] KV [illegible] in accordance with contract specifications.

In case of any breach of the contract [illegible] the Owner [illegible] the Contractor [illegible] any loss or damage [illegible] Collaborator/Associate and the Contractor jointly [illegible] to the Owner [illegible] under the contract [illegible] shall not be necessary or obligatory for the Owner to proceed against [illegible] Collaborator/Associate before proceeding against the [illegible] the same or any relaxation by the Owner [illegible] of the Owner under the deed of undertaking against the Collaborator/Associate [illegible]

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn. Kolhapur

Executive Engineer
TL Pr[illegible]

3) Without in any way affecting the generality and total responsibility in terms of this deed of Undertaking, the Collaborator/Associate in particular hereby agrees to depute their technical experts from time to time to construction works/Owner's project site as mutually considered necessary by the Owner, Contractor and the Collaborator/Associate to ensure proper design, manufacture, erection, testing and successful performance of the material package in accordance with contract specifications and if necessary the Collaborator/Associate shall advise the Contractor suitable modifications of designs and implement necessary corrective measures to discharge the obligations under the Contract.

4) The total liability of the Collaborator/Associate to MSETCL (Owner) with respect to any and all claims arising out of the performance or non-performance of the obligations set forth in this Deed of Undertaking read in conjunction with the relevant provisions of the contract, shall, however, be limited to the value of 100% price of the supply portion as established in the contract awarded by the Owner to the Contractor in terms of the Contract and this Deed of Undertaking.

5) This Deed of Undertaking shall be construed and interpreted in accordance with the laws of India and the courts of Mumbai shall have exclusive jurisdiction in all matters arising under the Undertaking.

6) We, the Collaborator/Associate and the Bidder/Contractor agree that this undertaking shall be irrevocable and shall form an integral part of the contract and further agree that this Undertaking shall continue to be enforceable till the Owner discharges and it shall become operative from the effective date of the contract.

IN WITNESS WHEREOF the Collaborator/Associate and the Bidder/Contractor have, through their authorised representatives, executed these presents and affixed common seals of their respective companies on the day, month and year first above mentioned.

Witness

1. For Collaborator/Associate
   Signature

(Signature of Authorised
Name Representative)

(Signature of Authorised Person)

(Designation)

Common Seal of the Company

Executive Engineer
M.S.E.T. Co. Ltd.

Executive Engineer
TL Pretender

For Bidder/Contractor
(Signature)

[illegible]

(Official Address) (Name)

(Designation)

Common Seal of the Company

Executive Engineer
M.S.E.T.Co.Ltd.
E.H.V. Project Dn. Kalyan.

Executive Engineer
TL Pretender

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SCHEDULE-[illegible]

PROFORMA OF INDEMNITY BOND TO BE EXECUTED BY THE CONTRACTOR FOR THE MATERIALS HANDED OVER IN INSTALMENTS BY MSETCL FOR PERFORMANCE OF ITS CONTRACT

(To be on non judicial stamp paper of appropriate value)

INDEMNITY BOND

THIS INDEMNITY BOND is made on this ... day of ... 20__ by ... a company registered under the law, having its Registered Office at ...... (hereinafter called as 'Contractor' or 'Obligor' which expression shall include its successors and permitted assigns) in favour of Maharashtra State Electricity Transmission Co. Ltd. constituted under the Electricity (Supply) Act 1948 having its Registered Office at Mumbai and its project in ... District (hereinafter called the MSETCL which expression shall include its successors and assigns).

WHEREAS MSETCL has awarded to the Contractor a Contract for ... vide its Award letter/Contract No. ...... and Amendment No. ... (applicable when amendments have been issued) (hereinafter called the 'Contract') in terms of which the MSEB is required to hand over materials to the Contractor for execution of the contract.

AND WHEREAS by virtue of Clause No. ... of the said Contract, the Contractor is required to execute an Indemnity Bond in favour of the MSETCL for the Materials handed over to it by the MSETCL for the purpose of performance of the Contract/Erection portion of the Contract (hereinafter called the 'Materials').

NOW THEREFORE, this Indemnity Bond witnesseth as follows:

That in consideration of various materials as mentioned in the Contract valued at Rs. ... (Rupees ...) handed over to the Contractor in installments from time to time for the purpose of performance of the Contract, the Contractor hereby

undertakes to indemnify and shall keep the MSETCL indemnified, for the full value of the Material. The Contractor hereby acknowledges receipt of initial installments of the Material as per details in the Schedule appended hereto. Further the Contractor agrees to acknowledge receipt of the subsequent installments of the Material as required by the MSETCL in the form of Schedules consecutively numbered which shall be attached to this Indemnity Bond so as to form integral part of this Bond. It is expressly understood by the Contractor that handing over of the Dispatch title documents in respect of the said Material duly endorsed by the MSETCL in favor of the Contractor shall be construed as handing over of the Material purported to be covered by such title documents and the Contractor shall hold such Material in trust as a Trustee for and on behalf of the MSETCL.

That the Contractor is obliged and shall remain absolutely responsible for the safe transit/protection and custody of the Material at the said project sites against all risks whatsoever till the Material are duly used/erected in accordance with the terms of the Contract and the Plant/Package duly erected and commissioned in accordance with the

Executive Engineer
M.S.E.T. Co. Ltd.

Executive Engineer
TL [illegible]

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terms of the Contract is taken over by the owner. The Contractor undertakes to keep the owner harmless against any loss or damage that may be caused to the Materials.

3. The Contractor undertakes that the Materials shall be used exclusively for the performance/execution of the Contract strictly in accordance with its terms and conditions and no part of the materials shall be utilized for any other work or purpose whatsoever. It is clearly understood by the Contractor that non-observance of the obligations under this Indemnity Bond by the Contractor shall [illegible] criminal breach of trust on the part of the Contractor for all intents and purposes including legal/penal consequences.

4. The MSETCL is and shall remain the exclusive Owner of the Materials free from all encumbrances, charges or liens of any kind whatsoever. The materials shall at all times be open to inspection and checking by Engineer-in-charge / Engineer or other employees / agents authorized by him in this regard. Further, the MSETCL shall always be free at all times to take possession of the materials in whatever form the materials may be, if in its opinion the Materials are likely to be endangered, mis-utilized or converted to uses other than those specified in the Contract, by any acts of omission or commission on the part of the Contractor or any other person or on account of any reason whatsoever and the Contractor binds himself and undertakes to comply with the directions of demand of the MSETCL to return the Materials without any demur or reservation.

5. That this Indemnity Bond is irrevocable. If at any time any loss or damage occurs to the materials or the same or any part thereof is mis-utilized in any manner whatsoever, then the Contractor hereby agrees that the decision of the Engineer-in-charge/Engineer of the Owner shall be binding on the Contractor. The Contractor binds and hereby undertakes to pay to the [illegible] and any demur, reservation or protest [illegible] without prejudice to any other right or remedy that may be available to the MSETCL against the Contractor under the Contract and under this Indemnity Bond.

6. NOW THE CONDITION of this Bond is that if the Contractor shall duly and punctually comply with the terms and conditions of this Bond to the satisfaction of MSETCL, THEN the above Bond shall be void, but otherwise, it shall remain in full force and virtue.

IN WITNESS WHEREOF the Contractor has hereunto set its hand through its authorized representative under the common seal of the Company, the day, month and year first above mentioned.

Common Seal of [illegible]
[illegible]
[illegible]
[illegible]

Particulars
of Persons in the
[illegible]
[illegible]

[illegible]
[illegible]
[illegible]

Name of Signature
of Attorney
(Authorised Signatory)

(Please furnish the details and Schedules)

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn. Kalyan

Executive Engineer

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For and on behalf of

M/s ---

WITNESS:

1. 1. Signature ---
   2. Name ---
   3. Address ---

(Signature) ---

(Name) ---

(Designation) ---

2. 1. Signature ---
   2. Name ---
   3. Address ---

(Common Seal)

In case of Company

[illegible]

Indemnity Bonds are to be executed by the authorized person and

i) In case of contracting Company under common seal of the Company or (ii) having the Power of Attorney issued under common seal of the Company with authority to execute the Indemnity Bonds, and in case of (ii), the original Power of Attorney if it is specifically for this Contract or a photo state copy of the Power of Attorney if it is General Power of Attorney and such documents should be attached to Indemnity Bond.

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn. Kalyan

Executive Engineer
TL Pretender

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[illegible]

[illegible] ([illegible]) [illegible] Zone

COMPLETION PERIOD = 10 MONTHS

Sr. No.	ACTIVITY	Schedule for completion of activities from date of LOA		Remarks/ Hold points for payment
		[illegible]	Scheduled period of completion	
1	[illegible]		Within 15 days	
2	[illegible]	After 5 days	Within 25 days	
3	[illegible]	After [illegible] days	Within 20 days	
4	[illegible]	After 5 days	Within 15 days	
5	Preliminary & Detailed Survey	After 10 days	Within 20 days	
6	Check survey	After 10 days	Within 30 days	
7	[illegible] survey & [illegible]	After 15 days	Within 45 days	
8	[illegible]	After 5 days	Within 50 days	
9	[illegible]	After 10 days	Within 60 days	[illegible] duly approved by Engineer [illegible]
10	[illegible]	5 days	15 days	
11	[illegible]	[illegible]	15 days	
12	[illegible]	After [illegible] days	Within [illegible] days	
13	[illegible]	After [illegible] days	Within [illegible] days	
14	[illegible]	After 20 days	Within [illegible] days	[illegible]
15	[illegible]	After [illegible] days	Within 100 days	[illegible]
16	[illegible]	After [illegible]	Within [illegible] days	[illegible]
17	[illegible]	After [illegible] days	Within [illegible] days	[illegible]
18	[illegible]	After [illegible] days	Within [illegible] days	[illegible]
19	[illegible]	After [illegible] days	Within 250 days	[illegible]
20	[illegible]	After [illegible] days	Within [illegible] days	
21	[illegible]	After [illegible] days	Within [illegible] days	

Notes:

[illegible]

[illegible]

[illegible]

Executive Engineer
M.S.E.T.Co.Ltd
E.H.V. Project Dn, Kalyan

Executive Engineer
IL Pretender

ANNEXURE

'D'

Executive Engineer
M.S.E.T.C.L.
E.H.V. Projt. Dn. Kalwa

MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.

[illegible]

[illegible]

[illegible]

Total

[illegible]

Executive Engineer
M.S.E.T.Co.Ltd.
E.H.V. Project Dn., Kalyan

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MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD

Detail Price Bid [illegible]

Executive Engineer

Executive Engineer
M.S.E.T. Co. Ltd.

MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.

MAHATRANSCO

[illegible]

Executive Engineer

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn., Kalyan

MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.

[illegible]

[illegible]	[illegible]
Total	[illegible]

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn., Kalyan

BNC Power Projects Ltd.

BNC POWER

Ref No: BNC PPL/PNA/Tender /T-[illegible]/[illegible] Date: 2[illegible].1[illegible].2017

To,
The Chief Engineer (O & M),
MSETCL, Prakashganga,
Plot No. C-19, E - Block,
Bandra Kurla Complex,
Bandra East, Mumbai 51.

Sub: Work of [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]
[illegible] [illegible]

Ref: i) T-1718 / MSETCL / [illegible] / [illegible] / [illegible] / TECH [illegible] No. [illegible]
Meeting held at Corporate Office Mumbai Dt.26.09.2017
ii) [illegible] No.: BNCPPL /PNA / Tender /T-1718/3468 Dt. 18.10.2017
iii) [illegible] No.: BNCPPL/PNA / Tender /T-1718/3558 Dt. 25.10.2017
iv) [illegible] No.: BNC PPL/PNA / Tender / T-1718/ [illegible] Dt. 2[illegible].10.2017

Dear Sir,

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] offer [illegible] [illegible] amounting Rs.59,48,851.00 [illegible] [illegible] [illegible] offer towards [illegible] [illegible] work [illegible] Rs 21,64,00,000.00.

Sr No	Product Category	[illegible] Quoted Price	[illegible] Rebate [illegible]	Final Price offer
1	Supply	1[illegible],[illegible],29,[illegible]	1[illegible],[illegible],[illegible]	16,37,61,667.[illegible]
2	Erection	2,[illegible],[illegible],[illegible]	[illegible]	2,29,26,896.00
3	Civil	5,[illegible],78,[illegible]	5,0[illegible],72,[illegible].00	4,97,[illegible],437.00
	TOTAL:-	22,73,97,637.5[illegible]	22,24,48,851.00	21,64,00,000.00

Thanking you,

Yours faithfully,
For BNC Power Projects Ltd.

Mr. [illegible] Chaudhari
(Director)

CIN: [illegible]
Regd. Office: [illegible] [illegible] Society, [illegible] Senapati Bapat [illegible] [illegible]
Corporate Office: [illegible] Patil Complex, [illegible] Floor, Karve Road, Next to Dashbhuja Ganpati Temple, Pune 411 038.
Phone: 020-254[illegible], Fax: 020 2[illegible], E-mail: [illegible]@yahoo.co.in, info@bncpower.com

Executive Engineer
M.S.E.T. Co. Ltd,
[illegible]

Executive Engineer
[illegible]

ANNEXURE

'E'

Executive Engineer
M.S.E.T Co. Ltd.
E.H.V. P.C. [illegible]

(Z-71)

[illegible]

No. [illegible]

Date: [illegible] February, 2018

To,

M/s [illegible] Power Projects Limited,
Plot No. 67, [illegible]
[illegible], Pune [illegible]
Email: [illegible]

Subject: Handing over of site

Reference:
1) [illegible]
2) [illegible]
3) Instructions in meeting at EHV Project [illegible], Kalyan [illegible] dated [illegible] January, 2018.

Dear Sir,

In connection to above subject, the work of [illegible] 220 kV [illegible] [illegible] reference 1 & 2, [illegible] hereby confirm that the site is handed over to you for execution of work [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

It is requested to submit [illegible]

[illegible]

Executive Engineer,
EHV [illegible] Division, Kalyan.

Copy s.w.r.s. to:
1) The Superintending Engineer, EHV Projects Circle, Kalyan
2) The Executive Engineer, [illegible]
[illegible] please.

[illegible]

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn. Kalyan

Executive Engineer
T.L. Pretender

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MAHARASHTRA STATE ELECTRICITY TRANSMISSION COMPANY LIMITED

Work of Construction of LILO on 220KV [illegible] & LILO on Padghe - Wada line at 400KV [illegible] S/S [illegible]

LOA Ref: MSETCL/CO/[illegible]/Supply/[illegible] Dtd. [illegible]

Agency: M/s. [illegible] Power Projects Ltd., Pune

Supply Breakup

Sr. No.	Item No.	Description	Qty	Unit	Ex-Works Rate	Freight	Insurance	GST @18%	[redacted]	Amount
1	Material [illegible]	[illegible] Supply Of Tower Mat-[illegible]	[illegible]	MT	[illegible]	[illegible]	[illegible]	[illegible]	[redacted]	[illegible]
2	Material [illegible]	Galvanised Steel Bolts and Nuts	[illegible]	MT	[illegible]	[illegible]	[illegible]	[illegible]	[redacted]	[illegible]
3	Material [illegible]	DANGER BOARD	[illegible]	EA	[illegible]	10.00	[illegible]	[illegible]	[redacted]	[illegible]
4	Material [illegible]	NUMBER PLATE FOR TOWERS	[illegible]	EA	[illegible]	[illegible]	[illegible]	[illegible]	[redacted]	[illegible]
5	Material [illegible]	Phase Indicating Plate	[illegible]	EA	[illegible]	[illegible]	[illegible]	[illegible]	[redacted]	[illegible]
6	Material [illegible]	CIRCUIT PLATE FOR TOWERS	[illegible]	EA	[illegible]	[illegible]	[illegible]	[illegible]	[redacted]	[illegible]
7	Material [illegible]	Anti Climbing Device with Barbed Wire	[illegible]	EA	[illegible]	[illegible]	[illegible]	[illegible]	[redacted]	[illegible]
8	Material [illegible]	70KN Antifog Disc Insulator	[illegible]	EA	[illegible]	[illegible]	[illegible]	[illegible]	[redacted]	[illegible]
9	Material [illegible]	120KN Antifog Disc Insulator	[illegible]	EA	[illegible]	[illegible]	[illegible]	[illegible]	[redacted]	[illegible]
10	Material [illegible]	[illegible] Single Zebra	[illegible]	EA	[illegible]	[illegible]	[illegible]	[illegible]	[redacted]	[illegible]
11	Material [illegible]	[illegible] H/W for ACSR Zebra	[illegible]	EA	[illegible]	[illegible]	[illegible]	[illegible]	[redacted]	[illegible]
[illegible]	Material [illegible]	[illegible] H/W for ACSR Zebra	[illegible]	EA	[illegible]	[illegible]	[illegible]	[illegible]	[redacted]	[illegible]
[illegible]	Material [illegible]	[illegible] for ACSR Zebra	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[redacted]	[illegible]

Executive Engineer
TL Pre[illegible]

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn., Kalyan

Sr. No.	Item No.	Description	Qty.	Unit	Ex-Works Rate	Freight	Insurance	GST 18%	[redacted]	Amount
14	Material [illegible]	0.3 ACSR Zebra Conductor	[illegible]	KM	274,183.[illegible]	5,500.00	3,764.00	[illegible]	[redacted]	[illegible]
15	Material [illegible]	Mid Span Compression Joint for ACSR Zebra	30.00	EA	571.[illegible]	25.00	2.51	[illegible]	[redacted]	35,[illegible]
16	Material [illegible]	Repair Sleeve [illegible] ACSR Zebra	[illegible]	EA	271.[illegible]	12.00	3.76	[illegible]	[redacted]	[illegible]
17	Material [illegible]	P.A. Rods for ACSR Zebra	240.00	EA	1,542.00	45.00	13.54	[illegible]	[redacted]	455,233.[illegible]
18	Material [illegible]	Vibration Damper for ACSR Zebra	[illegible]	EA	673.54	[illegible]	[illegible]	[illegible]	[redacted]	[illegible]
19	Material [illegible]	7/3.15 mm [illegible] Earthwire	[illegible]	KM	40,745.36	1,500.00	[illegible]	[illegible]	[redacted]	[illegible]
20	Material [illegible]	7/3.15 mm Earthwire Suspension Clamp	[illegible]	EA	254.[illegible]	[illegible]	[illegible]	[illegible]	[redacted]	7,2[illegible]
21	Material [illegible]	7/3.15 mm Earthwire Tension Clamp	[illegible]	EA	554.[illegible]	[illegible]	9.14	[illegible]	[redacted]	[illegible]
22	Material [illegible]	Mid Span Compression Joint 7/3.15 mm Earthwire	[illegible]	EA	144.[illegible]	15.00	1.88	25.5[illegible]	[redacted]	[illegible]
23	Material [illegible]	7/3.15 mm [illegible] Earth Bond	60.00	EA	636.00	75.00	9.53	30.7[illegible]	[redacted]	[illegible]
									Total Supply	[illegible]
									Total Discount	[illegible]
									Total GST	[illegible]
									Grand Total	[illegible]

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Proj. Dn. Kalyan

Executive Engineer
TL Pretender

MAHARASHTRA STATE ELECTRICITY TRANSMISSION COMPANY LIMITED

Work of Construction of LILO on 220KV [illegible]-Wada & LILO on Padghe – Wada line for 400KV Kudus [illegible]

LOA Ref: MSETCL/CO/DCN/D&T/TKC-4/[illegible] Dt: [illegible]
Agency : M/s. [illegible] Power Projects Ltd., Pune

Erection Breakup

Sr. No.	Item No.	Description	Qty	Unit	Erection Rate	GST @ 18%	Unit Rate	Amount
24	Material [illegible]	CHKS Detailed Survey	[illegible]	KM	[illegible]	[illegible]	13,331.46	37,324.45
25	Material 500002036	Check Survey	[illegible]	KM	[illegible]	[illegible]	5,644.65	[illegible]
26	Material 500002037	TL Excavation of pits-Normal Soil	[illegible]	CUM	206.96	37.25	244.21	[illegible]
27	Material 500002039	TL Excavation of pits-Wet Soil/Submerged Soil	[illegible]	CUM	[illegible]	55.40	[illegible]	[illegible]
28	Material [illegible]	TL Excavation of pits-Fissured Murum/Soft Rock	[illegible]	CUM	[illegible]	[illegible]	[illegible]	[illegible]
29	Material 500002040	TL Excavation of pits-Dry Fissured Rock	[illegible]	CUM	931.51	[illegible]	[illegible]	[illegible]
30	Material [illegible]	TL Excavation of pits-Hard Rock by chiseling	[illegible]	CUM	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	Material [illegible]	TL Earthing (Pipe Type)	40.00	EA	5,173.91	931.30	6,105.21	[illegible]
[illegible]	Material [illegible]	TL Earthing (Counterpoise)	[illegible]	EA	11,382.59	2,048.87	13,431.46	[illegible]
[illegible]	Material [illegible]	TL Erection of Towers (220KV)	[illegible]	MT	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	Material [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	Material [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Executive Engineer

Executive Engineer
MSETCL

Sr. No.	Item No.	Description	Qty	Unit	Ex-Works Rate	GST @ 18%	Unit Rate	Amount
43	Material 300[illegible]	TTP Erection of EHV Protection Wall (NS/SM)	500.[illegible]	CUM	206.55	37.18	243.73	1,2[illegible]
44	Material 300[illegible]847	TTP Excavation of EHV Protection Wall (DCS) Soil	1980.0	CUM	310.41	55.88	366.31	[illegible]
45	Material 3000[illegible]	TTP Erection of EHV Protection Wall (SC/ HM)	93.0[illegible]	CUM	362.69	65.28	427.97	39,[illegible]
46	Material [illegible]	TTP Erection of EHV Protection [illegible] (EPT)	[illegible]	CUM	931.[illegible]	[illegible]	1,098.[illegible]	[illegible]
47	Material [illegible]	220KV D/C (with ACSR/AAAC) Over Mc Line	6.06	KM	[illegible]	[illegible]	98,9[illegible].36	5,9[illegible].16
48	Material 300[illegible]	220KV D/C (with ACSR/AAAC) on DC Line	1.50	KM	[illegible]	12,293.2[illegible]	80,588.75	[illegible]
49	Material 30[illegible]	Restringing S/S Stringing 220KV	7.50	KM	12,931.74	2,328.[illegible]	15,259.02	[illegible]
50	Material 3000[illegible]	CT/TACK WELDING M/C TOWER	[illegible]	EA	3,311.30	596.03	3,907.33	[illegible]
51	Material 3000[illegible]	TE-TACK WELDING D/C TOWER	[illegible]	EA	2,375.52	427.[illegible]	[illegible]	[illegible]
52	Material [illegible]	220KV D/C Tower 60' (Stub Setting Templ)	[illegible]	EA	4,8[illegible].52	8[illegible]	5,75[illegible]	[illegible].52
[illegible]	Material [illegible]	220KV M/C Tower 2[illegible]' (Stub Set. Template)	[illegible]	EA	[illegible]	[illegible]	[illegible].17	[illegible]
[illegible]	Material [illegible]	220KV M/C Tower 75' (Stub Set Template)	1.00	EA	4,656.52	838.17	5,494.69	[illegible]
[illegible]	Material [illegible]	220KV M/C Tower 30' (Stub Set Template)	[illegible]	EA	[illegible]	1,024.[illegible]	6,715.73	[illegible]
[illegible]	Material [illegible]	220KV [illegible] Tower 60' (Stub Setting Templ)	[illegible]	EA	[illegible]	[illegible]	7,[illegible]1.67	[illegible]
[illegible]	[illegible]	220KV [illegible] Tower [illegible]	[illegible]	[illegible]	[illegible]	651.[illegible]	4,273.05	[illegible].19

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn.

Executive Engineer

Sl. No.	Item No.	Description	Qty	Unit	Ex-Works Rate	GST @18%	Unit Rate	Amount
95	Material 30006[illegible]	220kV [illegible] Tower [illegible]	[illegible]	[illegible]	3,3[illegible].56	59[illegible]	3,917.33	7,8[illegible].66
							Total Execution	22,72,[illegible]

Civil Breakup

Item	Sub category/ Product no.	Description	Qty	Unit	Ex-Works Rate	GST @18%	Unit Rate	Amount
[illegible]	Material 3000[illegible]	[illegible] Casting in situ [illegible] M-10	4[illegible]	M3	5,47[illegible]	98[illegible]	6,461.35	2,8[illegible]
52	Material 30000[illegible]	TC Casting in-situ CC M-20	[illegible]	M3	6,470.38	1,164.67	7,635.05	2[illegible]
53	Material 300009254	R&F Steel Reinforcement in Concrete Fdn	202.00	MT	66,699.5[illegible]	12,0[illegible]	78,705.42	[illegible]
54	Material 300009263	R&C Trap Metal CC 1:3:6 for Retaining Wall	130.00	M3	5,475.30	985.55	6,460.85	8,39,9[illegible].50
[illegible]	Material 300009265	R&C Trap Metal CC 1:2:4 for Retaining Wall	[illegible]	M3	6,771.75	1,218.9[illegible]	7,2[illegible]	254882.40
56	Material 300009297	R&C UCR Masonry of Trap Stone in CM 1:6	800.00	M3	2,428.64	437.16	2,865.80	2292640.00
57	Material 3000201[illegible]	Dewatering including diversion of streams	[illegible]	M3	[illegible]	57.59	[illegible]	[illegible]
							Total Credit	[illegible].49

Executive Engineer
M.S.E.T. Co. Ltd.

Executive Engineer
TL Pre-tender

MAHARASHTRA [illegible] TRANSMISSION COMPANY [illegible]
[illegible] CIRCLE, KALWA

From: Office of the Sup[illegible]
EHV Projects Circle, Kalwa
Thane Belapur Road, MSETCL Complex,
Airoli Naka, Navi Mumbai 400 708
Email: [illegible]

To,
The Executive Engineer,
EHV Projects Division,
Kalyan.

[illegible] No. [illegible]

Date: [illegible]

Sub :- Construction of 220KV M/C LILO on 220KV D/C Padghe – Wada line for 400KV Kudus substation (M/C Line 7.725Km with Twin Conductors) under Vashi Zone: Approval of profile, tower schedule & route map (Loc. No. 1 to 33 & Loc. No. 31 to 50) thereof.

Ref :- 1) MSETCL/CO/DCS/DD(T)/KE L/F-[illegible]/BNC/395 Dt. [illegible].2018.
2) [illegible]/WADA/Corres/479 Dt. 26.07.2018.
3) EE/EHV/PR/DN/KLN/T-2550/No. 79 dt.03.08.2018.

With reference to above subject, this office is in receipt of profile, tower schedule & route map (Loc. No. 1 to 33 & Loc. No. 31 to 50) for work of construction of 220KV M/C LILO on 220KV D/C Padghe – Wada line for 400KV Kudus substation (M/C Line 7.725Km with Twin Conductors) under Vashi Zone from you vide letter under reference (3).

The profile, tower schedule & route map submitted by M/s. B. N. [illegible] is found to be in order and approved considering [illegible] of conductors & subject to:

1) Maintaining all statutory clearances, vertical & horizontal clearances during actual execution as per IE rule by work executing agency.
2) Further, M/C [illegible] tower to be utilized at Loc No. 6.
3) And agency has to submit new design of Dwarf tower & its foundation (without top section suitable for single conductor) to Design section, HO for approval before supply and its erection.

The detail of approved profile is as below:

Sr. No.	Section		Length (in KM)
	From	To	
1	Gantry at 400/220KV Kudus Substation	Proposed Loc No. 33 of Padghe – Wada D/C LILO line	[illegible]
2	Proposed Loc No. 31 of Padghe Wada D/C LILO line	Propose Loc No. 50 (Inline tower) of Padghe – Wada D/C LILO line	[illegible]
	Total Route Length (in KM)		6.225

It is to note that, if any changes occur during the execution of work, the above said approval stands cancelled and revised profile is required to be submitted to this office for approval.

You are requested to submit one blue print of approved profile to this office for record & reference.

Encl: Approved profile in original.

(KVDVS)

(S. N. SURYAWANSHI)
SUPERINTENDING ENGINEER
EHV PROJECTS CIRCLE, KALWA

Executive Engineer
TL Pretender

ANNEXURE

'F'

Executive Engineer
M.S.E.D. Co. Ltd.
E.H.V. Project Dn. Kalyan

MAHATRANSCO
MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.
(CIN No. U40109MH2005SGC153646)

From,
The Chief Engineer,
Design Control & Monitoring Dept.
Plot No. C-19, "E" Block, Prakashganga,
Bandra – Kurla Complex
Bandra (East), Mumbai – 400 051
Tel: 022-2659 5124/(O) 022-2659 5162
Fax: 022-2659 8587
E-mail: [illegible]@mahatransco.in

To,
M/s. BNC Power Projects Ltd.,
Plot no. 67, Sahas Shivaji Housing Society, [illegible]
Senapati Bapat Rd. Shivajinagar,
Pune-411 016.
[illegible]@yahoo.co.in

Ref. No. MSETCL/CO/DCM/DE(TKC-I)/T-1718/Supply/No 05094   Date: 11.01.201[illegible]

Sub: Award of Contract for turnkey construction of LILO on 220kV Kolshet-Wada & 220kV LILO on Padghe-Wada line for 400kV Kudus S/stn (Route Length 7 Kms), against SRM e-tender no. T-1718 (RFx No. 6000009253) under Vashi Zone
- Letter of Award for supply of materials thereof.

Ref: 1) SRM Tender No. T-1718/MSETCL/CO/DCM/DE(TKC-I) (RFx No. 6000009253).
2) Your offer against subject tender, opened on 28.08.2017.

Dear Sir,

In connection with the above subject, we are pleased to inform you that, your offer for turnkey construction of LILO on 220kV Kolshet-Wada & 220kV LILO on Padghe-Wada line for 400kV Kudus S/stn (Route Length 7 Kms), against SRM e-tender no. T-1718 (RFx No. 6000009253) under Vashi Zone has been accepted for the supply portion as per details below:

Sr. No.	Description of works	Firm Price (based on prices excl. Taxes and Duty)
1	LILO on 220kV Kolshet-Wada & 220kV LILO on Padghe-Wada line for 400kV Kudus S/stn. (Route Length 7 Kms), against SRM e-tender no. T-1718 (RFx No. 6000009253) under Vashi Zone	Rs.14,37,64,667.00

(Rs. Fourteen Crore Thirty Seven Lakh Sixty Four Thousand Six Hundred Sixty Seven Rupees Only).

The activity schedule for payment eligibility for 09 (Nine) months (including monsoon) from the date of handing over of line profile for supply of material for turnkey construction of above line is enclosed herewith.

Executive Engineer
M.S.E.T.Co. Ltd.
EHV Project Dn. Kalyan

Executive Engineer
[illegible]-TE Pretender

It may please be noted that the scope shall also cover the supply of all equipment / materials which are not specifically listed in your offer but are necessary in order to meet the requirement of the line as per tender specifications in all respects.

Detailed terms and conditions will be as per the tender specification, amendments thereof, your offer, clarifications thereon and contract agreement being executed shortly. The work of above line has to be completed within 09 (Nine) months (excluding monsoon) from the date of handing over of line route.

You are requested to: -

1) Intimate the acceptance of this LoA within 10 days from receipt.
2) Submit bar chart within 10 days from the date of receipt of LoA indicating all activities for completion of the project.
3) Submit price schedule with detailed break up of unit rate into [illegible] and GST rates within 10 days from receipt of LoA.
4) Complete the formalities like furnishing of Performance Bank Guarantee as per Clause No. 8.0 of Section-II of Vol-I in prescribed format within 30 days from the date of receipt of LoA, so that the contract agreement can be finalized early.
5) **M/s. BNC Power Projects Ltd shall submit the invoice as per GST regulation.**

Encl: Activity Schedule

Thanking you.

Yours faithfully,

([illegible] Gaikwad)
Chief Engineer ([illegible])

Copy s.w.r. to:

1) The Chairman & Managing Director, MSETCL, Mumbai
2) The Director (Projects), MSETCL, Mumbai

Copy f.w.cs. to:

1) The C.E., EHV Projects cum O&M Zone, MSETCL, Vashi
2) The C.E., [illegible], Civil, MSETCL, Mumbai
3) The Chief General Manager (F&A), MSETCL, Mumbai

Copy to:

1) The G.M. (F&A-IR), MSETCL, Mumbai – [illegible] as per the [illegible] procedure vide no. GM (F&A-IR) [illegible] No. 08 dt.08.01.2015.
2) The S.E., (S&E Civil), MSETCL, Mumbai
3) The S.E., EHV Project Circle, MSETCL, Vashi
4) The S.E., EHV C.C. O&M Circle, MSETCL, Vashi
5) The S.E., TCC, MSETCL, Vashi
6) The E.E., (BMD), MSETCL, Mumbai
7) The E.E., (PTD), MSETCL, Mumbai
8) The E.E., EHV Project Division, MSETCL, Kalyan

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn., Kalyan

Executive Engineer
TL Pretander

[illegible]

[illegible]

[illegible]

COMPLETION PERIOD – [illegible] MONTHS.

Sr. No.	ACTIVITY	Schedule for completion of activities [illegible]		[illegible]
		Commencement	Scheduled period of completion	
1	[illegible]	———	Within 30 days	
2	Visit to site, confirmation of scope of work, [illegible]	After 5 days	Within 20 days	
3	Signing of contract agreement	After 10 days	Within 30 days	
4	[illegible] inspection of route	After 9 days	Within 30 days	
5	Preliminary & Detailed Survey	After 10 days	Within 30 days	
6	Check survey	After 11 days	Within 30 days	
7	[illegible]	After 13 days	Within 45 days	
8	[illegible] drawings of [illegible]	After 5 days	Within 20 days	
9	[illegible] drawings [illegible]	After 10 days	Within 60 days	Copy of [illegible] duly approved by Engineer in Charge [illegible]
10	[illegible] drawings by [illegible]	5 days	15 days	
11	[illegible] drawings	15 days	45 days	
12	[illegible] inspection (if applicable)	After 30 days	Within 60 days	
13	Proto inspection	After 37 days	Within 70 days	
14	Supply of [illegible]	After 50 days	Within 80 days	Subject to [illegible] approval of [illegible]
15	Tower foundation	After 90 days	Within 102 days	[illegible]
16	Supply of tower material	After 60 days	Within 90 days	The contractor should have [illegible] foundation
17	Erection of tower	After 90 days	Within 150 days	50% tower foundations [illegible] Erection [illegible] per month
18	Supply of conductor, earthwire, insulators for [illegible] & conductor accessories & insulator hardware	After 60 days	Within 180 days	Contractor [illegible] ready for stringing
19	Stringing of line	After [illegible] days	Within 210 days	At least 50% of towers [illegible] erected [illegible]
20	Miscellaneous [illegible] of tower accessories [illegible]	After [illegible] days	Within 230 days	
21	Inspection, testing & commissioning of line	After [illegible] days	Within 270 days	

Note :

1	[illegible]
2	[illegible]
3	[illegible]

Executive Engineer
M.S.E.T.C.L.Ltd.
E.H.V. Project Dn. Kalyan

Executive Engineer
TL Pretender

BNC Power Projects Ltd

BNC POWER

Ref: BNCPPL/PNA/220 KV Kudus/[illegible]/710

Date:- 16.02.201[illegible]

To,
The Chief Engineer (TS, C & M)
MSETCL, Corporate Office,
Prakash Ganga Bandra (E),
Mumbai – 400 051.

Sub: Work of Construction of [illegible] Civil Works [illegible] Padghe [illegible] 400KV Kudus S/STN [illegible]

Ref: i) Ref No. MSETCL/CO/EHV [illegible] Supply [illegible]
ii) Ref No. MSETCL/CO/ [illegible]
iii) Ref No. BNCPPL/PNA/Tender/ [illegible] Dec 2017

Dear Sir,

We are thankful to you for placing work order [illegible] of Supply, Erection & Civil Works for Work of Construction of LILO on 220KV [illegible] Padghe – Wada line at 400KV Kudus S/STN [illegible] (RFX No. 6000006[illegible]).

We hereby submit our acceptance [illegible] We are enclosing [illegible] as follows:

1. Price Bid

[illegible] Schedule for Supply of Materials

[illegible] Detailed Break up of [illegible]

[illegible] Detailed Break up of [illegible] Civil works

Submitted for your necessary action please.
Thanking You

Yours Faithfully
For BNC Power Projects Ltd

Mr. Rajesh Chaudhari
(Director)

Encl: i) Bar chart
ii) Price Schedule.

Executive Engineer
TL Project [illegible]

Executive Engineer
M.S.E.T. Co. Ltd.

ANNEXURE

G

Executive Engineer
M.S.E.T. Co. Ltd.
EHV [illegible] Dn Kalyan

(237)

[illegible] Power Projects Ltd.

Date: [illegible]

To,
The Chief Engineer,
Design Construction & Monitoring Dept.,
Plot No. C-19, E - Block, Prakashganga,
Bandra Kurla Complex,
Bandra (E), Mumbai-400051.

Sub: Turnkey Construction of LILO on 220kV Kolshet - Wada & 220kV LILO on Padghe - Wada line for 400kV Kudus Substation (Route length - 7 Kms), under Vashi Zone. ....Regarding Delay in submission of Performance bank guarantee.

Ref: i) LOA Ref: MSETCL/CO/C&M/T&S/TKC-L/T-1718/Supply/391 Dtd: 31.01.2018
ii) LOA Ref: MSETCL/CO/C&M/T&S/TKC-L/T-1718/ETC/1761 Dtd: 15.02.2018
iii) T.O. Ref: [illegible] Kalwa / PBG / 1211

Dear Sir,

We were awarded, with the contracts under reference above, for Work of Turnkey Construction of LILO on 220kV Kolshet - Wada & 220kV LILO on Padghe - Wada line for 400kV Kudus Substation (Entire Length - 7 Kms), under Vashi Zone by your good office. We were facing some financial crunch due to non-receipt of our payments from various sources including of MSETCL contracts. As such we were facing problem in submitting the security deposit towards the PBG.

Now we are submitting herewith BG against performance guarantee for the above vide our Letter under ref. (iii) above, which may please be accepted.

The delay in submission of Performance guarantee in the form of BG may please be condoned. Inconvenience is regretted.

Thanking you.

Yours faithfully,
For PMC Power Projects Ltd.,

PUNE

(Authorized Signatory)

Executive Engineer
M.S.E.T.Co.Ltd.
EHV Proj. Dn. Kalyan

Executive Engineer
TL [illegible]

Registered Office: [illegible]
Phone [illegible] Fax [illegible] Email: [illegible]

[illegible]

[illegible] Date: [illegible]

[illegible]
[illegible] Contracts & Monitoring Dept.,
Plot No. C-19, E-Block, [illegible],
Bandra Kurla Complex,
Bandra (E), Mumbai-400051

Sub: Turnkey Construction of LILO on 220KV Kolshet - Wada & 220KV LILO on Padghe - Wada line for 400KV Kudus Substation (Route Length - 7 kms), against SRM e-tender no. T - 1718, RFx No. [illegible] under Vashi Zone. — Submission of Performance Bank guarantee.

Ref: i) LOA Ref: MSETCL/CO/[illegible]/EHV-TL/T-1718/Supply/[illegible] Date: [illegible]
ii) LOA Ref: MSETCL/CO/[illegible]/TRF-L/T-1718/ERC/[illegible] Date: [illegible]

Dear Sir,

We are awarded with the contracts under reference above, for Work of Turnkey Construction of LILO on 220KV Kolshet - Wada & 220KV LILO on Padghe - Wada line for 400KV Kudus Substation (Route Length - 7 kms), against SRM e-tender no. T - 1718, RFx No. [illegible] under Vashi Zone, by the office of Chief Engineer, C&M, Prakashganga, MSETCL. We are submitting herewith BG against performance guarantee for the above contracts as listed below.

PBG NO	Against	Amount	Date of BG dd/mm/yyyy	Valid Upto dd/mm/yyyy	Issuing Bank
[illegible]	Supply	Rs [illegible]	[illegible]	[illegible]	Axis Bank, [illegible] City, [illegible] Plot No. 1, S. No. 152, Ganesh Khind Road, Pune - 411007
[illegible]	Erection	Rs [illegible]			

The above BGs may please be accepted. We are also enclosing herewith the undertaking to extend the BG as and when required as per the contractual period.

Thanking you,

Yours faithfully,
For [illegible] Power Projects Ltd.,

Authorised Signatory

Encl: -
1) BG No. [illegible] - in original.
2) BG No. [illegible] - in original.
3) Undertaking to extend the validity of PBG (Original)

Executive Engineer
MSETCL Ltd.

Executive Engineer
TL Pretender

(234)

[illegible]

Please Note:

[illegible]

RICHA GOYAL

[illegible]

240

[illegible]

[illegible]

To,

THE CHIEF ENGINEER (C. P. & M),
5TH FLOOR, PLOT NO. C-19, E BLOCK,
BANDRA KURLA COMPLEX
BANDRA (EAST),
MUMBAI 400051

We Axis Bank [illegible]

[illegible]

for AXIS BANK LTD

Page 1 of 3

For AXIS BANK LTD.

Authorised Signatory

RICHA [illegible]

Executive Engineer

Authorised Signatory

[illegible] VALID [illegible] SIX MONTHS FROM THE DATE OF PAYMENT.

Executive Engineer
M.S.E.T. Co. Ltd.

[illegible]

Executive Engineer
M.S.E. [illegible]
[illegible]

रु. 100 Rs. 100

ONE HUNDRED RUPEES

भारत INDIA

INDIA NON JUDICIAL

महाराष्ट्र MAHARASHTRA © 2017 © SZ 667893

[illegible] 17 MAR 2018

BMC Power project Ltd

[illegible]

5 MAR 2018

UNDERTAKING

The Chief Engineer [illegible] MSETCL has placed order on M/s BMC Power Projects Ltd. [illegible] Turnkey Construction of LILO on 220kV Kolshet - Wada & 220kV LILO on Padghe - Wada line for 400kV [illegible] substation (Route Length - 7 kms), against SRM e-tender no. T-1216 [illegible] as detailed below

1) Supply: MSETCL / CO / [illegible] / TKC-1 / T-1216 / Supply / [illegible] Rs. 14,37,[illegible],567.00

2) Erection: MSETCL / CO / [illegible] / TKC-1 / T-1216 / ETC / [illegible] Rs. 7,26,[illegible].00

Executive Engineer
M.S.E.T.Co. Ltd.
E.H.V. Project Dn., Kalyan

Executive Engineer
TL [illegible]

[illegible] years from the date of final acceptance [illegible] as detailed below having a guarantee period of [illegible] from the date of [illegible]

Sr. No.	WO No.	Against Contract	Amount	[illegible]	Validity	Posting Date
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

We hereby submit our undertaking that [illegible] before the expiry of [illegible] as per the under-taking.

Place : [illegible]
Date : [illegible]

For [illegible] Power Projects Ltd.

[illegible]

Executive Engineer
TL Pretondah

Executive Engineer

BNC Power Projects Ltd.

Ref No.: BNC/PNA/220KV Kudus/PBG/1426   Date: 03.01.2018

To,
The Chief Engineer (O, C & M),
5th floor, Plot No. C-19, E-Block,
Bandra Kurla Complex,
Bandra (East), Mumbai [illegible]

Sub: Work of Construction of LILO on 220KV Kolghar-Wada & LILO on Padghe Wada Line for 400KV Kudus S/STN.... Submission of Amendment No. 1 of Bank Guarantee No. 16360100005727 & 16340100005758 thereof.

Ref.: 1. Tender specification No.: T-1718/MSETCL/CO/DCM/D&T/TKC-LINES.
2. LOA No. : MSETCL/CO/DCM/D&T/TKC-I/T-1718/ Supply/BNC/394 Dtd. 27.11.2017
[illegible] MSETCL/CO/DCM/D&T/TKC-I/T-1718/ [illegible]/BNC/[illegible] Dtd. 19.12.2018.
3. [illegible] BNC PPL/PNA/220kV Kudus/PBG/1212 Dtd. 17.03.2018
4. [illegible] MSETCL/CO/DCM/D&T/TKC-I/T-1718/3606 Dtd. 02.04.2018

Dear Sir,

With Reference to above subject, we are herewith submitting the Amendment [illegible] to our Bank Guarantee No. 16360100005727 & 16340100009738. The reply to the queries vide letter under Ref. 4 is as follows

Stamp Duty [illegible]	Amendment No. 1 is executed in stamp with difference amount stamp duty for both Bank Guarantees

Thanking You

Yours faithfully,
For BNC Power Projects Ltd

(Authorized Signatory)

Encl: 1. PBG No. 16360100005727 - In Original
2. PBG No. 16340100005758 - In Original
3. Amendment No. 1 to PBG, No. 16360100005727 - In Original.
4. Amendment No. 1 to PBG, No. 16340100005758 - In Original.

Executive Engineer
TL Pretender

Executive Engineer
M.S.E.T Co. Ltd.

24 (25)

AXIS BANK LIMITED

Credit Management Centre [illegible]

Ref No. [illegible]
Date: [illegible]

To,

[illegible]

Dear Sir,

BG No. [illegible]
Date of Issue [illegible]
Amount of BG Rs. [illegible]
Expiry Date [illegible]
Claim Expiry Date [illegible]
Name and Address of the Applicant [illegible] NAGAR

[illegible]

[illegible]

Please Note

[illegible]

AXIS BANK LIMITED
[illegible] Operations
[illegible]
MIDC, Airoli Knowledge Park, Airoli
Navi Mumbai 400708 (Tel No.: 022-[illegible])

[illegible]

FOR AXIS BANK LIMITED

AUTHORISED SIGNATORY
NAME NIKHIL GOYAL
SS NO. 17724

FOR AXIS BANK LIMITED

AUTHORISED SIGNATORY
NAME
SS NO.
Upendra Barve
SS No. [illegible]

[illegible]

Executive Engineer
[illegible]

Executive Engineer
M.S.E.T. Co. Ltd.

महाराष्ट्र शासन
GOVERNMENT OF MAHARASHTRA
ई-सुरक्षित बँक व कोषागार पावती
e-SECURED BANK & TREASURY RECEIPT (e-SBTR)

[illegible]

[illegible]

Print DT/Time : [illegible]

GRAS GRN : MH0[illegible]

[illegible]

[illegible] Only

[illegible] Only

[illegible]

Amendment No. [illegible] Dated [illegible]

[illegible] No. [illegible]5735 Dated [illegible]2016

[illegible]

[illegible]

[illegible]

[illegible]

For AXIS BANK LTD.

Authorised Signatory

RICHA NOYAL
17224

Authorised Signatory

Upendra Barve
S.No 5086

Executive Engineer
IL Protocols

e-SBTR IS VALID UPTO SIX MONTHS FROM THE DATE OF PAYMENT

Executive Engineer

[illegible]

[illegible] dated [illegible]

[illegible]

a) [illegible]

b) The Bank Guarantee is now valid up to 31/03/20[illegible]

c) [illegible]

Date: [illegible]

Place: Pune

For AXIS BANK LTD

Authorised Signatory

RICHA JHOYAL

[illegible]

For AXIS BANK LTD

Authorised Signatory

Upendra [illegible]

[illegible]

Page [illegible]

Executive Engineer

[illegible]

Executive Engineer

M.S.E.T. Co. Ltd.

E.H.V. Project Dn. Kalyan

MAHATRANSCO
MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.
(CIN No. U40109MH2005SGC153646)

From,
Chief Engineer,
Design, Control & Monitoring Dept.
Plot No.C-19, "E" Block, Prakashganga,
Bandra – Kurla Complex,
Bandra (East), Mumbai – 400 051.
Tel: 022-2659 5588(O)/ 022-2659 5585
Fax: 022-2659 5587
E-mail : cedcm@mahatransco.in

To,
M/s. BNC Power Projects Ltd.,
Plot no. 67, Shree Siddhi Housing Society, off
Senapati Bapat Rd. Shivajinagar,
Pune-411 016.

Ref. No. MSETCL/CO/DC&M/D&T/TKC-I/T-1718/BNC/4373 Date: 26.04.2018

Sub: Turnkey construction of LILO on 220kV Kolshet-Wada & 220kV LILO on Padghe-Wada line for 400kV Kudus S/stn. (Route Length 7 Kms), against SRM e-tender no.T-1718 (RFx No. 6000000253) under Vashi Zone.
- **Acceptance of 10% Performance Bank Guarantee** towards Supply & Erection works.

Ref: 1. LOA No. MSETCL/CO/DCM/D&T/TKC-I/T-1718/Supply/594 dt.11.01.2018
2. LOA No. MSETCL/CO/DCM/D&T/TKC-I/T-1718/ETC/[illegible]761 dt.15.02.2018
3. Your letter No. BNCPPL/PNA/220kV Kudus/PBG/1215 dt 17.03.2018.

***

Dear Sir,

This has reference to your letter cited at (3) above, vide which you have submitted following Performance Bank Guarantees and Stamp Duty for Supply & Erection works against LOA's under reference (1) & (2) above, in respect of turnkey construction subject lines under Vashi Zone.

Sr No	Purpose	B.G. No. & Date.	Valid upto	B.G. Amount In Rs.	Name of Bank
1	Supply	163601FG0005738 dt.28.03.2018	15.05.2019.	4,40,75,509.00	Axis bank Limited, Pune
2	Erection	163601FG0005727 dt.28.03.2018	15.05.2019.	72,63,450.00	Axis bank Limited, Pune

The Performance Bank Guarantees has been scrutinized and verified and are found to be generally in order and hence accepted.

The validity of these bank guarantees may please be extended for the further period of Six months one month prior to its present validity.

Executive Engineer
TL Pretender

[illegible] Acceptance of PBG.docx

Executive Engineer
MS.E.T Co. Ltd.
E.H.V. Project Dn., Kalyan

Also, you will have to keep the above cited Performance Bank Guarantees valid for a period of ninety (90) days from the date of expiry of guarantee period i.e. two years after the date of successful commissioning of the line.

Henceforth, it is requested to submit the amendments to the Superintending Engineer, EHV Project Circle, MSETCL, Vashi.

Please note that, it is your sole responsibility for timely extension of the aforesaid Performance Bank Guarantees for further validity

This letter is issued without prejudice to other terms and conditions of the contract.

Thanking you.

Yours Faithfully,

Chief Engineer (D,C&M)

Copy f.w.c.s to:
1) The C.E. EHV Projects Cons. O & M Zone, MSETCL, Vashi
2) The Chief General Manager (F&A), MSETCL, Mumbai.

Copy to:-
1) The GM (F&A-Projects), MSETCL, Mumbai.
2) The S.E. EHV Project Circle, MSETCL, Kalwa
3) The E.E. EHV Project Division, MSETCL, Kalyan
4) The Branch Manager,
   Axis Bank Limited, BG confirmation Desk, Transaction Banking Operations,
   5th Floor, Gigaplex, Building no 1, Plot no. I T 5, MIDC,
   Airoli Knowledge Park, Airoli, Navi Mumbai. 400708.
   E-mail id - bg.confirmation@axisbank.com

Executive Engineer
TL Pretender

Executive Engineer
M.S.E.T.Co. Ltd.
E.H.V. Project Dn., Kalyan

ANNEXURE

'H'

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn. Kalyan

ANNEXURE

'E'

Executive Engineer
M.S.E.T.Co. Ltd.
E.H.V. Project Dn. Kalyan

ANNEXURE-'E'

MATERIAL PRICE VARIATION CLAUSE FOR AAC/AAAC/ACSR CONDUCTORS

The price quoted/confirmed for Aluminium Conductor is based on the input cost of raw materials as on the date of quotation. This is deemed to be related to the prices of raw materials, as specified in the price variation clause given below. In case of any variation in these prices, the prices payable shall be subject to adjustment up or down in accordance with the following formulae.

1. **AAC/AAAC Conductors**

$P = Po + WA (AL - ALo)$

2. **ACSR Conductors**

$P = Po + WA (AL - ALo) + WS (FS - FSo)$

Where

P – Ex-works price payable in Rs. per Km as adjusted in accordance with the price variation clause.

Po – Ex-works price quoted/confirmed in Rs. per Km.

WA – Weight of Aluminium in AAC/AAAC/ACSR Conductor in MT per Km as per the type of conductor (Refer the enclosed Annexure – A giving this factor for various types of conductors).

ALo – Price of Daily LME Cash Settlement Price of Aluminium. This price is applicable prevailing as on 30 days prior to the date of tender opening.

WS – Weight of Steel Content in ACSR conductors in MT per Km as per the type of conductor (Refer the enclosed Annexure – A giving this factor for various types of conductors).

FSo – Price of High Tensile Galvanised Steel Wire in Rs/MT as applicable [illegible]. This price is applicable prevailing as on 30 days prior to the date of tender opening.

For example, if tender is opened on 31st October [illegible], the applicable raw material prices [illegible] shall be those prevailing as on the 1st day of October [illegible].

AL – Price of Daily LME Cash Settlement Price of Aluminium. This price is applicable prevailing as on 30 days prior to the date of delivery.

FS – Price of High Tensile Galvanised Steel Wire in Rs/MT as applicable [illegible]. This price is applicable prevailing as on 30 days prior to the date of delivery.

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn. Kalyan

Executive Engineer
TL [illegible]

For example, if date of delivery is [illegible] December 2014, the applicable raw material prices (AL and FE) would be those prevailing as on the 1st day of December 2014.

The above prices and indices are as published by IEEMA.

The date of delivery for the purpose of price variation shall be the date on which the conductor is offered for final inspection/dispatch or the contractual delivery date whichever is earlier, when the supplies are effected within contractual delivery period. In case the supplies are effected after the contractual delivery period, the date of delivery for price variation purpose would be the one out of the above two on which the price variation is less.

Notes

1. All raw material prices of raw materials applicable to excise duty unless are exclusive of modvatable excise duty amount and exclusive of any other central, state or local levies, octroi etc.

2. Price of Daily LME Cash (SELLER) Settlement price of Primary Aluminium in US$ per MT is as published by London Metal Bulletin (LMB). Premium for supplies (US$ per MT) is added to this Daily LME price and converted to Indian Rs/MT using exchange rate and adding applicable customs duty.

   Monthly price circular will contain daily prices of Aluminium during the month as published by LME.

3. This price is of High Tensile Galvanised Steel Wire (in Rs/MT) for different sizes including the premium as quoted by a primary producer which is normally valid for the entire month. Further revision(s) in prices, if any, as quoted by the primary producer will also be published.

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Proj. Cn. Dn. Kalyan

Executive Engineer
TL Protendor

ANNEXURE - A

Weight Factors for various types of Conductors as per IS: 398

Sr No	Conductor types	Al/Al Strands	Steel Strands	Aluminium EC Grade/Alloy kg/km	HT GS Steel kg/km	Total kg/km
1	AAC GNAT	7/2.21	-	74.00	0.00	74.00
2	AAC ANT	7/3.10		145.00	0.00	145.00
3	AAC WASP	7/4.39		290.00	0.00	290.00
4	AAC PEONY	19/3.15		417.00	0.00	417.00
5	AAC SPIDER	19/3.99		654.00	0.00	654.00
6	AAC BUTTERFLY	19/4.55		888.00	0.00	895.00
7	ACSR - MOLE	6/1.50	1/1.50	29.00	14.50	43.50
8	ACSR - ROSE	6/1.96	1/1.96	50.00	23.00	73.00
9	ACSR SQUIRREL	6/2.11	1/2.11	58.00	27.00	85.00
10	ACSR WEASEL	6/2.59	1/2.59	87.00	41.00	128.00
11	ACSR RABBIT	6/3.35	1/3.35	145.00	69.00	214.00
12	ACSR - RACCOON	6/4.09	1/4.09	216.00	103.00	319.00
13	ACSR DOG	6/4.72	7/1.57	288.00	106.00	394.00
14	ACSR - WOLF	30/2.59	7/2.59	437.00	289.00	726.00
15	ACSR - PANTHER	30/3.00	7/3.00	588.00	386.00	974.00
16	ACSR - KUNDAH	42/3.53	7/1.96	1,116.00	165.00	1,281.00
17	ACSR - ZEBRA	54/3.18	7/3.18	1,185.00	438.00	1,623.00
18	ACSR - MORKULLA	42/4.13	7/2.30	1,553.00	226.00	1,779.00
19	ACSR - MOOSE	54/3.53	7/3.53	1,465.00	539.00	2,004.00
20	ACSR - BERSIMIS	42/4.57	7/2.54	1,900.00	278.00	[illegible]
21	ACSR - SNOWBIRD	42/4.58	7/2.??	1,887.00	210.00	[illegible]
22	ACSR - LAPWING	45/4.78	7/3.19	2,231.00	436.00	2,667.00
23	ACSR LYNX	30/2.79	7/2.79	507.00	337.00	844.00
24	ACSR DRAKE	26/4.44	7/3.45	1,116.00	512.00	1,628.00
25	ACSR - COYOTE	26/2.54	7/1.91	365.00	156.00	521.00

Executive Engineer
M.S.E.T.C.L. Ltd.
E.H.V. Projects [illegible], Kalyan

Executive Engineer
[illegible]

ANNEXURE - 4

Weight Factors for various types of Conductors as per IS: 398

Sr No	Conductor types	AAA Strands	Steel Strands	Aluminium EC Grade/Alloy kg/km	HTGS Steel kg/km	Total kg/km
26	AAAC - MOLE	[illegible]		60.15	0.00	60.15
27	AAAC - SQUIRREL	[illegible]		80.15	0.00	[illegible]
28	AAAC - WEASEL	[illegible]		94.90	0.00	94.90
29	AAAC - RABBIT	[illegible]		149.20	0.00	149.20
30	AAAC - RACCOON	[illegible]		218.26	0.00	218.26
31	AAAC - DOG	[illegible]		272.86	0.00	272.86
32	AAAC - DOG - UP	19/2.59		342.51	0.00	342.51
33	AAAC - COYOTE	19/3.15		406.81	0.00	406.81
34	AAAC - WOLF	19/3.40		474.02	0.00	474.02
35	AAAC - WOLF - UP	19/3.40		549.40	0.00	[illegible]
36	AAAC - PANTHER	19/3.04	-	655.67	0.00	[illegible]
37	AAAC - PANTHER UP1	37/3.15		794.05	0.00	794.05
38	AAAC - PANTHER UP2	[illegible]		952.56	0.00	[illegible]
39	AAAC - KUNDAH	[illegible]		1,101.63	0.00	[illegible]
40	AAAC - ZEBRA	37/4.04		1,200.06	0.00	[illegible]
41	AAAC - ZEBRA - UP	[illegible]		1,449.36	0.00	[illegible]
42	AAAC - MOOSE	[illegible]		1,570.71	0.00	1,570.71
43	AAAC - MORKULLA	[illegible]		1,666.20	0.00	1,666.20
44	AAAC - MOOSE - UP	61/3.53		1,771.26	0.00	1,771.26
45	AAAC - MORKULLA - UP	61/3.61		1,919.12	0.00	[illegible]
46	AAAC - HERCULES	61/3.70		2,115.54	0.00	[illegible]

Executive Engineer
TL Protander

Executive Engineer
M.S.E.T.Co. Ltd,
E.H.V. Proj. Div. Kalyan

ANNEXURE-"E"

MATERIAL PRICE VARIATION CLAUSE FOR AAC/AAAC/ACSR CONDUCTORS

The price quoted/confirmed is for Aluminium Conductor is based on the input cost of raw materials as on the date of quotation. It is deemed to be related to the prices of raw materials as specified in the price variation clause given below. In case of any variation in these prices, the prices payable shall be subject to adjustment up or down in accordance with the following formulae.

1. AAC/AAAC Conductors

   $P = Po + WA (AL - ALo)$

2. ACSR Conductors

   $P = Po + WA (AL - ALo) + WT (FE - FEo)$

Where

P – Price payable in Rs. per Km as adjusted in accordance with the price variation clause.

Po – Ex-works price [illegible] quoted/confirmed in Rs. per Km.

WA – Weight of Aluminium in AAC/AAAC/ACSR Conductor in MT per Km as per the type of conductor (Refer the enclosed annexure – A giving this factor for various types of conductors).

ALo – Price of [illegible] Settlement price of Aluminium.
This price is applicable prevailing as on 30 days prior to the date of tender opening.

WT – Weight of Steel Core in ACSR Conductor in MT per Km as per the type of conductor (Refer the enclosed annexure – A giving this factor for various types of conductors).

FEo – Price of High Tensile Galvanised Steel Wire in Rs./MT of appropriate size.
This price is applicable prevailing as on 30 days prior to the date of tender opening.

For [illegible] 1st October 2014, the applicable [illegible] prevailing as on the 1st day of October 2014.

AL – Price of [illegible] Settlement price of Aluminium.
This price is applicable prevailing as on 30 days prior to the date of [illegible]

FE – Price of High Tensile Galvanised Steel Wire in Rs./MT of appropriate size.
This price is applicable prevailing as on 30 days prior to the date of [illegible]

Executive Engineer
M.S.E.T.C.Co.Ltd.
E.H.V. Project Dn.Kalyan

Executive Engineer
TL Pr[illegible]

For example, if date of delivery is 31st December 2014, the applicable raw material prices/indices would be those prevailing as on the 1st day of December 2014.

The above prices and indices are as published by IEEMA.

The date of delivery for the purpose of price variation shall be the date on which the Purchaser is notified as being ready for inspection/despatch or the contractual delivery date whichever is earlier, wherever supplies are effected within contractual delivery period. In case the supplies are effected after the contractual delivery period, the date of delivery for price variation purpose would be the earliest of the above two on which the price would be lower.

Notes:

1. All domestic prices of raw materials applicable to excise duty units are exclusive of modvatable excise/CV duty amount and exclusive of any other central, state or local taxes, octroi etc.

2. Price of daily LME Cash SELLER Settlement price of Primary Aluminium in US$ per MT as published by London Metal Bulletin (LME). Premium for ingot in US$ per MT is added in this Daily LME price and converted in Indian Rs/MT using exchange rate and adding appropriate customs duty.

   Monthly price circular will contain daily prices of Aluminium during the month as announced by LME.

3. Price of High tensile Galvanised Steel Wire (in Rs/MT): The price of steel at the time the price is quoted by a primary producer, which is normally valid for the calendar month. Further revisions in prices, if any, as quoted by the primary producer will also be published.

Executive Engineer
TE Pretender

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn., Kalyan

ANNEXURE - A

Weight Factors for various types of Conductors as per IS: 398

Sr No	Conductor Types	Al/AA Strands	Steel Strands	Aluminium EC Grade/Alloy kg/km	HT GS Steel kg/km	Total kg/km
1	AAC – GNAT	7/2.21		74.50	0.00	[illegible]
2	AAC – ANT	7/3.10		145.00	0.00	145.00
3	AAC – WASP	7/4.39		290.00	0.00	290.00
4	AAC – [illegible]	[illegible]		425.00	0.00	[illegible]
5	AAC – SPIDER	19/3.99		654.00	0.00	[illegible]
6	AAC – BUTTERFLY	19/4.65		888.00	0.00	[illegible]
7	ACSR – MOLE	6/1.50	1/1.50	29.00	14.00	[illegible]
8	ACSR – ROSE	[illegible]	1/1.96	50.00	23.00	[illegible]
9	ACSR – SQUIRREL	6/2.11	1/2.11	58.00	27.00	[illegible]
10	ACSR – WEASEL	6/2.59	1/2.59	87.00	41.00	128.00
11	ACSR – RABBIT	6/3.35	1/3.35	[illegible]	[illegible]	[illegible]
12	ACSR – RACCOON	6/4.09	1/4.09	216.50	103.00	[illegible]
13	ACSR – DOG	6/4.72	7/1.57	288.00	[illegible]	[illegible]
14	ACSR – WOLF	30/2.59	7/2.59	437.00	295.00	[illegible]
15	ACSR – PANTHER	30/3.00	7/3.00	586.00	395.00	[illegible]
16	ACSR – KUNDAH	42/3.40	7/1.96	[illegible]	165.00	[illegible]
17	ACSR – ZEBRA	54/3.18	7/3.18	1,185.00	436.00	1,621.00
18	ACSR – MORKULLA	42/4.13	7/2.30	1,553.00	220.00	[illegible]
19	ACSR – MOOSE	54/3.53	7/3.53	1,466.00	[illegible]	[illegible]
20	ACSR – BERSIMIS	[illegible]	7/2.54	1,909.00	[illegible]	[illegible]
21	ACSR – SNOWBIRD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
22	ACSR – LAPWING	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
23	ACSR – [illegible]	[illegible]	7/2.79	[illegible]	[illegible]	[illegible]
24	ACSR – DRAKE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
25	ACSR – COYOTE	[illegible]	[illegible]	365.00	156.00	[illegible]

Executive Engineer
[illegible]

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn., Kalyan

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ANNEXURE - A

Weight Factors for various types of Conductors as per IS: 398

Sl No	Conductor types	Al/AA Strands	Steel Strands	Aluminum EC Grade/Alloy kg/km	Steel kg/km	Total kg/km
26	AAAC – MOLE	3/2.50	-	[illegible]	[illegible]	[illegible]
[illegible]	AAAC – SQUIRREL	7/2.00	-	[illegible]	[illegible]	[illegible]
[illegible]	AAAC – WEASEL	7/2.50		94.00	[illegible]	94.00
[illegible]	AAAC – RABBIT	7/3.15		[illegible]	[illegible]	[illegible]
30	AAAC – RACCOON	7/3.81	-	218.38	[illegible]	218.26
31	AAAC – DOG	7/4.26	-	[illegible]	[illegible]	[illegible]
32	AAAC – DOG – UP	19/2.89	-	342.51	0.00	342.51
33	AAAC – COYOTE	19/3.15	-	406.91	0.00	406.91
34	AAAC – WOLF	19/3.40	-	474.22	0.00	[illegible]
35	AAAC – WOLF – UP	19/3.66	-	549.15	0.00	[illegible]
36	AAAC – PANTHER	19/3.94	-	636.67	0.00	636.67
37	AAAC – PANTHER-UP I	37/3.13		704.05	0.00	704.05
38	AAAC – PANTHER-UP II	37/3.45		[illegible]	0.00	[illegible]
[illegible]	AAAC – KUNDAH	37/3.71		1,001.63	0.00	[illegible]
[illegible]	AAAC – ZEBRA	37/4.00		1,281.50	0.00	[illegible]
[illegible]	AAAC – ZEBRA – UP	61/3.21		1,443.43	0.00	[illegible]
[illegible]	AAAC – MOOSE	61/3.45		[illegible]	0.00	[illegible]
[illegible]	AAAC – MORKULLA	61/3.66		[illegible]	0.00	[illegible]
[illegible]	AAAC – MOOSE UP	61/3.68	-	[illegible]	[illegible]	[illegible]
[illegible]	AAAC – MORKULLA – UP	[illegible]		[illegible]	[illegible]	[illegible]
[illegible]	AAAC – BERSIMIS	61/4.06		[illegible]	[illegible]	[illegible]

Executive Engineer
TL [illegible]

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn., Kalyan

[illegible]
India

[illegible]

Cir. No. [illegible] Date: [illegible]

Sub: [illegible] Projects [illegible]
[illegible]

- [illegible] Revision of PV formulae for Transmission Line Towers (TLT) and [illegible] Accessories & Hardware (FLA&H) using JPC Market prices of steel Billets & [illegible]
- Revision in IEEMA PV clauses for TLT and FLA&H giving JPC RETAIL prices of Steel Billets & Blooms

IEEMA has been publishing prices of Steel billets and Blooms based on prices published by Joint Plant Committee (JPC) [illegible] under titled "JPC Indicative Market Prices" till April 2014 for using the [illegible] Price Variation Clauses for TLT and FLA&H, with effective from 1st July 2010.

However, from 1st April 2014, JPC has started publishing a different price [illegible] titled "JPC Prices (Retail)" [illegible] working of prices.

IEEMA has therefore decided to revise the PV formulae for TLT and FLA&H incorporating the above [illegible] prices [illegible] effective from 1st April 2014. [illegible] Retail prices of Steel billets and Blooms.

[illegible] base prices/indices of April 2014.

[illegible] 2014 [illegible] following [illegible] IEEMA PV clause.

- [illegible] April 2014 [illegible] PV clause.

- [illegible] 1st April 2014 [illegible] IEEMA PV clause.

Deputy Director General

[illegible]

Executive Engineer
TL [illegible]

[illegible]	[illegible]	[illegible]

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Proj. [illegible] Kalyan

(261)

ieema
your link to electricity

[illegible]
[illegible]
[illegible]
India

[illegible]
[illegible]
[illegible]
[illegible]

IEEMA/PVC/TLT/2010 (R-3) Effective Date: 1st April 2014

PRICE VARIATION CLAUSE FOR TRANSMISSION LINE TOWERS

The price quoted/confirmed is based on the input cost of raw materials/components and labour cost as on the date of quotation and the same is deemed to be related to prices of raw materials and all India average consumer price index number for industrial workers as specified in the price variation clause given below. In case of any variation in these prices and index numbers, the price payable shall be subject to adjustment, up or down in accordance with the following formula.

(A) Transmission Line Tower with both Heavy and Light angles

$$P = \frac{P_0}{100}\left(15 + 37\frac{SBHR}{SBHR_0} + 25\frac{SBHS}{SBHS_0} + 09\frac{Zn}{Zn_0} + \text{[illegible]}\frac{W}{W_0}\right)$$

(B) Transmission Line Tower with only Heavy angles

$$P = \frac{P_0}{100}\left(\text{[illegible]} + \text{[illegible]}\frac{SBHR}{SBHR_0} + 09\frac{Zn}{Zn_0} + \text{[illegible]}\frac{W}{W_0}\right)$$

(C) Transmission Line Tower with only Light angles

$$P = \frac{P_0}{100}\left(\text{[illegible]} + \text{[illegible]}\frac{SBHS}{SBHS_0} + 09\frac{Zn}{Zn_0} + 23\frac{W}{W_0}\right)$$

Where,

P = Price payable as adjusted in accordance with the above formula

P_0 = Price quoted/confirmed

$SBHR_0$ = Price of Steel (Heavy - Rolled) (Refer note [illegible])
This price is as applicable on the 1st working day of the month, one month prior to the date of tendering.

$SBHS_0$ = Price of Steel ([illegible]) (Refer note [illegible])
This price is as applicable on the 1st working day of the month, one month prior to the date of tendering.

Executive Engineer
T.L. Division

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn., Kalyan

IEEMA/PVC/TL/2014(9.1) (Basis date: 1st April 2014)

Zn0 - Price of Electrolytic High grade zinc (refer note)
This price is as applicable on the 1st working day of the month [illegible] prior to the date of tendering

W0 - All India average consumer price index number for industrial workers, as published by the Labour Bureau, Ministry of Labour, Govt. of India (base 2001 = 100) (refer note)
This index number is as applicable on the first working day of the month [illegible] prior to the date of tendering

For example, if date of tendering falls in May 2014, the applicable prices of Steel Round / Angles (SB0), Steel Billets/Rebar (SBR0) and Zinc (Zn0) should be for the month April 2014 and All India average consumer price index number (W0) should be for the month of February 2014.

The above prices and indices are as published by IEEMA vide circular reference no. [illegible] 2014 [illegible] month prior to the date of tendering.

SB1 - Price of Steel [illegible] (refer note)
This price is as applicable on the 1st working day of the month two months prior to the date of delivery

SBR1 - Price of Steel Billets/Rebar (refer note)
This price is as applicable on the 1st working day of the month two months prior to the date of delivery

Zn1 - Price of Electrolytic High grade zinc (refer note)
This price is as applicable on the 1st working day of the month [illegible] prior to the date of delivery

W1 - All India average consumer price index number for industrial workers as published by the Labour Bureau, Ministry of Labour, Govt. of India (base 2001 = 100) (refer note)
This index number is as applicable on the first working day of the month four months prior to the date of delivery

For example, if date of delivery falls in December 2014, the applicable prices of Steel [illegible] Steel Billets/Rebar (SBR1) and Zinc (Zn1) should be for the month October 2014 and all India average consumer price index number (W1) should be for month of August 2014.

(Contd. on [illegible])

Executive Engineer
M.S.E.T.Co. Ltd.
E.H.V. Pr[illegible] Dn, Kalyan

Executive Engineer
TL Protection

IEEMA/PVC/[illegible]/2014 [illegible]   Effective Date: 1st April 2014

The date of delivery is the date on which [illegible] notified as complete for inspection/dispatch. In the absence of such notification, the date of [illegible] will be considered as the date of delivery [illegible], whichever is earlier.

Notes: (a) All prices of raw materials are [illegible] of any other central, state or local levies, unless stated.
(b) All prices are as on first working day of the month.
(c) The details of prices are as under:

1. The prices of Steel Blooms (Retail) are the average Retail price of Blooms of size 150 x 150 mm of all makes ex plant, as published by Joint Plant Committee (JPC), Kolkata. Heavy angles of size above 110mm x 110mm are deemed to be related to this price.

2. The prices of Steel Billets (Retail) are the average Retail price of Billets of size [illegible] of all makes ex plant, as published by Joint Plant Committee (JPC), Kolkata. Light angles of size below & including 110mm x 110mm are deemed to be related to this price.

3. The price of Zinc [illegible] high grade [illegible] as [illegible]

4. Consumer price index [illegible] industrial workers [illegible] (W).

Deputy Director General

[illegible]

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn. Kalyan

Executive Engineer
TL Pre-tender

ANNEXURE

'J'

Executive Engineer
[illegible]
[illegible]

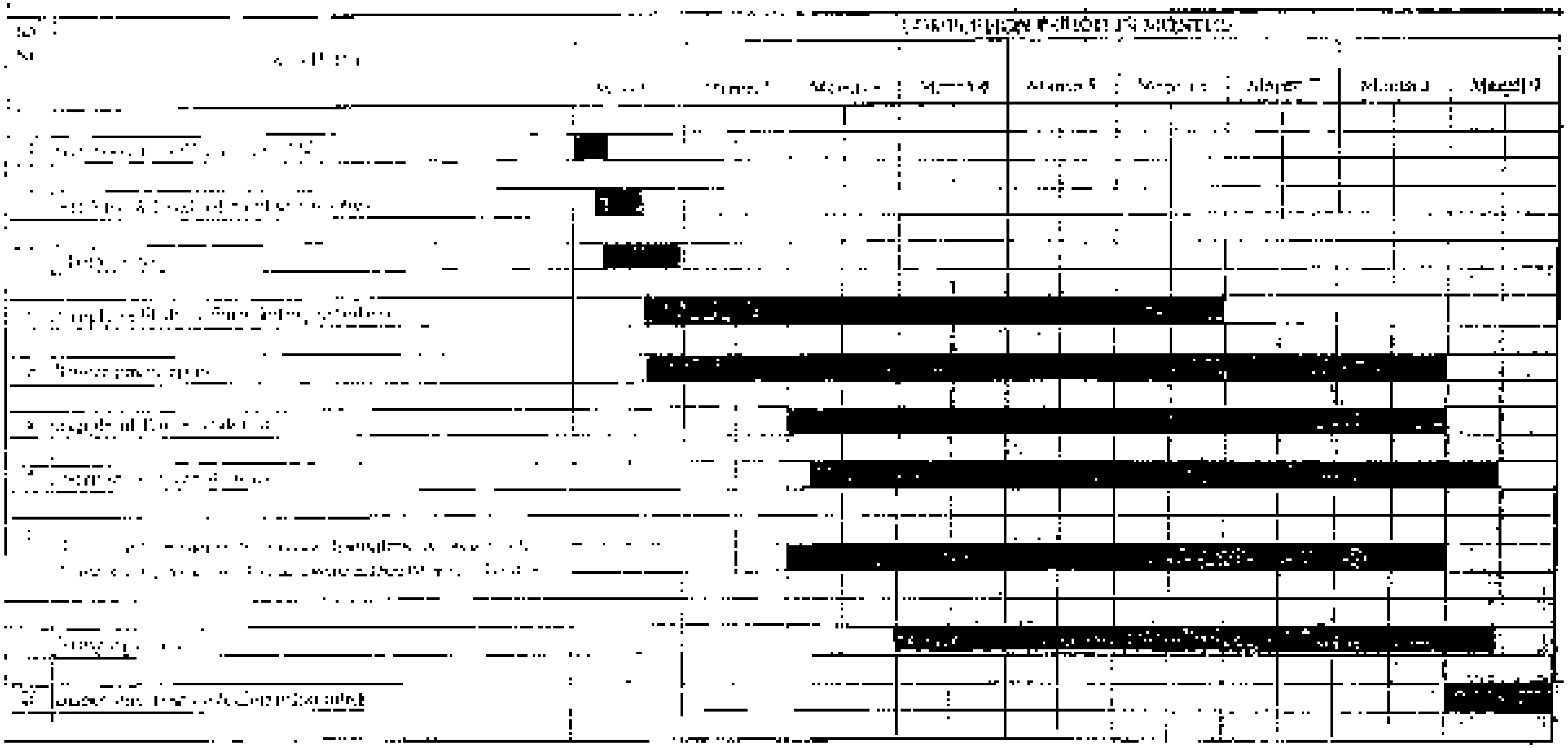
BAR CHART

[illegible]

[illegible]

[illegible] Power Projects Ltd

[illegible]



[illegible]

For [illegible] Power Projects Ltd

Executive Engineer

Executive Engineer
M.S.E.T. Co. Ltd
[illegible] Kalyan

205

[illegible]

[illegible]

TRUE EXTRACTS

[redacted]

[illegible]

[illegible]

[illegible]

Office copy

(Round Seal)

Third Copy
Fourth Original Copy

*To be sent to Divisional Forest Office
*To be sent to Circle Officer

Accused – (1) Mr. Mahesh G. Jadhav, Addl. E.E.(C)
S & I, Kalyan
(2) EHV Project [illegible]
Kalyan

Under Section 32, 33 of Indian Forest At, 1927 and
under Section 2 of Forest Conservation Act, 1980

First Intimation of Forest Offence

Encroached area 9 mtrs X 9 mtrs.

No. 10, 2020-21 Dt. 15/03/2021 (Particulars to be provided by Circle Officer)

Date of filing

Specified Area Dighashi Circle Dighashi 15/3/2021

Date of issue

Where it has taken place Circle Crime Number No. 29/E/2020-21

Particulars of crime – Today, as visited with staff for inspection towards eastern side of village Mouje Madosi, it appeared that Tower No. 75 in the transmission line via 220 Kv Padgha Wada line has been erected in forest land by encroaching in the land and constructing foundation and erecting the tower. GPS reading of the land obtained and panchanama thereof has been prepared and after preparing papers further investigation is going on.

Sd/-
Sign.
Circle Guard or Forester

Filed on

What arrangements are made about prisoner Divisional Order No.

What arrangements has been made for the goods seized Divisional Crime Register No.

Sd/-

Place Date

Divisional Forest Officer

N 1929583
07306312 (Sign)

* Keep what is required.

Translated by
Mr. Rajesh Sidram Dasa
A panel Translator of Govt. of Maharashtra
[illegible]
Language Pair – Marathi To English

TRUE TRANSLATION

MR. RAJESH SIDRAM DASA
Add.: Flat No. 501, [illegible] Katraj-Kondhwa
Road, [illegible] Pune – 411046
Mobile No. [illegible] Email: [illegible]

Asstt Supdt.
O/o R.J.D. Court Dibrugarh

[illegible]

১৮/০৩/২০২১ [illegible]

[illegible] ২৯/০৩/২০২১ [illegible]

[illegible]

Office copy

...... [Round Seal]
Third Copy
Fourth Original Copy

To be sent to Divisional Forest Office
To be sent to Circle Office

Accused :(1) Mr. Manoj D. Jadhav, Addl. E.E. (C)
[illegible] Kalyan
(2) EHV Project Mahapareshan
Kalyan

Under Section 32, 33 of Indian Forest Act 1927 and
under Section 2 of Forest Conservation Act 1980

First Intimation of Forest Offence

No. 11/2020-21 Dt. 15/03/2021

Encroached area 9 mtrs X 9 mtrs.
(Particulars to be provided by Circle Officer)

Specified Area - Dighashi Circle Dighashi

Date of filing
15/3/2021
Date of issue

Where it has taken place

Circle Crime Number :- No. 30/E/2020-21

Particulars of crime - Today, as started with state the inspection towards eastern side of village Dighashi Sainde, it appeared that Tower No. 57 of the transmission line of 220 Kv Padgha Wada line has been erected on forest land by encroaching on the land and constructing foundation and erecting the tower. GPS reading of the land obtained and panchanama thereof has been prepared and after preparing papers further investigation is going on.

Sd/-
Sign
Circle Guard or Forester
Forester Dighashi

Filed on

What arrangements are made about persons

Divisional Order No

What arrangements has been made for the goods seized

Divisional Crime Register No

Sd/-

Divisional Forest Officer

Place Date

N 1924617
E 07306848 (Sign)

Keep what is required

Translated by
Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
[illegible]
[illegible]
[illegible]
Language [illegible] Marathi & English

TRUE TRANSLATION

MR. RAJESH SIDRAM DASA
Flat No. 501, [illegible] Kondhwa
[illegible] Pune - 411048
Mobile No. [illegible] Email [illegible]

(১) শ্রী [illegible] [illegible]

[illegible]

(২) শ্রী [illegible]

[illegible]

[illegible]

(243)

[illegible]

[illegible]

[illegible]

[illegible]

प्रशासनिक अधिकारी
सिवानी

1) Mr. Ananta Shankar Sakpal, Age 54 years, Occupation : Farming, R/at : Madoshi, Tal. Bhiwandi

2) Mr. Arjun Madhu Jadhav, Age 60 years, Occupation : Agriculture, R/at : Madoshi, Tal. Bhiwandi

We, the undersigned Pancha are the permanent residents and we have arrived at the high tower constructed towards western side adjacent to Kunda Phata - Uchat Road of S. No. 54 Reserve Forest in Mouje Kunde in the matter of inquiry in F.C. No. 30/E/2020-21 Dt. 31/5/2021 with the Forester Dighashi and conducted inspection of the present circumstances and prepared Panchanama in writing which is as under :-

Today on 31/5/2021, the Forester Dighashi and others have found that there is an RCC construction caused at the place of electricity tower at western side of Kunde Phata - Uchat Road in S. No. 54 Reserve Forest in village Mouje Kunde, and thus electricity tower has been constructed illegally.

As we the Pancha alongwith the Forest Officer made inspection by getting there on actual site and as the Forester Dighashi asked to the accused Mr. Milind D. Jadhav, Addl. Executive Engineer, S & T Division Kalyan before us, the Pancha, he said that the work of 220KV M/s. Lilo Padgha Wada / Kosher - Wada Kudus Sub-Station transmission line is going on through the Kalyan Division of M/s. Mahapareshan, the construction has been caused after verifying 7/12 extract document of the land owner Mr. Laxman Janu Pilane, Mouje Kunde, Tal. Bhiwandi and this is what the Engineer of Mahapareshan Mr. Milind D. Jadhav told before us, the Panchas. The Forester Dighashi has said that in the year 1979, the Forest Department has transferred the said area to Revenue Department for local landless people. The said area is Protected Forest S. No. 54 and any such remark of Forest Department is not there on 7/12 extract. It appears that, on actual land, there are rice fields. There are no shrubs appearing on the said land. The holder is cultivating the said land for farming since many years. After having inspection in the vicinity is

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Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
[illegible]
[illegible]
[illegible]
Language: Marathi to English

TRUE TRANSLATION

MR. RAJESH SIDRAM DASA
Resi.: Flat No. 501, Paramount Gardens, Katraj-Kondhwa Road, Gokulnagar, Katraj, Pune - 411046
Mobile No.: [illegible] Email: rajeshdasa09@gmail.com

appeared that towards east, the land is possessed by Mr. Arjun Laxman Pisal and towards West and South, there is S. No. 34 B of Mr. Ladku Ganu Wadile and towards North side, the land of Mr. Arjun Laxman Pisal. It appears that as on today the entire land is under agricultural cultivation. It appears that there are no structures and towers of Forest Department in the said land.

Before, we the Panchs, the Forester Dighache had taken the measurements and GPS reading of the area where construction has been caused and tower erected which are as under :-

1) Area of construction 9 mtrs X 9 mtrs
2) GPS reading N 1929047 E 07306945

After obtaining measurements & GPS reading, the forester is saying before, we the Panchs that, as the work of changing status of the said land is pending at the higher level and as there is no status to the said land, it appears that the said land belonged to the Forest Department. The said encroached area falls within the Protected Forest S. No. 34 of Forest Department.

The Accused Mr. Milind D. Jadhav, Addl. Engineer states that, the Accused has caused construction and erected Towers by verifying papers and the circumstances without obtaining permission of the Forest Department. Therefore, it appeared that construction has been caused and tower has been erected inadvertently and unknowingly by considering that the land does not belonged to forest department. With reference to the said construction, we the Panchs, have arrived at opinion that the accused has violated provisions of Indian Forest Act.

The said Panchnama has been commenced at 1.00 pm and concluded that it is correct as per the instructions given by us and therefore we have put our signatures hereunder.

TRUE TRANSLATION

Translated by
Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
[illegible]
[illegible]
[illegible]
Language Pair - Marathi & English

MR. RAJESH SIDRAM DASA
[illegible] Flat No. 505, Paramount Gardens, Katraj Kondhwa
Road, Gokulnagar, Katraj, Pune - 411046
Mobile No. [illegible] Email [illegible]

Place Mouje Kunde, P. Forest, S.No. 84

Date 31/3/2010

Before | Before |
Sd/- | Sd/- | Sd/-

(Seal of Forest Range Officer
Dighashi)

Addl. Ex. Engineer
Sgl. Project Division
Kalyan

Sd/-

TRUE TRANSLATION

Translated by
Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
[illegible]
Language: Marathi To English

MR. RAJESH SIDRAM DASA
[illegible] Flat No. [illegible] Paramount Gardens, [illegible]
[illegible] Pune - 411046
Mobile No. [illegible] Email [illegible]

[illegible] (240)

[illegible]

[illegible]

[illegible]

[illegible] श्री. [illegible]

[illegible] श्री. [illegible]

[illegible]

[illegible]

[illegible] – 31|5|[illegible]

[illegible] अधिकारी
[illegible]

1) Mr. Ananta Shankar Sakpal, Age 54 years, Occupation : Farming, R/at Madoshi, Tal. Bhiwandi

2) Mr. Arjun Madhu Jadhav, Age 60 years, Occupation : Agriculture, R/at : Madoshi, Tal. Bhiwandi

We, the undersigned Pancha are the permanent residents and we have arrived at the high tower constructed adjacent to Ambhai Sagav Tal Road in S. No. 211, Reserve Forest in Mouje Dighashi in the matter of inquiry in F.C. No. 43/18/2020-21 Dt. 31/3/2021 with the Forester Dighashi and conducted inspection of the present circumstances and prepared Panchanama in writing which is as under : -

Today on 31/3/2021 the Forester Dighashi with staff have found that there is an RCC foundation is constructed at the place of electricity tower erected towards northern side of Ambhai – Sagav Road in S. No. 211 Reserve Forest in village Mouje Dighashi and thus electricity tower has been constructed illegally. As we the Pancha along with the Forest Officer caused inspection by going there on actual site and as the Forester Dighashi asked to the Accused Mr. Milind D. Jadhav, Addl. Executive Engineer, S & I Division Kalyan before us, the Pancha, he said that the work of 220KV M/s. Line Padgha Wada / Kolshet – Wada Kudus Sub Station transmission line is going on through the Kalyan Division of M/s. Mahapareshan and the construction has been caused after verifying 7/12 extract document of the land owner Mr. Mahadev Dagdu Jadhav, R/at Mouje Madoshi, Tal. Bhiwandi and that is what the Engineer of Mahapareshan Mr. Milind D. Jadhav told before us, the Pancha. The Forester Dighashi has said that, there are Government Orders issued directing that, in the year 1964 the Forest Department has transferred the said Protected Forest area S. No. 211 for Koyna Rehabilitation. Any remark of Forest Department is not there on 7/12 extract. It appears that, on actual land, there are rice fields. There are no shrubs appearing on the said land. The holder is cultivating the said land for farming since many years. After having inspection in the vicinity, it appeared that towards east, there is a land possessed by Mr. Mahadu Dagdu Jadhav, having its 7/12 extract with S. No. 65/4 and it appeared that there is rice filed and towards West, there is a land possessed by Mr. Mahadu Dagdu Jadhav having its 7/12 extract with S. No. 65/4 and it appeared that there is rice filed. Towards South, it appears that there is Ambai Sagav Road and towards North, there is a land possessed by Mr. Mahadu Dagdu Jadhav, having its 7/12 extract with S. No. 65/4 and it appeared that there is rice filed. It appears that there are no structures and towers of Forest Department on the said land.

Before, we the Panchs, the Forester Dighadu had taken the measurements and GPS reading of the area where construction has been caused and tower erected which are as under :-

1) Area of construction 9 mtrs. X 9 mtrs
2) GPS reading N 1919555 E 07306525

After obtaining measurements & GPS reading, the forester is saying before we the Panchs that, as the work of changing status of the said land is pending at the higher level and as there is no status to the said land, it appears that the said land belonged to the Forest Department. The said encroached area falls within the Protected Forest S. No. 211 of Forest Department. The Accused Mr. Milind D. Jadhav, Addl. Engineer states that, the Accused has caused construction and erect Towers by verifying papers and the circumstances without obtaining permission of the Forest Department. Therefore, it appeared that construction has been caused and tower has been erected inadvertently and unknowingly by considering that the land does not belonged to forest department. With reference to the said construction, we the Panchs have arrived at opinion that the Accused has violated provisions of Indian Forest Act.

The said Panchnama has been commenced at 11.00 pm and finished on 1.00 pm. The said Panchanama and confirmed that it is correct as per the instructions given by us and therefore we have put our signatures hereunder.

Translated by
Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
Appointed at Sr. No. [illegible] to the Panel constituted by the Government of Maharashtra vide a GR No. [illegible]
[illegible]
Language Pair : Marathi ⇄ English

TRUE TRANSLATION

MR. RAJESH SIDRAM DASA
Add.: Flat No. 501, [illegible] Katraj-Kondhwa
Road, [illegible] Pune - 411046
Mobile No. [illegible] Email: [illegible]@gmail.com

Place : Mouje Dighashi, P. Forest S. No. [illegible]

Date : 25/5/2023

Before	Before	
Sd/-	Sd/-	Sd/-
{ Seal of Forest Range Officer Dighashi }	Addl. Ex. Engineer Spl. Project Team Kalyan	Sd/-

Translated by
Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
Appointed at Sr. No. [illegible] appointed by the
Government of Maharashtra vide G.R. No. [illegible]
[illegible]
Language Pair – Marathi & English

TRUE TRANSLATION

MR. RAJESH SIDRAM DASA
Res : Flat No. 501, Paramount Gardens, Balaji Nagar,
Road, Gokulnagar, Katraj, Pune – 411046
Mobile No. [illegible] Email : [illegible]@gmail.com

Asstt Supdt.
Civil A.J.O.C. Srinagar

[illegible]

[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible], [illegible] [illegible], [illegible] [illegible]
[illegible] ([illegible]) [illegible] [illegible], [illegible], [illegible] [illegible]

[illegible] [illegible] पत्र क्र. [illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] दि. [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible], [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] ([illegible]), [illegible], [illegible]
[illegible], [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible]

५

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Before the Hon'ble Forest Range Officer, Padgha

Statement given by : Milind D. Jadhav, Additional Executive Engineer (Civil), [illegible], Sub-Division Kalyan, Mahapareshan Co. Ltd.

Sir,

As required by you vide your letter bearing O. No. Kakshe-1/Jamin Vrukshya/716 Year 2020-21 Padgha 421 101 Dt. [illegible] 2021, I, Milind D. Jadhav, Additional Executive Engineer (Civil), Maharashtra Electricity Transmission Co. Limited giving statement as under :

That the electric line connecting Lilo 220 KV Padgha – Wada, Kolshet Wada 400 KV Kudus substation has been sanctioned vide M.P.E. 112/16. Thereafter this Department has handed over the survey work of the said electricity line to M/s. Vinayaka Consultancy. Accordingly, the said work was completed in the year 2017. While conducting survey of this work it appeared that this electric line is passing through village Dighashi, Kunde, Chinchwadi and Elsal. This Department has given clear instructions to this contractor that the way of the proposed electrical line be planned from least forest area rather it can be excluded. As per the letter issued by you as mentioned hereinabove, the work of Tower No. 56 at the proposed electrical line in Forest S. No. 211 in village Mouje Dighashi is completed and the Tower No. 57 in Protected Forest S. No. 74 of village Kunde is also erected.

Accordingly, it is hereby informed to you that, while conducting the survey, we found that, the land bearing Survey No. 65/1 out of Protected Forest Survey No. 211 in village Mouje Dighashi is in the name of the occupant i.e. Mr. Mahadev Dagdu Jadhav. Any claim of Forest Department is not there on 7/12 extract thereof. Therefore, said area was considered as non forest area. Therefore, inadvertently, the Contractor appointed by

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Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
Appointed at Sr. No. [illegible] in the Panel announced by the Government of Maharashtra vide its GR No. Marathi-[illegible]
[illegible] 2021
Language Pair : Marathi & English

TRUE TRANSLATION

MR. RAJESH SIDRAM DASA
R/at. Flat No. 501, [illegible] Gardens, Katraj-Kondhwa Road, [illegible] Katraj, Pune - 411046
Mobile No. [illegible] Email: [illegible]

this department has not conveyed to this Department that the said land belonged to Forest Department. Further, the Tower No. 37 falls to Survey No. 34 of Forest Survey and while verifying the said land while conducting survey, it appeared that, on 7/12, the said land has been shown in the name of Revenue Department. Verifying the said land, it appears that there are no marks of forest department in the said land. It did not found that the said land is a forest area.

In view of both sites of tower and entries on 7/12 extract, it appeared that, the present status of the said land is agriculture. Therefore, this department has inadvertently considered that the said land is not a forest land and fixed the place of tower. In this regard, there was no deliberate intention to erect towers of line through the forest land.

Therefore, as per the said land, as our department has inadvertently violated rules of forest department in this work, proper decision be taken at your level. Therefore, I am writing and delivering my statement accordingly.

Place: Forest Range Office, Padghe

Date: 4/3/2021

Sd/-

Milind D. Jadhav
Additional Executive Engineer (Civil)
Maharashtra State Transmission Electricity Co. Ltd.

Before
Sd/-
R.F.O. Padgha

Translated by
Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
Appointed at Sr. No. [illegible] in the Panel approved by the
Government of Maharashtra vide G.R. No. [illegible]
2019 [illegible]
Language Pair: Marathi, English

TRUE TRANSLATION

MR. RAJESH SIDRAM DASA
Add: Flat No. 511, [illegible] Gardens, Katraj Kondhwa
Road, Gokulnagar, Katraj, Pune – [illegible]
Mobile No: [illegible] Email: [illegible]

MAHATRANSCO
MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.

From,
Office of the Executive Engineer,
EHV Projects [illegible] Dn. [illegible]
[illegible] Mandal,
[illegible] M.S.E.T. Co. Ltd., Kalyan (W)
[illegible]
Tel: 0251 [illegible] / Fax: 0251 [illegible]
E-mail: [illegible]@mahatransco.in

To,
The Range Forest Officer,
Padghe

Ref No: EE/EHV/PR/DN/KLN/T-2566 /No. 249 Date: 24 [illegible]

Sub: [illegible] LILO on 220 kV Padghe - Wada [illegible]
[illegible]
[illegible] Tower erection work at Loc. No. 37 & 38.

Ref: [illegible] 2020-2021 [illegible]

Sir,

With respect to the above subject this office is in receipt of letter [illegible] regarding violation of forest act. As per your letter [illegible] that following officers will represent MSETCL side
1. [illegible] Addl. Ex. Engineer, The then subdivision [illegible]
2. Shri. [illegible] Addl. Ex. Engineer [illegible]

This is for your information please.

Vijay B. [illegible]
Executive Engineer [illegible]
EHV Projects Dn. [illegible]

Copy s.w.r. to:

1. [illegible] Engineer, EHV Projects Circle [illegible]

वनक्षेत्रपाल पडघा याच कार्यालय

[illegible]

(216)

विषय :- [illegible]

[illegible]

[illegible]

[illegible]

[Logo]

Office of the Forest Range Officer, Padgha
Opposite [illegible] Hospital, Padgha Bhiwandi Road, Telephone No. [illegible]

Letter

Subject : **220 KV Padgha-Wada Transmission Line**
Regarding unauthorized construction of towers caused in the Protected Forest area in the village of Mouje Dighashi and Mauje Kunda

O. No. Raksha -1/Jaman/Vruksha/716 Year 2020-21.
Padgha - 421 101 Date - 25.02.2021

To
Hon'ble Executive Engineer,
[illegible] Extra High Voltage Department
Kalyan

With reference to the caption, construction of Tower No. 37 in Protected Forest area S. No. 211 in the Padgha Forest Range in village of Mauje Dighashi and Tower No. 36 in Protected Forest area S. No. 54 in village of Mauje Kunda caused without obtaining any prior permission from the Forest Department in the year 2019 – 20 and towers are erected. It has been observed that as the construction has been carried out in the said area without obtaining any prior permission, an offence has been committed by you under Section 33, 63 of the Indian Forest Act, 1927 and Section 2 of the Forest Conservation Act, 1980. The concerned officers/employees under whose tenure the said construction has been caused are hereby informed to remain present in person at 11.30 am on 02.03.2021 at the Forest Range Office for recording their statement. After recording statements, further action will be taken, note of which may be taken.

Sd/-

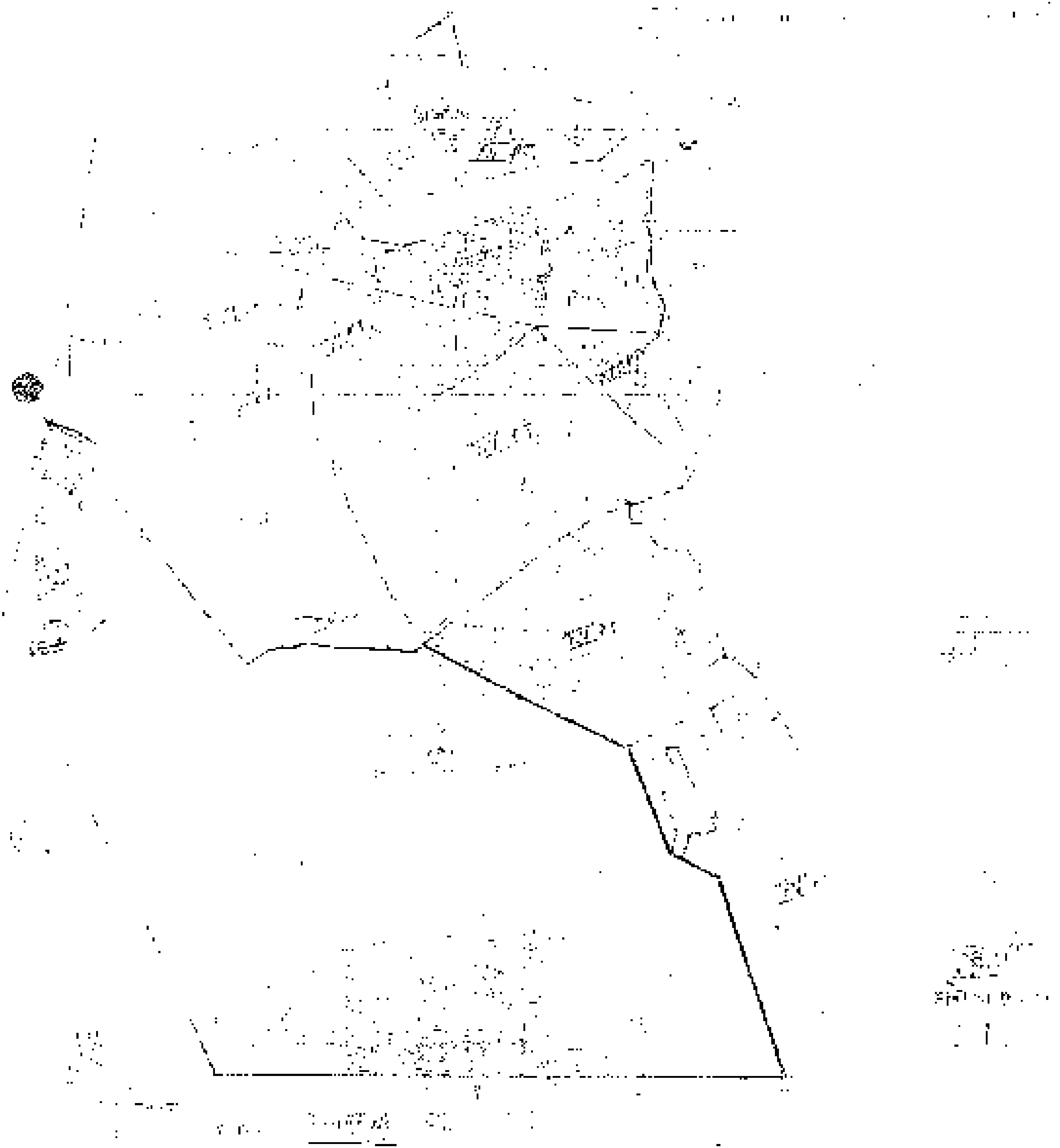
(Sanjay Dhotwane)
Forest Range Officer
Padgha (S)

Sd/-

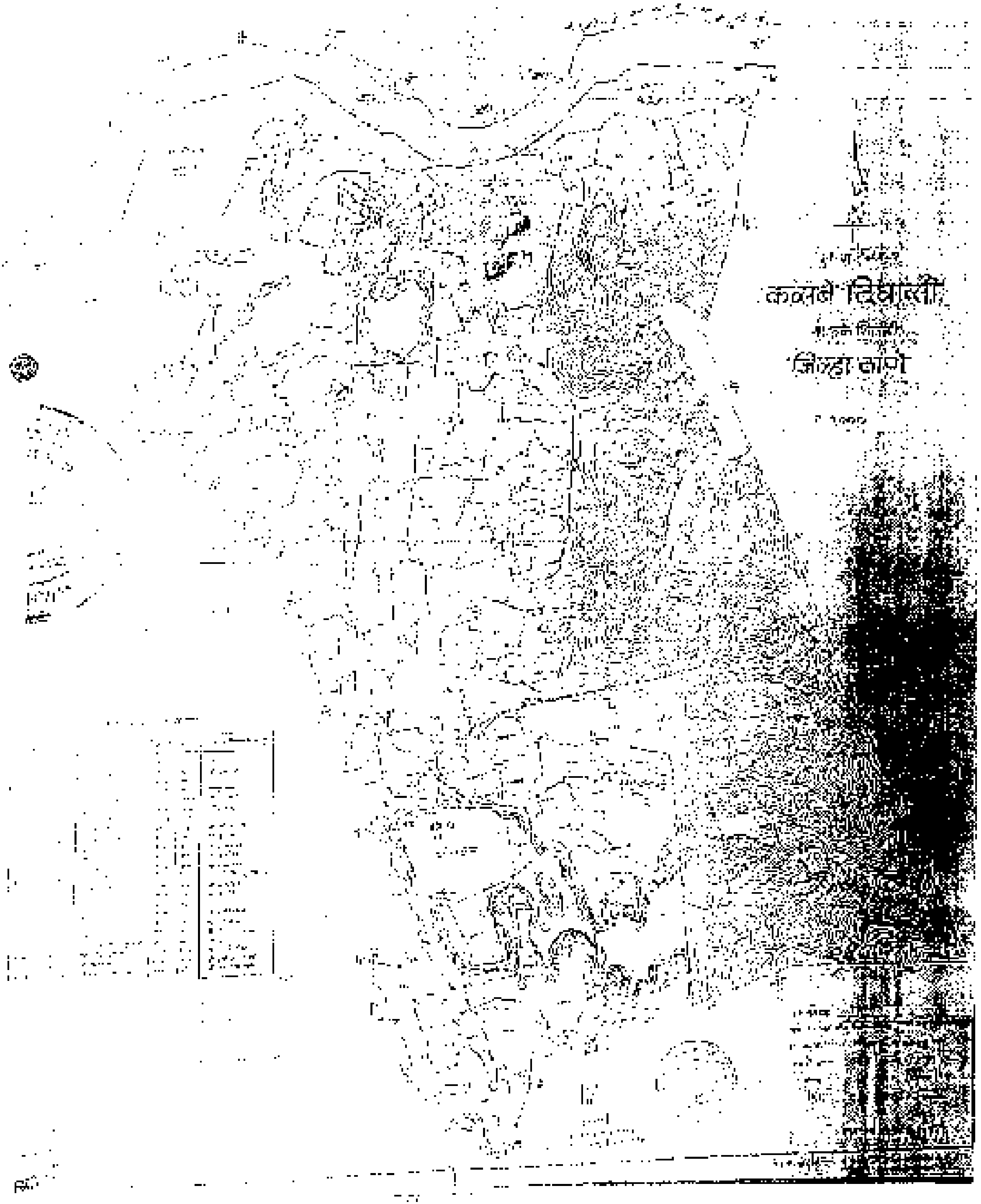
Translated by
Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
[illegible]

TRUE TRANSLATION

MR. RAJESH SIDRAM DASA
Resi: Flat No. 501, Paramount Gardens, [illegible] Kondhwa
Road, [illegible] Pune - [illegible]
Mobile No. [illegible] Email: [illegible]



Asstt. Supdt.
2nd Sr. J.D. C. [illegible]



कळवणे दिंडोरी
जिल्हा नाशिक

2nd AJD [illegible]

वनक्षेत्रपाल पडघा यांचे कार्यालय

[illegible]

प्रमाणपत्र

[illegible] कार्यालय, [illegible] [illegible] Forest land for Construction and laying of 220 KV [illegible] 220 KV Padgha - Wada & Kalwa [illegible] radius [illegible] passing through [illegible] Padgha [illegible] Maharashtra State Electricity Transmission Company Limited [illegible] अधिनियम 1980 [illegible]

[illegible]

[illegible] अधिकारी

पडघा

[Logo]

Office of the Forest Range Officer, Padgha

Opposite Rural Hospital, Padgha Bhiwandi Road, Telephone No. 02522-202045.

Certificate

This certificate is being issued from the Forest Range Office, Padgha that under the proposal of Diversion of 14.10 ha forest land for construction and laying of 220 KV LILO M/C transmission Line on 220 KV Padgha – Wada and Kolshet-Wada Tr. Line for 400KV Kudus Sub Station passing through Thane District, the Maharashtra State Electricity Transmission Company Limited sought the forest land admeasuring about 14.10 Hect. Area under Section 2 of the Forest (Conservation) Act, 1980. Thus, the forest land as sought by the said project authority was inspection and confirmed that the area sought is correct. Further, tree counting and marking work under the proposal is done and list has been prepared. Therefore, as the project authority has stated in their statement that the violation of Section 2 of the Forest (Conservation) Act, 1980 caused as such was caused inadvertently. After confirming the same, this certificate is being issued.

Sd/-

(Sanjay Dharwane)
Forest Range Officer
Padgha (S)

Translated by
Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
[illegible]
[illegible]
[illegible]
Language Pair – Marathi-English

TRUE TRANSLATION

MR. RAJESH SIDRAM DASA
Resi.: Flat No. 501, [illegible] Garden, Katraj-Kondhwa
Road, Gokulnagar, Katraj, Pune - 411046
Mobile No.: [illegible] Email: [illegible]

Justin Smith
2nd [illegible] Barrister

दूरध्वनी क्र. 022-2540[illegible]
ईमेल [illegible]@gmail.com

महाराष्ट्र शासन
वन विभाग
सहा. वनसंरक्षक भिवंडी (मुख्यालय-ठाणे) यांचे कार्यालय
[illegible], ठाणे-400 60[illegible]

जा.क्र. [illegible] / [illegible] / 2024-25 दिनांक : 1[illegible] मार्च, 2025

प्रति,

Executive Engineer

EHV Project Division, Kalyan

विषय : Diversion of 12.0225 Ha. Forest Land in favour EHV Project Division, Kalyan for Construction and laying of 220 KV Lilo M/C Transmission Line on 220 KV Padghe Wada & Kolshet Wada D/C Line for 400 KV Kudus Sub station passing through Village Eksal, Chinchvali, Kunde & Dighashi Tal. Bhiwandi Dist. Thane in the state of Maharashtra

संदर्भ : [illegible] 25/[illegible] 5569 दि. 21/02/2025

उपरोक्त [illegible] वन संवर्धन अधिनियम 1980 अंतर्गत Diversion of 12.0225 Ha. Forest Land in favour EHV Project Division, Kalyan for Construction and laying of 220 KV Lilo M/C Transmission Line on 220 KV Padghe Wada & Kolshet Wada D/C Line for 400 KV Kudus Sub station passing through Village Eksal, Chinchvali, Kunde & Dighashi, Tal. Bhiwandi Dist. Thane in the state of Maharashtra [illegible] अधिनियम 1950 कलम 3A व 3B [illegible]

[illegible] 37 व 38 [illegible]

Cashinane

(संदीप [illegible])
सहा. वनसंरक्षक, भिवंडी
(मुख्यालय - ठाणे)

[Logo] [Govt. Emblem]
Phone No. [illegible] **Government of Maharashtra**
Email [illegible] **Forest Department**
Office of Asst. Conservator of Forest, Bhiwandi (Headquarter - Thane)
Marathon Circle, Lal Bahadur Shastri Marg, Naupada, Thane - 400 601.

O.No. [illegible] Date – [illegible] March 2025

To
Executive Engineer
EHV Project Division, Kalyan.

Subject : Diversion of [illegible] Ha. Forest Land in favour of EHV project Division, Kalyan for construction and laying of 220 KV Lilo M/C Transmission Line on 220 KV Padgha Wada and Kolshet Wada Tr. Line for 400 KV Kudus substation passing through village Ekshal, Chimbhivali, Kundhe and Dighashi Tal. Bhiwandi Dist. Thane in the State of Maharashtra

Reference : Letter bearing No. 25/B/Mojani/FCA/[illegible] Dt. 21/02/2025 issued by the Deputy Conservator of Forest, Thane

As mentioned in the referred letter with reference to the case mentioned hereinabove, it has been informed by the Central Government that action shall be taken as directed under Section 3A and 3B of the Forest (Protection and Conservation) Act 1980 in respect of the proposal for demand of forest land made under Forest Conservation Act 1980, vide Diversion of [illegible] Ha. Forest Land in favour EHV project Division, Kalyan for construction and laying of 220 KV Lilo M/C Transmission Line on 220 KV Padgha Wada and Kolshet Wada Tr. Line for 400 KV Kudus substation passing through village Ekshal, Chimbhivali, Kundhe and Dighashi Tal. Bhiwandi Dist. Thane in the State of Maharashtra.

In the present case, attested copies of the papers pertaining to the tender for said work, technical and administrative approvals, work commencement orders, agreement and the period of commencement of work on Tower No. 37 and 38, the period of erection of the Tower and the name and posts of the officers supervising the work of the tower as well as the measurements taken before conducting work in the forest area alongwith supporting documents and all relevant documents be submitted to this office with first priority.

Sd/-
(Amol Gharge)
Assistant Conservator of Forests
(Headquarter – Thane)

TRUE TRANSLATION

Translated by
Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
[illegible]
[illegible]
[illegible]
(Language [illegible])

MR. RAJESH SIDRAM DASA
[illegible]
[illegible] Pune - [illegible]
Mobile No. [illegible] Email [illegible]

महा[illegible]

CIN NO.U40109MH2005SGC153646

महाराष्ट्र राज्य विद्युत पारेषण कंपनी मर्यादित

प्रेषक,
कार्यकारी अभियंता यांचे कार्यालय,
अ.उ.दा. प्रकल्प विभाग, कल्याण, तेजश्री इमारत, २ रा मजला,
[illegible] रोड, [illegible] कल्याण (प) जि. ठाणे,
पिनकोड ४२१ ३०१,
ई-मेल- ee7620[illegible]@mahatransco.in

जा.क्र. का.अ./अउदाप्र वि/कल्याण/नाशिक/ 01352 दिनांक :- 26 MAR 2025

प्रति,
मा. उपवनसंरक्षक, भिवंडी
[illegible] ठाणे कार्यालय
[illegible] शास्त्री [illegible]
[illegible] ४००६०२.

उप-विभागीय वन अधिकारी कार्यालय
भिवंडी, ठाणे
आवक क्रमांक
दिनांक 28/3/2025
शाखा

विषय :- Diversion of 12.0225 ha Forest Land in favour EHV Project Division Kalyan for construction and laying of 220 KV M/C Transmission Line on 220 KV Padghe Wada & Kolshet Wada Tr. Line for 400 KV kudus sub station passing through village Eksal, Chinnchwali, Kundo & Dighoshi tal Bhiwandi Dist Thane in the state of Maharashtra

संदर्भ :- १) उपवनसंरक्षक, ठाणे यांचेकडील पत्र क्र. [illegible]/एफसीए/5559 दि. [illegible]
२) [illegible] सन २०२४-२५ दि. [illegible].२०२५
३) [illegible] क्र. का.अ./अउदाप्र वि/कल्याण/नाशिक/१३२८ दिनांक : [illegible]

उपरोक्त संदर्भीय पत्र क्र. ३ नुसार, आपणास [illegible] टॉवर क्र. [illegible] व ३८ [illegible] व [illegible] मे. BNC Power Project Ltd, 303, तीसरा मजला, [illegible] पुणे, ४११ ०२१ [illegible] श्री. [illegible] आहे.

पुढील कार्यवाहीसाठी सादर.

(अजय वा. [illegible])
कार्यकारी अभियंता,
[illegible]
अ.उ.दा. प्रकल्प विभाग, कल्याण

प्रत माहितीस्तव सादर:
मुख्य अभियंता [illegible]
प्रत सादर
[illegible]

[Logo] [Logo] [Logo]

Mahapareshan

CIN NO. U40109MH2005SGC153646

Maharashtra State Electricity Transmission Company Limited

From,

Office of the Executive Engineer

E.H.V. Project Department, Kalyan, Tejashree Building, 2nd Floor,

Jahangir Maidan, Karnik Road, M.S.E.T. Co. Limited, Kalyan (W) Dist. Thane,

Pin Code No. 421 301

Email: ee7620mahatransco.in

O. No. Ka.A./EHV.Pra.Vi./Kalyan/Tantrik/02352 Date :- 26 MAR 2025

To,

Assistant Conservator of Forest Bhiwandi

Headquarter Thane Office,

Maratha Mandal, Lal Bahadur Shastri Marg, Road

Naupada Thane, 400602

Sub-Divisional Forest Officer Office

Mangrove Thane

Inward Number

Date [illegible] 2025

Branch

Subject :- Diversion of [illegible] Ha. Forest Land in favour of EHV project Division Kalyan for construction and laying of 220 KV LILO M/C Transmission Line on 220 KV Padgha Wada and Kolshet Wada [illegible] Line for 400 KV Kudus Substation passing through village [illegible] and Dighashi Tal. Bhiwandi Dist. Thane in the state of Maharashtra.

Reference :-

1. Letter of Deputy Conservator of Forests, Thane bearing O. No. 15/E/Mojani/FCA/5559 Dt. [illegible]/2025
2. O. No. [illegible]/499/Year 2024-25 Dt. 10th March 2025
3. O. No. Ka.A./EHV.Pra.Vi./Kalyan/Tantrik/1526 Date 25.03.2025

As per the letter referred at Sr. No. 3 hereinabove, it is hereby informed to you that the foundation and erection work of Tower No. 37 and 38 was carried out under the supervision of site supervisor Mr. [illegible] Sakpal of the Contractor Company viz. M/s. [illegible] Power Project Ltd. 505, 5th floor, [illegible], Behind Central [illegible] Pune - 411 021

Submitted for further action.

Sd/-

(Ajay V. Athawale)

Executive Engineer

M. S. E. T. Co. Ltd.

E.H.V. Project Division, Kalyan

Copy humbly submitted to,

Superintendent Engineer E.H.V. Project Circle Kalwa

Copy submitted to :-

Additional Executive Engineer [illegible] Sub-Division Kalyan

Translated by

Mr. Rajesh Sidram Dasa

A Panel Translator of Govt. of Maharashtra

[illegible]

Language Pair : Marathi & English

TRUE TRANSLATION

MR. RAJESH SIDRAM DASA

Wing-[illegible] Flat No. 501, Paramount Gardens, [illegible]

[illegible] Pune - 411[illegible]

Mobile No. [illegible] Email [illegible]

Project Name: Diversion of 12.0225 ha. forest land for construction & laying of 220 KV LILO M/C transmission line on 220 KV Padghe-Wada & Kolshet-Wada line to 400 KV Kudus substation passing through Thane District.

VIOLATION REPORT

Sr. No.	Object	Particulars
1	Name of Agency	Maharashtra State Electricity Transmission Company Limited.
2	Name of Project	Diversion of 12.0225 ha. forest land for construction & laying of 220 KV LILO M/C transmission line on 220 KV Padghe-Wada & Kolshet-Wada line to 400 KV Kudus substation passing through Thane District.
2a	Whether the project is under EGS or Plan	No
3	Location/Compt No a) Village b) Taluka c) District	Shown in Area Statement attached separately Saksal, Chinchavali, Kunde & Dighashi Bhiwandi Thane
4	No and date of Technical Sanction	MBR NO. 112/26 Dt. 17.11.2016
5	No and date of Administrative approval	MBR NO. 112/26 DT. 17.11.2015
6	Period of work on Forest land	2018-2019
	a) Date of starting work	Loc No. 37 – 23-03-2018 Loc No. 38 – 05-04-2018
	b) Date of Stopping Work	Loc No. 37 – 11-[illegible]-2018 Loc No. 38 – 27-04-2018

7.

Sr No	Item	Location	Forest Land involved in ha.	Extent on violation of Forest Land	Amount Sanction on the item started	Amount on violation on item No. 2	Remarks
1	2	3	4	5	6	7	8
1	220 KV LILO M/C transmission line on 220 KV Padghe-Wada & Kolshet-Wada line for 400 KV Kudus S.S.	Loc. No. 37	12.0225 Ha	0.015876 Ha.	4187296.02	4487598.63	
		Loc No. 38		0.0[illegible]56 Ha.	5509041.82	5509681.82	
	Total		[illegible] Ha	0.041[illegible] Ha	1008[illegible]380.[illegible]	[illegible]	

8

Sr.No	Name of Work	Quantity	Expenditure	Period of work done
1	Diversion of [illegible].25 ha. forest land for construction & laying of [illegible] KV HVDC transmission line from 400 KV Padghe-Warla & Kalwa [illegible] Line for 400 KV Kudus substation passing through Thane District.	Total [illegible] No of towers erected on forest area	300875804	2018-2019

9. Name of Officers responsible for violation.

Name of the Officer	Designation	Period of violation
Shri T.P. Wankhede	Addl. Executive Engineer	2018-2019

10. Whether the violation case fit in the criteria in G.R. No. Revenue and Forest Department No. FLD/1089/CR/475 Part/F-10 dated 21/09/1991.

a) If yes at which para - No.

11. If no, Why - As the case is of transmission line proposal

12. Action propose by the agency against the officer responsible for violation

Name of the Officer	Designation	Action Taken
Shri T.P. Wankhede	Addl. Executive Engineer	Transferred to HVDC Padghe Substation

It is certified that the information in foregoing points is verified by me and found to be correct.

Place: Thane
Date: / /2019

(VIJAY AWARE)
Executive Engineer
EHV Project Division, Kalyan.

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn. Kalyan

13. **Remarks of Deputy Conservator of Forests**

After verification of the documents submitted by the user agency for the proposed project, it has been noticed that, the violation is done of the Construction and laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe Wada & Kalshet Wada T-line for 400 KV Kudus Sub Station passing through Thane District. The violation was done, the project authority is ready to compensate in terms of Penal Compensatory Afforestation, Penal Net Present Value (Calculated as per Eco Class I as directed by Government of India.

Place : Thane

Date : 15/07/2022

Deputy Conservator of Forests
Thane Forest Division
Thane

Deputy Conservator of Forests
Thane Forest Division, Thane

14. Remarks of Chief Conservator of Forests

Chief Conservator of Forests
Thane Forest Division
Thane

15. Remarks of the Principal Chief Conservator of Forests

Principal Conservator of Forests
Maharashtra State
Nagpur

6937
75

Violation Note

DETAILS & NECESSITY OF PROJECT ALONGWITH BENEFITS.

MSETCL – Government of Maharashtra undertaking company has proposed to take up the work of construction of 220 KV Padghe-Wada & Kolshet-Wada transmission line, Thane District, Maharashtra State vide GOR NO. 112/26 DT. 19.11.2016. The proposal entails diversion of 12.0225 Ha forest area in Kaksal, Chinchavali, Konde & Dighashi Village under Section 2 of the Forest (Conservation) Act 1980. Therefore for laying of transmission line forest clearance from Ministry of Environment, Forest & Climate Change (GOI) is required.

BENEFITS OF PROJECT :

1. Strong & reliable source of 400 KV source will be made available for Mumbai & Suburban areas.
2. Strengthening of Power supply to commercial capital of India by providing continuous and reliable power supply.
3. It helps to meet the concept of zero load shedding of Maharashtra.
4. 24X7 availability of Power Supply/Electricity.
5. Provision of continuous power supply to all industries and farmers hence enhancing the GDP of Maharashtra.
6. It provides stability to voltage of Mumbai regions.

While doing execution the violation has been done at two locations i.e. loc. no. 17 having area 0.015676 Ha, Survey No. 54 Part, Village- Konde & loc. no. 18 having area 0.0256 Ha Survey No. 211 4A, Village- Dighashi, the total hector of violation is 0.041276 Ha. The violation was done in the year 2018-2019.

As no vegetation was there on the field/locations & there were no trees involved in the area. The violation has been done unknowingly & not with any other intention or purpose. In this matter, we have taken action against **Mr. T.P. Warule** Addl. Executive Engineer, Lines Project sub-division Kalyan and transferred him to HVDC Padghe substation.

In this regards we agree for any penal action against violation by forest authority.

(VIJAY L. [illegible]WARE)
Executive Engineer
EHV Project Division
Kalyan.

Place: Kalyan.
Date: / /2022

246

76

Tel No. 022-25[illegible]
Fax [illegible]
Email - [illegible]
dycfthane@mahaforest.gov.in

Government of Maharashtra
Forest Department
Deputy Conservator of Forests, Thane Office
[illegible] Thane - 400 601

Name of Project - **Diversion of 12.0225 Ha Forest Land for Construction and laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe Wada & Kolshet Wada Tr.line for 400 KV Kudus Sub Station passing through Thane District.**

Calculation of Penalty Charges against violation done in the 220 KV LILO M/C Transmission Line on 220 KV Padghe Wada & Kolshet Wada Tr.line for 400 KV Kudus Sub Station

Construction of 2 Nos. of Towers erected on forest land in village Kande and Dighashi Tal Bhiwandi & Dist. Thane

Details of Violation Area

S.No.	Item of Work	Year	Area involved (Ha.)
1	Construction of Tower at Loc No. 37	2018-19	0.015876
2	Construction of Tower at Loc No. 38	2018-19	0.0256
	Total		0.041476

Calculation Chart

S. No.	Item of Work	Year	Area (Ha.)	Rate	Amount
1	Construction of Towers	2018-19	0.041476	[illegible]	[illegible]

[illegible]

			12% Simple Interest Rate of penalty amount * 5 year (12*16[illegible]*5/100)	10026.6[illegible]
			Total:	63001.58[illegible]
			Say Amount	63001.00[illegible]

It is also certified that the amount of Rs 63001.00 - (Sixty Three Thousand and One Rupees Only) is recommended for Penalty against violation done as per the guidelines under FCA, 1980 and MoEF & CC's letter No. F No [illegible] FCA Dated [illegible] and as per FCA Handbook Para No 1.21(ii) a, b.

(S[illegible] N[illegible])
Deputy Conservator of Forests
Thane Forest Division Thane

77A

220 KV Padghe-Wada & Kolshet-Wada tr.line - 12.0225 Ha.

Penalty charges for Violation

Year	Area (Ha.)	NPV rate /Ha	Penal amount
2018-19	0.041476	1116900	46324.54
2019-20	0.041476	12% Intrest	5558.95
2020-21	0.041476	12% Intrest	5558.95
2021-22	0.041476	12% Intrest	5558.95
Grand Total			63001.38

Penal Amount for violation = 46324.54*12/100 5558.945328

महापारेषण
CIN NO.U40109MH2005SGC153646
महाराष्ट्र राज्य विद्युत पारेषण कंपनी मर्यादित
प्रेषक,
कार्यकारी अभियंता यांचे कार्यालय,
[illegible] प्रकल्प विभाग, कल्याण, [illegible]
[illegible]
पिनकोड नं. ४२१ ३०१,
ई-मेल- ee7620@mahatransco.in

का.अ., अ.उ.दा.प्र.वि/कल्याण/तांत्रिक/ 01328 दिनांक : 25 MAR 2025

सहा.वनसंरक्षक [illegible] कार्यालय
आवक क्रमांक
दिनांक 25/3/2025

प्रति,
सहा.वनसंरक्षक भिवंडी
मुख्यालय ठाणे कार्यालय
[illegible] सर्कल, लालबहादूर शास्त्री मार्ग
नौपाडा ठाणे ४००६०२.

विषय --Division of 12.0225 ha.Forest Land in favour EHV Project Division Kalyan for construction and laying of 220 KV M/C Transmission Line on 220 KV Padghe Wada & Kolshet Wada Tr. Line for 400 KV kudus sub station passing through village Eksal,chinnchvali, kunde & Dighashi tal. Bhiwandi Dist Thane in the state of Maharashtra

संदर्भ :- १) उपवनसंरक्षक, ठाणे यांचेकडील पत्र क्र.२५/४/[illegible]/एफसी/5559 दि.२१/०२/२०२५
२) आ.क.अ./उपविवअ/[illegible]/४९९ /सन २०२४-२५ दि.१०मार्च,२०२५

वरील नमूद केलेल्या विषय व संदर्भानुसार सदर विषयांकित प्रकल्पाकरिता आपल्या कार्यालयाचे कागदपत्र सादर करण्यास सांगितले आहे. तरी आपल्या निर्देशानुसार सदर कागदपत्रे खालीलप्रमाणे सादर करत आहे

१. निविदा: निविदा व करारनामा सोबत जोडण्यात आलेले आहे

२: तांत्रिक व प्रशासकीय मंजुरी :

i)Letter of award for supply of material सोबत जोडण्यात आलेले आहे.

ii)Letter of award for erection + civil portion जोडण्यात आलेले आहे

iii)Purchase order/work order copy for supply of material सोबत जोडण्यात आलेले आहे

iv)Purchase order/work order copy for erection+civil portion सोबत जोडण्यात आलेले आहे

v)Site handing over letter सोबत जोडण्यात आलेले आहे

३. लोकेशन क्रमांक [illegible] व [illegible] चे काम सुरु केल्याचा [illegible] लोकेशन क्र. [illegible] चे foundation casting 11.5.2018 रोजी व लोकेशन क्र.[illegible] चे foundation casting चे काम 24.8.2018 रोजी पूर्ण झालेले आहे.

४. टॉवर उभारण्याचा कालावधी: टॉवर क्र.३७ च्या erection चे काम ३.११.२०१९ रोजी व टॉवर क्र.३८ च्या erection चे काम २०.१.२०२० रोजी पूर्ण झाले

४अ) टॉवरचे कामावर नियंत्रण ठेवणारे अधिकारी : दिनांक २७.०४.२०१८ ते २४.०२.२०२१ या कालावधीमध्ये टॉवर क्र.३७ व ३८ च्या बांधकामासाठी काम करणारे नियंत्रण अधिकारी खालीलप्रमाणे.

i) श्री तुषार नागळे अति. कार्यकारी अभियंता अ.उ.दा.प्रकल्प उपविभाग कल्याण, कालावधी.२१.०६.२०१७ ते ११.०७.२०१८.

ii) श्री.भारत तोंगळे, अतिरिक्त कार्यकारी अभियंता स्पेशल टिम उपविभाग कल्याण, कालावधी.२८.०२.२०१८ ते २४.०२.२०२१

४ब) टॉवरचे कामावर नियंत्रण ठेवणारे अधिकारी : दिनांक २७.०४.२०१८ ते २४.०२.२०२१ या कालावधीमध्ये टॉवर क्र.३७ व ३८ च्या बांधकामासाठी काम करणारे सनियंत्रण अधिकारी खालीलप्रमाणे.

i) श्री आप्पासाहेब देवढा [illegible] कार्यकारी अभियंता.अ.उ.दा.प्रकल्प विभाग कल्याण, कालावधी. २७.०४.२०१८ ते ०२.०९.२०१८.

ii) श्री.विजय आवारे, कार्यकारी अभियंता,अ.उ.दा.प्रकल्प विभाग कल्याण, कालावधी. २८.०९.२०१८ ते २४.०२.२०२१.

६.वनक्षेत्रावर काम करण्यापूर्वी घेण्यात आलेल्या उपाययोजना बाबत अनुषंगिक कागदपत्रांच्या साक्षांकित प्रति.

i) प्रस्तावित टॉवर उभारणीच्या कामाकरिता वनविभागाकडे अधिकृत प्रस्ताव सादर करावा लागतो.त्याप्रमाणे सदरच्या कामाचा वनप्रस्ताव हा परिवेश पोर्टलवरही FP/MP/TRANS/30/80/2017 या ID द्वारे १/११/२०१७ रोजी upload करण्यात आला व त्या प्रमाणे सदरच्या वनप्रस्तावाची कागदपत्र hardcopyमध्ये जमा करण्यात आली व त्या संदर्भातील कागदपत्र जोडलेली आहेत

ii) वनविभागाच्या अधिकाऱ्यांबरोबर केलेल्या स्थळ पाहणीचा अहवाल सोबत जोडला आहे

iii) DCFयांनी [illegible] स्थळ पाहणीचा अहवाल सोबत जोडला आहे

iv) DCFठाणे यांनी CCF ठाणे यांच्याकडे सादर केलेला अहवाल सोबत जोडला आहे

v) CCFठाणे यांनी APCCF नागपूर यांना [illegible] अहवाल सोबत जोडला आहे

पुढील कार्यवाहीसाठी सादर.

(अजय ना.आवळे)
कार्यकारी अभियंता,
म.रा.वि.पा.कं.मर्या.,
अ.उ.दा.प्रकल्प विभाग, कल्याण

सहपत्र: वरील प्रमाणे (पान क्र. [illegible])

प्रत सविनय सादर,
अधीक्षक अभियंता, अ.उ.दा.प्रकल्प मंडळ, [illegible]

प्रत माहिती
[illegible]

[Logo] [Logo] [Logo]
Mahapareshan
CIN NO. U40109MH2005SGC153646
Maharashtra State Electricity Transmission Company Limited

From,
Office of the Executive Engineer
E.H.V Project Department, Kalyan, Tejashree Building, 1st Floor,
Jahangir Maidan, Karnik Road, M.S.E.T. Co. Limited, Kalyan (W) Dist. Thane.
Pin Code No. 421 301
Email: ee7450@mahatransco.in

O. No. Ka.A./AUDaPra./Kalyan/Tantrik/ 01328 Date - 25 MAR 2025

To,
Assistant Conservator of Forest Bhiwandi
Headquarter Thane Office,
Marathon Lords, Lal Bahadur Shastri Marg, Road
Naupada Thane -400601.

Sub Divisional Forest Officer Office
[illegible] Thane
Inward Number
Date 25-3-2025
Branch

Subject : - Diversion of [illegible] Ha. Forest Land in favour of EHV project Division, Kalyan for construction and laying of 220 KV LILO (M/C) Transmission Line on 220 KV Padgha Wada and Kolshet Wada Tr. Line for 400 KV Kudus Substation passing through village Ekasal, Chimbipada, Kunde and Dugad Tal. Bhiwandi Dist. Thane in the state of Maharashtra.

Reference : -

1. Letter of Deputy Conservator of Forest, Thane bearing O. No. 23/B/Majaha/FCA/5559 Dt. 21/02/2025
2. O. No. Ka.A. Upa/V/Vana (Mandal), 499/Year 2024-25 Dt. 20th March, 2025

As per the caption and reference mentioned hereinabove your office has directed to furnish papers in the said matter. Therefore, as per your directions, following papers are being furnished.

1. Tender: Tender and Agreement are enclosed herewith.
2. Technical and administrative approval.

    - i. Letter of award for supply of material enclosed herewith.
    - ii. Letter of award for erection – civil portion enclosed herewith.
    - iii. Purchase order / work order copy for supply of material enclosed herewith.
    - iv. Purchase order / work order copy for erection – civil portion enclosed herewith.
    - v. Site handing over letter enclosed herewith.

3. Duration of commencement of Tower No. 37 and 38: The foundation casting work of Tower No. 37 completed on 11.3.2018 and the foundation casting work of Tower No. 38 completed on 27.4.2018.

TRUE TRANSLATION

Translated by
Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
Appointed as per the [illegible] Panel Appointment of the Government of Maharashtra vide G.R. No. [illegible]
[illegible]
Language Pair - Marathi & English

MR. RAJESH SIDRAM DASA
Flat / Plot No. 501, Paramount Gardens, Katraj Kondhwa
Road, Gokulnagar, Katraj, Pune - 411048
Mobile No.: [illegible] Email: [illegible]

4. Period of erection of tower : The work of erection of Tower No. 37 completed on 5.11.2019 and the work of erection of Tower No. 38 completed on 30.1.2020

5. All Officers who have supervised the tower work : The Controlling Officers for the work of construction of Tower No. 37 and 38 during the period 27.04.2015 to 24.02.2021 are as under –

   I) Mr. Tushar Vasule, Additional Executive Engineer, EHV Project Sub-Division Kalyan. Duration 14.05.2017 to 31.07.2018

   II) Mr. Bharat Choungule, Additional Executive Engineer, Special Team, Sub-Division Kalyan Duration 18.07.2018 to 24.02.2021

   EE) Officers who have supervised the tower work : The Controlling Officers for the work of construction of Tower No. 37 and 38 during the period 27.04.2015 to 24.02.2021 are as under

   I) Mr. Appasaheb Devba Suptalke, Executive Engineer, EHV Project Sub-Division Kalyan Duration 27.04.2015 to 02.05.2018 ,

   II) Mr. Ajay Athawale, Executive Engineer, EHV Project Sub-Division Kalyan Duration 03.05.2018 to 24.02.2021

6. Attested copies of papers in respect of caution taken before working in forest area.

   i) Authorized proposal required to file with the Forest Department for proposed erection of tower. In this work the Forest Proposal has been uploaded on 2/11/2017 on Parivesh Portal vide ID no. FP/MH/TRANS/30180/2017 and accordingly papers of said forest proposal are deposited in hardcopy and papers pertaining thereto are enclosed herewith.
   ii) Spot Inspection Report conducted with the officers of Forest Department enclosed herewith
   iii) Spot Inspection Report conducted with DCF enclosed herewith
   iv) Report furnished by DCF Thane to CCF Thane enclosed herewith
   v) Report furnished by DCF Thane to APCCF Nagpur enclosed herewith

Submitted for further action

Sd/-
(Ajay V. Athawale)
Executive Engineer
M.S.E.T.Co. Ltd.
EHV Project Division, Kalyan

Enclosures : As above Page Nos. 1 to [illegible]
Copy humbly submitted to
Superintendent Engineer EHV Project Circle Kalwa
Copy submitted to
Additional Executive Engineer S & I Sub-Division Kalyan

Translated by
Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
[illegible]

TRUE TRANSLATION

MR. RAJESH SIDRAM DASA
[illegible] Flat No. 501, Paramount [illegible]
[illegible] Pune [illegible]
Mobile No. [illegible] Email [illegible]

४०७

दूरध्वनी क्र. 022-25421373
ई-मेल [illegible]@gmail.com

महाराष्ट्र शासन
वन विभाग
[illegible] वनसंरक्षक, भिवंडी (मुख्यालय-ठाणे) यांचे कार्यालय
[illegible]

जा.क्र. [illegible] /2024-25

दिनांक - [illegible] मार्च, 2025

प्रति,

Executive Engineer

EHV Project Division, Kalyan

विषय : Diversion of 12.0225 Ha. Forest Land in favour EHV Project Division, Kalyan for Construction and laying of 220 KV Lilo M/C Transmission Line on 220 KV Padgne Wada & Kolshet Wada Tr. Line for 400 KV Kudus Sub station passing through Village Eksal, Chinchvali, Kunde & Dighashi Tal. Bhiwandi Dist. Thane in the state of Maharashtra

संदर्भ : उप वनसंरक्षक, ठाणे [illegible] 25/[illegible]/ 5553 दि. 21/02/2025

उपरोक्त विषयांकित प्रकरणी संदर्भित [illegible] नमूद केल्याप्रमाणे वन संवर्धन अधिनियम 1980 अंतर्गत Diversion of 12.0225 Ha. Forest Land in favour EHV Project Division, Kalyan for Construction and laying of 220 KV Lilo M/C Transmission Line on 220 KV Padgne Wada & Kolshet Wada Tr. Line for 400 KV Kudus Sub station passing through Village Eksal, Chinchvali, Kunde & Dighashi Tal. Bhiwandi Dist. Thane in the state of Maharashtra [illegible] केंद्र शासनाचे वन (संरक्षण एवम संवर्धन) अधिनियम 1980 अंतर्गत 3A व 3B [illegible] आले आहे.

प्रस्तुत प्रकरणी [illegible] निविदा, [illegible] मंजुरी, कार्यारंभ आदेश, [illegible] क्र. 37 व 38 चे [illegible] [illegible] [illegible] [illegible]

(अमोल [illegible])
सहा. वनसंरक्षक, भिवंडी
(मुख्यालय - ठाणे)

[Logo] [Govt. Emblem]
Phone No. 022-[illegible]
Email: [illegible]
Government of Maharashtra
Forest Department
Office of Asst. Conservator of Forest, Bhiwandi (Headquarter - Thane)
Marathon Circle, Lal Bahadur Shastri Marg, Naupada, Thane - 400 602.

O.No. [illegible]/UpaVNaA/[illegible]/499/San 2024-25 Date: [illegible] March 2025

To,
Executive Engineer
EHV Project Division, Kalyan

Subject : Diversion of 12.0255 Ha. Forest Land in favour EHV project Division, Kalyan for construction and laying of 220 KV Lilo M/C Transmission Line on 220 KV Padgha Wada and Kolshet Wada Tr. Line for 400 KV Kudus Substation passing through village Khasi, Chinchvali, Kunde and Dighashi Tal. Bhiwandi Dist. Thane in the State of Maharashtra

Reference : Letter bearing No. 25/5/Mojani/[illegible]/5539 Dt. [illegible] issued by the Deputy Conservator of Forest, Thane.

As mentioned in the referred letter with reference to the case mentioned hereinabove, it has been informed by the Central Government that action shall be taken as directed under Section 3A and 3B of the Forest (Protection and Conservation) Act 1980 in respect of the proposal for demand of forest land made under Forest Conservation Act 1980 vide Diversion of 12.0255 Ha. Forest Land in favour EHV project Division, Kalyan for construction and laying of 220 KV Lilo M/C Transmission Line on 220 KV Padgha Wada and Kolshet Wada Tr. Line for 400 KV Kudus Substation passing through village Khasi, Chinchvali, Kunde and Dighashi Tal. Bhiwandi Dist. Thane in the State of Maharashtra.

In the present case, attested copies of the papers pertaining to the tender for said work, technical and administrative approvals, work commencement orders, agreement and the period of commencement of work on Tower No. 37 and 38, the period of erection of the Tower and the name and posts of the officers supervising the work of the tower as well as the measurements taken before conducting work in the forest area alongwith supporting documents and all relevant documents be submitted to this office with first priority.

Sd/-
(Amol Churare)
Assistant Conservator of Forest
(Headquarter - Thane)

[Logo]

TRUE TRANSLATION

Translated by
Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
[illegible]
Language Pair : Marathi – English

MR. RAJESH SIDRAM DASA
Resi : Flat No. [illegible], Paramount Crescent, [illegible] Road, Gokulnagar, Katraj, Pune - 411046
Mobile No. [illegible], Email: [illegible]

Chronology of tower violation case with respect to construction of LILO on 220 kv Padghe Wada and Kolshet Wada for Kudus s/stn

Sr. no.	Particular	Date
1	Letter of award for supply of material to executing agency	11.1.2018
2	Letter of award for Erection + Civil work to executing agency	11.1.2018
3	Purchase order Erection + Civil work to executing agency	3.5.2018
4	Purchase order for supply of material to executing agency	27.8.2018
5	Handing over of site	1.2.2018
6	1st Online proposal uploaded in Parivesh Portal with 9.4 Ha of forest	9.11.2017
7	Joint site inspection carried out by RFO Padghe and ACF Thane	25.1.2018
8	Date of casting for tower location 38	27.4.2018
9	Date of casting for tower location 37	11.5.2018
10	Joint site inspection carried out by DCF Thane	7.8.2018
11	Proposal moved from DCF to CCF	14.8.2018
12	Collector Thane informed forest to take over land comes under Dighashi to RFO Padghe	3.1.2019
13	Proposal moved from CCF to APCCF	4.4.2019
14	Date of tower erection location 37	3.11.2019
15	Date of tower erection location 38	20.1.2020
16	Reonline submission by newly appointed agency with 14.50 ha 5.8.2020 of forest	5.8.2020
17	During scrutiny of proposal forest violation observed and RFO Padghe informed EE, EHV, Project, Division, Kalyan to send concern for reporting	24.2.2021
18	Due to transfer of concern AddlEE the sdn Kalyan, Add EE, S&I, SDn Kalyan has been sent for further reporting to RFO Padghe	4.3.2021
19	Forester informed AddEE S&I to present at Bhiwandi Court	12.4.2024

Executive Engineer
M.S.E.T.C.L. Ltd
E.H.V Proj. Dn, Kalyan

LIST OF DOCUMENTS

Annexure	Particular	Page no
I	Tender document and agreement copy	
i	Agreement copy	1-5
ii	Tender document	6-265
II	Technical and Administrative sanction copies	
i	Letter of award for supply of material	266-268
ii	Letter of award for erection and civil portion	269-270
iii	Purchase order copy for supply of material	271-275
iv	Purchase order copy for erection and civil portion	276-286
III	Site handing over letter	287
IV	Documents regarding date of foundation casting and erection for tower location 37 and 38	288
	Joint measurement sheet for location 37 and 38 for foundation casting work	289
i	Month wise quantity abstract for tower erection work for location 37 and 38	290
V	Correspondence regarding initial forest online proposal, hardcopy submission and movement of proposal from DCF to CCF	
i	Uploading of online proposal	291
ii	Submission of hard copy of proposal	292
iii	Joint Inspection report with forest officer Mandvi	293-294
iv	Joint inspection report with honorable DCF Thane	295-297
v	Submission of proposal from honorable DCF Thane to CCF Thane	298-299
vi	Instructions from honorable DCF Thane to correct forest area involved in part I	300
vii	Correction done as per instructions from EE, EHV, Project, Division, Kalyan	301
viii	Submission of proposal from honorable CCF Thane to APCCF Nagpur	302-303

Executive Engineer
[illegible]
EHV Project Division, Kalyan

TECHNICAL AND ADMINISTRATIVE SANCTION COPIES.

1. LETTER OF AWARD FOR SUPPLY OF MATERIAL
2. LETTER OF AWARD FOR ERECTION AND CIVIL PORTION
3. PURCHASE ORDER/ WORK ORDER FOR SUPPLY OF MATERIAL
4. PURCHASE ORDER/ WORK ORDER FOR ERECTION AND CIVIL PORTION
5. SITE HANDING OVER LETTER

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Proj. Dn. Kalyan

303

MAHATRANSCO

MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD

(CIN No.U40109MH2005SGC153646)

From	To,
The Chief Engineer, Design, Contract & Monitoring Dept. Plot No C-19, "E" Block, Prakashganga, Bandra – Kurla Complex, Bandra (East), Mumbai – 400 051 Tel: 022-2659 5124(O)/ 022-2659 5161 Fax: 022-2659 8587 Email : cecm@mahatransco.in	M/s. BNC Power Projects Ltd., Plot no. 61, Shree Shivaji Housing Society, off Senapati Bapat Rd. Shivajinagar, Pune-411016 [illegible]@yahoo.co.in

Ref No.MSETCL/CO/DCM/O&T/TKC-I/T-1718/Supply/BNC/594 Date: 11.01.2018

Sub: Award of Contract for turnkey construction of LILO on 220kV Kolshet-Wada & 220kV LILO on Padghe-Wada line for 400kV Kudus S/stn. (Route Length 7 Kms), against SRM e-tender no T-1718 (RFx No. 6000000253) under Vashi Zone.
- Letter of Award for supply of materials thereof.

Ref: 1) SRM Tender No. T-1718/MSETCL/CO/DCM/O&T/TKC-I (RFx No. 6000000253)
2) Your offer against subject tender, opened on 28.08.2017

***

Dear Sirs,

In connection with the above subject, we are pleased to inform you that, your offer for turnkey construction of LILO on 220kV Kolshet-Wada & 220kV LILO on Padghe-Wada line for 400kV Kudus S/stn. (Route Length 7 Kms), against SRM e-tender no.T-1718 (RFx No. 6000000253) under Vashi Zone has been accepted for the supply portion as per details below: -

Sr. No.	Description of works	Final Price quoted inclusive of all taxes and duties.
1	**LILO on 220kV Kolshet-Wada & 220kV LILO on Padghe-Wada line for 400kV Kudus S/stn. (Route Length 7 Kms), against SRM e-tender no.T-1718 (RFx No. 6000000253) under Vashi Zone**	**Rs.14,37,64,667.00**

(Rs. Fourteen Crore Thirty Seven Lakh Sixty Four Thousand Six Hundred Sixty Seven Rupees Only).

The activity schedule for payment eligibility for [illegible] month (excluding monsoon) from the date of handing over of line profile for supply of material for turnkey construction of above line is enclosed herewith.

Executive Engineer
[illegible]
[illegible] Kalyan

It may please be noted that the scope shall also include supply of all equipments / materials which are not specifically listed in your offer but are necessary in order to meet the requirements of the line as per tender specifications in all respects.

Detailed terms and conditions will be as per the tender specification, amendment thereof, your offer, clarifications thereon and contract agreement being executed shortly. The work of above line has to be completed within 09 (Nine) months (including monsoon) from the date of handing over of line profile.

You are requested to: -

1) Intimate the acceptance of this LoA within 10 days from receipt.
2) Submit **bar chart within 10 days** from the date of receipt of LoA, indicating all activities for completion of the project.
3) Submit price **schedule with detailed break up** of unit rate into ex-works price and GST rates within 10 days from receipt of LoA.
4) Complete the formalities like furnishing of **Performance Bank** Guarantee as per Clause No. 8.0 of Section-II of Book-I in prescribed format within 30 days from the date of receipt of LoA, so that the contract agreement can be finalized early.
5) M/s. **BNC Power Projects Ltd** shall submit the **invoice as per** GST regulation.

Encl: Activity Schedule.

Thanking you,

Yours faithfully,

(Rajendra L Gaikwad)
Chief Engineer (D,C&M)

Copy s.w.r.to:
1) The Chairman & Managing Director, MSETCL, Mumbai.
2) The Director (Projects), MSETCL, Mumbai.

Copy f.w.r.to:
1) The C.E., EHV Projects cum O&M Zone, MSETCL, Vashi
2) The C.E., C.O., Civil, MSETCL, Mumbai.
3) The Chief General Manager (F&A), MSETCL, Mumbai.

Copy to:
1) The G.M. (F&A-III), MSETCL, Mumbai – This is as per the Draft LOA pre-audited vide no. GM (F&A-III) O/W No. 08 dt.08.01.2018
2) The S.E., (S&C/Civil), MSETCL, Mumbai.
3) The S.E., EHV Project Circle, MSETCL, Vashi
4) The S.E., EHV Civil CCM Circle, MSETCL, Vashi
5) The S.E., TCC, MSETCL, Vashi.
6) The S.E., PMD, MSETCL, Mumbai
7) The S.E., [illegible], MSETCL, Mumbai
8) The E.E., EHV Project Division, MSETCL, Kalyan

Executive Engineer
[illegible]
EHV Project Dn. Kalyan

STANDARD ACTIVITY SCHEDULE FOR PAYMENT ELIGIBILITY

NAME OF LINE : LILO on 220KV Kalwa-Wada & 220KV LILO on Padghe-Wada line for 400KV S/stn.
(Route Length 7 Kms), under Vashi Zone.

COMPLETION PERIOD = 12 MONTHS

Sr. No.	ACTIVITY	Schedule for completion of activities from date of LOA		Remarks/ Hold points for payment
		Commencement	Scheduled period of completion	
1	Submission of performance B.G. in lieu of S.D		Within 30 days	
2	Visit to site, verification of scope of work, Establishment of site office and mobilisation of gang	After 5 days	Within 20 days	
3	Signing of contract agreement	After 10 days	Within 30 days	
4	Trial pits and inspection of route	After 7 days	Within 15 days	
5	Preliminary & Detailed Survey	After 10 days	Within 20 days	
6	Check survey	After 10 days	Within 30 days	
7	Approval of detailed & check survey & trial pits	After 15 days	Within 45 days	
8	Preparation of drawings of towers, stubs templates	After 5 days	Within 20 days	
9	Issuance of all drawings for execution by MSETCL	After 25 days	Within 75 days	Copy of trial pits report duly approved by Engineer in Charge be furnished
10	Collection of drawings by Contractor	5 days	15 days	
11	Preparation of shop drawings	15 days	45 days	
12	Proto fabrication, assembly of tower, submission of call for inspection (if applicable)	After 30 days	Within 60 days	
13	Proto inspection	After 37 days	Within 70 days	
14	Supply of stub & stub setting templates	After 20 days	Within 80 days	Supply to be effected within 15 days after approval of check survey
15	Tower foundation	After 30 days	Within 105 days	At the rate minimum 10 locations per month
16	Supply of tower material	After 60 days	Within 90 days	The foundation should have been casted for tower under supply. The towers to be supplied on per tower basis within 15 days of casting of foundation.
17	Erection of tower	After 80 days	Within 180 days	30% tower foundations should be completed. Erection 5 km line per month.
18	Supply of conductor, earthwire, insulators for accessories towers & conductor earthwire & insulator Hardware	After 60 days	Within 180 days	Contractor's certification about complete erection of towers of equivalent route length is ready for stringing
19	Stringing of line	After 90 days	Within 240 days	Atleast 30% of towers should have been erected. Progress @7.5 KM/Month
20	Miscellaneous works (fixing of tower accessories, gen. painting etc.)	After 100 days	Within 250 days	
21	Inspection, testing & commissioning of line	After 180 days	Within 270 days	

Notes:

1	Contractor may execute the erection works ahead of schedule dates. In such an event the schedule date for supply of respective materials stands preponed accordingly and such supplies will become eligible for payments.
2	The contractor shall supply the material as per actual requirement of only [illegible] after check survey & duly approved by Engineer-in-charge. No additional supply of material will be accepted unless specifically requisitioned by Engineer-In-Charge.
3	The contractor can supply the material prior to scheduled delivery period, however the payment eligibility will be from the date as per approved schedule period subject to satisfying conditions of [illegible].

Executive Engineer
M.S.E.T.C.L.
E.H.V. Project Dn. Kalyan

(2649)
(308)

MAHATRANSCO

MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD
(CIN No.U40109MH2005SGC153646)

From	To,
The Chief Engineer, Design, Contract & Monitoring Dept. Plot No.C-19, "E" Block, Prakashganga, Bandra - Kurla Complex, Bandra (East), Mumbai – 400 051. Tel: 022-2659 5124(O)/ 022-2659 5163 Fax: 022-2659 8587 E-mail : cecmo@mahatransco.in	M/s. BNC Power Projects Ltd., Plot no. 67, Shree Shivaji Housing Society, off Senapati Bapat Rd. Shivajinagar, Pune-411 016 bnchaudhary@yahoo.co.in

Ref.No.MSETCL/CO/DCM/D&T/TKC-I/T-1718/ETC/BNC/395 Date: 11.01.2018.

Sub: Award of Contract for turnkey construction of LILO on 220kV Kolshet-Wada & 220kV LILO on Padghe-Wada line for 400kV Kudus S/stn. (Route Length 7 Kms), against SRM e-tender no T-1718 (RFx No. 6000000253) under Vashi Zone.
– Letter of Award for Erection / Civil portion thereof.

Ref: 1) SRM Tender No. T-1718/MSETCL/CO/DCM/D&T/TKC-I. (RFx No. 6000000253)
2) Your offer against subject tender, opened on 29.09.2017

***

Dear Sirs,

In connection with the above subject, we are pleased to inform you that, your offer for turnkey construction of Award of Contract for turnkey construction of LILO on 220kV Kolshet-Wada & 220kV LILO on Padghe-Wada line for 400kV Kudus S/stn. (Route Length 7 Kms), against SRM e-tender no.T-1718 (RFx No. 6000000253) under Vashi Zone has been accepted for the erection+civil work including foundation portion as per details below –

Sr. No	Description of works	Final Price quoted inclusive of all taxes and duties.
1	LILO on 220kV Kolshet-Wada & 220kV LILO on Padghe Wada line for 400kV Kudus S/stn. (Route Length 7 Kms), against SRM e-tender no T-1718 (RFx No. 6000000253) under Vashi Zone.	ETC - Rs. 4,97,08,437.00 Civil - Rs. 2,29,26,896.00 Total- Rs.7,26,35,333.00

(Rs. Seven Crore Twenty Six Lakh Thirty Five Thousand Three Hundred Thirty Three Rupees Only).

It may please be noted that the scope of ETC portion shall also include erection, testing and commissioning of components /materials which are not specifically indicated in your offer

Ex. Engineer
E.H.V. Project Dn., Kalyan

and are necessary in order to meet the requirements of the line as per tender specifications in all respects.

Detailed terms and conditions will be as per the tender specification, amendments thereof, your offer, clarifications thereon and contract agreement being executed shortly. The **work of above line has to be completed within 09 (Nine) months (Including monsoon) from the date of handing over of line profile.**

You are requested to -

1) **Intimate the acceptance of this LoA within 10 days from receipt**
2) **Submit bar chart within 10 days** from the date of receipt of LoA, indicating all activities for completion of the project
3) Submit **price schedule with detailed break up of unit rate into ex-works price and GST rates within 10 days from receipt of LoA.**
4) Complete the formalities like furnishing of Performance Bank Guarantee as per Clause No. 8.0 of Section-II of Book-I in prescribed format within 30 days from the date of receipt of LoA, so that the contract agreement can be finalized early
5) M/s DNC Power Projects Ltd., Pune shall submit the **invoice as per GST regulation.**

Thanking you,

Yours faithfully,

(Rajendra.L.Gaikwad)
Chief Engineer (D,C&M)

Copy s.w.r.to:

1) The Chairman & Managing Director, MSETCL, Mumbai.
2) The Director (Projects), MSETCL, Mumbai.

Copy f.w.cs.to:

1) The C.E., EHV Projects cum O&M Zone, MSETCL, Vashi
2) The C.E., C.O., Civil, MSETCL, Mumbai.
3) The Chief General Manager (F&A), MSETCL, Mumbai.

Copy to:

1) The G.M. (F&A-III), MSETCL, Mumbai -- This is as per the Draft LOA pre-audited vide no. GM(F&A-III) O/W No. 08 dt.06.01.2019
2) The S.E., (S&C/Civil), MSETCL, Mumbai.
3) The S.E., EHV Project Circle, MSETCL, Vashi.
4) The S.E., EHV Civil CCM Circle, MSETCL, Vashi.
5) The S.E., TCC, MSETCL, Vashi.
6) The E.E., (PMD), MSETCL, Mumbai
7) The E.E., (FTU), MSETCL, Mumbai
8) The E.E., EHV Project Division, MSETCL, Kalyan

Executive Engineer
M.S.E.T.C.L.
E.H.V. Project Dn. Kalyan

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MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO.LTD.

CIN : [illegible]
GST [illegible]

MAHATRANSCO
[illegible] DESIGN, CONTRACT & [illegible] BANDRA, MUMBAI - 400051
FAX- 022 2659 0766 , TEL- 022 2659 5166

www.mahatransco.in

PURCHASE-WORKS ORDER

Release Date : 27.08.2018 [illegible]

O No. : 1060001797

o. : RNG POWER PROJECTS LTD (40500021[illegible])
STIN : 27AAFCR[illegible]
ur Office : , PUNE , , [illegible] Nilgiri Heights, , ,
ity : PUNE
istrict :

Pin code : 41[illegible]
tate : Maharashtra
el. No. : [illegible]
ax No. :
mail : [illegible]@yahoo.co.in

[illegible]LY PORTION:-Turnkey construction of LILO on 220kV Kolshet-Wada & 220kV LILO on [illegible] -Wada line for 400kV Kudus S/stn. (Route Length 7 Kms) Tender No. [illegible] 17/18 (RFx No. 6000030253)

s-Works Price is including 1% labour welfare cess.

Exec[illegible] Engineer
M.S.[illegible] Ltd.
E.H.V. Project Cn.,Kalyan

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HEADER SHEET

Sr. No Item No.	Item Code (HSN/SAC)	Description	[illegible]	Quantity	Unit Price	Total Amount
1 1	500000038 (73082011)	Fab, Galv, Supply Of Tower Mat-HCF		937.65 MT	102,[illegible].54	54,599,582
2 2	500000319 (73181500)	Galvanised Nuts/Bolts w/ Washers		29.89 MT	1[illegible]	4,561,7[illegible]
3 3	500004830 (73082011)	DANGER BOARD		45.00 EA	335.17	15,[illegible]
4 4	500004465 (83100090)	NUMBER PLATE FOR TOWER		36.00 EA	960.44	15,900
5 5	500004472 (83100090)	Phase Indication Plate		184.00 EA	452.38	83,[illegible]
6 6	500003466 (83100090)	CIRCUIT PLATE FOR TOWER		91.00 EA	465.47	42,[illegible]
7 7	500003467 (73130010)	Anti Climbing Device w/ Barbed Wire		29.00 EA	[illegible]	[illegible]
8 8	500006522 (85462019)	[illegible] Insulator		4,[illegible] EA	1,066.40	4,[illegible]
9 9	[illegible] (85462019)	[illegible] Insulator		14,085.00 EA	[illegible]	12,5[illegible]
10 10	500000615 (7326[illegible])	SSN [illegible] - 0.4 [illegible] - Zebra		255.00 EA	[illegible]	[illegible]
11 11	500000429 ([illegible])	[illegible] Zebra		12.00 EA	[illegible]	95,[illegible]
12 12	500021[illegible] ([illegible])	SSN [illegible] - 0.4 ACSR Zebra		[illegible] EA	[illegible]	[illegible]
13 13	[illegible] ([illegible])	[illegible] - 0.4 ACSR Zebra		[illegible] EA	[illegible]	[illegible]
14 14	[illegible] (76042910)	0.4 ACSR Zebra Conductor		[illegible]	[illegible]	13,[illegible]
15 15	500000928 (76169990)	Mid Span [illegible] Joint - 0.4 ACSR Zebra		[illegible] EA	1,[illegible]	[illegible]
16 16	500000927 (7[illegible])	Repair Sleeves - 0.4 ACSR Zebra		25.00 EA	[illegible]	[illegible]
17 17	5000029[illegible] (76169990)	[illegible] - 0.4 ACSR Zebra		[illegible] EA	1,[illegible]	[illegible]
18 18	500002904 ([illegible])	[illegible] Damper - 0.4 ACSR Zebra		[illegible] EA	[illegible]	[illegible]
19 19	500000795 ([illegible])	[illegible] Earthwire		[illegible]	[illegible]	[illegible]
20 20	500000791 ([illegible])	[illegible] Earthwire Suspension Clamp		[illegible] EA	[illegible]	[illegible]
21 21	500000792 ([illegible])	[illegible] Earthwire Tension Clamp		[illegible] EA	[illegible]	[illegible]
22 22	500000791 ([illegible])	Mid Span Compression Joint - [illegible] Earthwire		5.00 EA	[illegible]	[illegible]
23 23	500000795 ([illegible])	[illegible] Flexible Copper Bond		[illegible] EA	[illegible]	[illegible]
TOTAL:		NINE CRORE [illegible] LAKH SIX THOUSAND ONE HUNDRED TWENTY EIGHT Rupees TWENTY Paise				99,1[illegible]

Exe. [illegible] Engineer
M[illegible] Co. Ltd.
E.H.V. Project C[illegible], Kalyan

(E-77)
312

TAX ANALYSIS

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	[illegible] [illegible]	₹ 9[illegible]		₹ [illegible]	₹ [illegible]	9.00 % ₹ [illegible]	9.00 % ₹ 7,61[illegible]	
2 1	[illegible] [illegible]	₹ [illegible]		₹ [illegible]	₹ [illegible]	9.00 % ₹ 11,[illegible]	9.00 % ₹ 11,[illegible]	
3 5	[illegible] 915.12	₹ [illegible]		₹ [illegible]	₹ [illegible]	9.00 % ₹ 21.[illegible]	9.00 % ₹ [illegible]	
4 4	[illegible] [illegible]	₹ 247.50		₹ [illegible]	₹ [illegible]	9.00 % ₹ 21.[illegible]	9.00 % ₹ 21.[illegible]	
5 5	[illegible] 455.26	₹ [illegible]		₹ [illegible]	₹ [illegible]	9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
6 6	[illegible] 456.47	₹ [illegible]		₹ [illegible]	₹ [illegible]	9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
[illegible]	[illegible] [illegible]	₹ [illegible]		₹ [illegible]	₹ [illegible]	9.00 % ₹ [illegible]	9.00 % ₹ 413.71	
8 8	[illegible] [illegible]	₹ 979.11		₹ [illegible]	₹ [illegible]	9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
9 9	[illegible] 1117.[illegible]	₹ [illegible]		₹ [illegible]	₹ [illegible]	9.00 % ₹ 100.[illegible]	9.00 % ₹ 100.[illegible]	
10 10	[illegible] [illegible]	₹ [illegible]		₹ [illegible]	₹ [illegible]	9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
11 11	[illegible] [illegible]	₹ 3897.[illegible]		₹ [illegible]	₹ [illegible]	9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
12 12	[illegible] [illegible]	₹ [illegible]		₹ [illegible]	₹ [illegible]	9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
13 13	[illegible] [illegible]	₹ [illegible]		₹ [illegible]	₹ [illegible]	9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
14 14	[illegible] [illegible]	₹ [illegible]		₹ [illegible]	₹ [illegible]	9.00 % ₹ 25,456.[illegible]	9.00 % ₹ 25,456.[illegible]	
15 15	[illegible] [illegible]	₹ [illegible]		₹ [illegible]	₹ [illegible]	9.00 % ₹ 77.[illegible]	9.00 % ₹ 77.[illegible]	
16 16	[illegible] [illegible]	₹ [illegible]		₹ [illegible]	₹ [illegible]	9.00 % ₹ 25.[illegible]	9.00 % ₹ 25.65	
17 17	[illegible] [illegible]	₹ [illegible]		₹ [illegible]	₹ [illegible]	9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
18 18	[illegible] 337.19	₹ [illegible]		₹ [illegible]	₹ [illegible]	9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
19 19	[illegible] [illegible]	₹ [illegible]		₹ [illegible]	₹ [illegible]	9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
20 20	[illegible] [illegible]	₹ [illegible]		₹ [illegible]	₹ [illegible]	9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
21 21	[illegible] [illegible]	₹ [illegible]		₹ [illegible]	₹ [illegible]	9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
22 22	[illegible] [illegible]	₹ [illegible]		₹ [illegible]	₹ [illegible]	9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
23 23	[illegible] [illegible]	₹ [illegible]		₹ [illegible]	₹ [illegible]	9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	

Ex[illegible]

313

LONG TEXT

Sr. No. / Itm. No.	Item Code	Description	Long Text
1	500000618	Fab, Galv, Supply Of Tower Mtrl-HSP	FABRICATION, GALVANISING AND SUPPLY OF VARIOUS TYPES OF TOWER MATERIAL AS PER SPEC WITH ALL [illegible] ACCESSORIES
2	500000619	Galvanised Nuts/Bolts and Washers	GALVANISED BOLTS & NUTS WITH SPRING WASHERS, PLAIN WASHERS OF SIZE [illegible] STANDARDS [illegible]
3	500004596	DANGER BOARD	DANGER BOARD
4	[illegible]	NUMBER PLATE FOR TOWER	NUMBER PLATE FOR TOWER
5	[illegible]	Phase Indication Plate	PHASE PLATE
6	[illegible]	CIRCUIT PLATE FOR TOWER	CIRCUIT PLATE FOR TOWER
7	[illegible]	Anti Climbing Device w/ Barbed Wire	ANTI CLIMBING DEVICE WITH BARBED WIRE
8	[illegible]	70KN Antifog Disc Insulator	70 KN DISC INSULATOR ANTIFOG
9	[illegible]	120KN Antifog Disc Insulator	120 KN DISC INSULATOR ANTIFOG
10	[illegible]	SUS H/W Assembly [illegible] - 0.4 Single Zebra	SINGLE SUSPENSION NORMAL HARDWARE WITH ARCING HORN FOR [illegible] ZEBRA CONDUCTOR
11	500000820	D/T H/W - 0.4 ACSR Zebra	DOUBLE TENSION [illegible] FOR 0.4 ACSR ZEBRA
12	[illegible]	S/T H/W - 0.4 ACSR Zebra	S/T H/W - 0.4 ACSR ZEBRA
13	[illegible]	D/S H/W - 0.4 ACSR Zebra	D/S H/W - 0.4 ACSR ZEBRA
14	[illegible]	0.4 ACSR Zebra Conductor	0.4 ACSR ZEBRA [illegible] CONDUCTOR [illegible]
15	500000821	Mid Span Comp Joint - 0.4 ACSR Zebra	MID SPAN COMPRESSION JOINT FOR 0.4 ACSR ZEBRA
16	[illegible]	Repair Sleeves - 0.4 ACSR Zebra	REPAIR SLEEVES FOR 0.4 ACSR ZEBRA
17	[illegible]	P.A. Rod - 0.4 ACSR Zebra	
18	[illegible]	Vibration Damper - 0.4 ACSR Zebra	
19	[illegible]	7/3.15 mm HG Steel Earthwire	7/3.15 MM HEAVILY GALVANISED STEEL EARTH WIRE
20	500000791	7/3.15 mm Earthwire Suspension Clamp	SUSPENSION CLAMP FOR 7/3.15 MM EARTHWIRE
21	500000792	7/3.15 mm Earthwire Tension Clamp	TENSION CLAMP FOR 7/3.15 MM EARTHWIRE
22	500000793	Mid Span Compr Joint - 7/3.15 mm Earthwire	MID SPAN COMPRESSION JOINT FOR 7/3.15 MM EARTHWIRE
23	500000795	7/3.15 mm E/W Flexible Cu Bond	FLEXIBLE COPPER BOND FOR 7/3.15 MM EARTHWIRE

Exe. Engineer
M[illegible] Co. Ltd.
EHV Project Dn., Kalyan

919

DISPATCH INSTRUCTION

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1 1	[illegible]	7620 EHV Const. Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	[illegible]	
2 2	[illegible]	7620 EHV Const. Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	29.495	
3 [illegible]	[illegible]	7620 EHV Const. Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	40.000	
4 [illegible]	[illegible]	7620 EHV Const. Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	46.000	
5 [illegible]	[illegible]	7620 EHV Const. Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	164.000	
6 [illegible]	[illegible]	7620 EHV Const. Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	91.000	
[illegible]	[illegible]	7620 EHV Const. Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	50.500	
8 8	[illegible]	7620 EHV Const. Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	4,121.091	
9 [illegible]	[illegible]	7620 EHV Const. Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	4,081.300	
10 10	50000815	7620 EHV Const. Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	255.000	
11 11	[illegible]	7620 EHV Const. Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	[illegible]	
12 12	[illegible]	7620 EHV Const. Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	745.000	
13 14	[illegible]	7620 EHV Const. Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	72.880	
14 15	[illegible]	7620 EHV Const. Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	33.000	
15 16	50000821	7620 EHV Const. Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	305.00	
[illegible]	[illegible]	7620 EHV Const. Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	35.100	
17 17	[illegible]	7620 EHV Const. Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	255.000	
18 18	[illegible]	7620 EHV Const. Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	504.000	
19 19	[illegible]	7620 EHV Const. Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	51.500	
20 20	50000791	7620 EHV Const. Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	5.000	
21 21	[illegible]	7620 EHV Const. Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	90.000	
22 22	[illegible]	7620 EHV Const. Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	3.000	
[illegible]	[illegible]	7620 EHV Const. Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	40.000	

Executive Engineer
M.S.E.T.C.L.
E.H.V Project Dn, Kalyan

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MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO.LTD.

MAHATRANSCO
(CIN : [illegible])
GSTIN: 27AA[illegible]
MSETCL, DESIGN, CONTRACT & MONITORING, PLOT NO. C-19, E-BLOCK, BKC, BANDRA MUMBAI - 400051
FAX- 022 2659 [illegible], TEL- 022 2659 [illegible]
www.mahatransco.in

PURCHASE/WORKS ORDER

Release Date : 03/05/2019 [illegible]

PO No.: [illegible]

To: [illegible] POWER PROJECTS LTD (4000001214)
GSTIN: 27AA[illegible]
Corp. Office: [illegible] Tejpal.....
City : PUNE
District :

Postal code : 4110[illegible]
State : Maharashtra
Tel. No. [illegible]
Fax No. :
Email : [illegible]

ERECTION PORTION- Turnkey construction of LILO on 220kV Kolshet-Wada & 220kV LILO on [illegible]-Wada line for 400kV Kudus S/stn. (Route Length 7 Kms), against SRM e-tender no. E-1718 (RFx No 6000000255) under Vasai Zone

Labour Welfare cess @1% is included in Ex-Works rate.

Executive Engineer
M.S.E.T.C.L.
E.H.V. Project Dn., [illegible]

HEADER SHEET

Sl. No. Item No.	Item Code	Description	[illegible]	Quantity	Unit Rate	Total Amount
24 24	300006397 ([illegible])	GIS [illegible] Detailed Survey		9.00 km	13,650.11	[illegible]
25 25	300002036 ([illegible])	Check Survey		9.00 km	5,49[illegible]	[illegible]
26 26	300001037 (995461)	TF – Excavation [illegible] Normal Soil		2,290.00 ***	244.25	[illegible]
27 27	300002037 ([illegible])	TF Excavation of pits in Wet Soil/Submerged Soil		11,010.00 ***	306.31	[illegible]
28 28	300002038 ([illegible])	Excavation of pits Fissured Rock		2,740.00 ***	475.97	[illegible]
29 29	300002040 ([illegible])	TF Excavation of pits Dry Hard Rock		4,620.00 ***	1,068.05	[illegible]
30 30	300002041 ([illegible])	TF Excavation of pits Hard Rock by Blasting		[illegible] ***	[illegible]	2,761,940
31 31	300002042 ([illegible])	TF [illegible]		405.00 ***	6,061.13	[illegible]
32 32	300002260 ([illegible])	TF [illegible]		3,670.00 ***	7,633.06	[illegible]
33 33	300005204 ([illegible])	[illegible] Steel Reinforcement [illegible] Concrete Pile		390.00 MT	76,295.42	[illegible]
34 34	300002042 ([illegible])	TF Earthing (Pipe type)		[illegible] EA	6,105.21	[illegible]
35 35	300002046 ([illegible])	TF Earthing (Counterpoise)		19.00 EA	[illegible]	[illegible]
36 36	300002045 ([illegible])	TF Stub setting of Tower (220kV)		[illegible] MT	6,718.72	[illegible]
37 37	300002051 ([illegible])	[illegible]		[illegible] ***	654.85	[illegible]
38 38	300002058 ([illegible])	[illegible]		203.00 ***	329.04	[illegible]
39 39	300008681 ([illegible])	TF Excavation of [illegible] Protection Wall (NORMAL)		[illegible] ***	[illegible]	[illegible]
40 40	300008682 ([illegible])	TF Excavation of [illegible] Protection Wall (FS/SS)		150.00 ***	306.31	[illegible]
41 41	300008683 ([illegible])	TF Excavation [illegible] Protection Wall (SR/HR)		80.00 ***	[illegible]	[illegible]
42 42	300008684 ([illegible])	TF Excavation of [illegible] Protection Wall [illegible]		260.00 ***	1,068.05	[illegible]
43 43	300009256 ([illegible])	PCC [illegible] for Retaining Wall		150.00 ***	[illegible]	[illegible]
44 44	300009257 ([illegible])	PCC [illegible] 1:2:4 for Retaining Wall		35.00 ***	7,282.60	[illegible]
45 45	300009205 ([illegible])	[illegible] UCR Masonry [illegible] Stone [illegible]		300.00 ***	[illegible]	[illegible]
46 46	[illegible] ([illegible])	220kV D/C [illegible] ACSR [illegible] Line		9.00 km	[illegible]	[illegible]
47 47	300003698 ([illegible])	220kV D/C [illegible] ACSR [illegible] Line		1.50 km	40,586.79	[illegible]
48 48	300002069 ([illegible])	STRINGING [illegible] 220kV		9.00 km	[illegible]	[illegible]
49 49	300009265 ([illegible])	[illegible]		200.00 ***	[illegible]	[illegible]
50 50	300007551 ([illegible])	TF BACK WELDING [illegible] TOWER		[illegible] EA	[illegible]	[illegible]
51 51	[illegible] ([illegible])	TF BACK WELDING [illegible] TOWER		15.00 EA	[illegible]	[illegible]
52 52	[illegible] ([illegible])	220kV D/C Tower [illegible] Stub Setting Template		3.00 EA	[illegible]	[illegible]
53 53	[illegible] ([illegible])	220kV D/C Tower [illegible] Stub Set Template		3.00 EA	[illegible]	[illegible]
54 54	[illegible] ([illegible])	220kV [illegible] Tower [illegible] Stub Set Template		3.00 EA	[illegible]	[illegible]
55 55	[illegible] ([illegible])	220kV M/C Tower [illegible] Stub Set Template		5.00 EA	[illegible]	[illegible]
56 56	[illegible] ([illegible])	[illegible] kV M/C Tower [illegible] Stub Setting Templ		13.00 EA	[illegible]	[illegible]
57 57	[illegible] ([illegible])	[illegible]		12.00 MT	[illegible]	[illegible]
TOTAL		(Rs.) FORTY [illegible] AND ONE HUNDRED AND SIXTY EIGHT [illegible]				[illegible]

Executive Engineer

Sr. No / Item No.	Item Code	Description	[illegible]	[illegible]	Unit Price	Total Amount
[illegible] 58	30.03.01.58 (999.58)	500 kV Horizontal Tower		0.00 347	5,967	[illegible]
TOTAL		TEN CRORE THREE LAKH NINE THOUSAND ONE HUNDRED SIXTY EIGHT Rupees SIXTY EIGHT Paise				[illegible]

Executive Engineer
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E.H.V. Project Dn. Kalyan

TAX ANALYSIS

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
24 24	[illegible] [illegible]	₹ 1,[illegible]				9.00 % ₹ 1,024.40	9.00 % ₹ 1,024.40	
25 25	[illegible] [illegible]	₹ [illegible]				9.00 % ₹ 410.[illegible]	9.00 % ₹ 4[illegible]	
26 26	[illegible] [illegible]	₹ [illegible]				9.00 % ₹ 18.6[illegible]	9.00 % ₹ 1[illegible]	
27 27	[illegible] [illegible]	₹ [illegible]				9.00 % ₹ 27.[illegible]	9.00 % ₹ 27.[illegible]	
28 28	[illegible] [illegible]	₹ [illegible]				9.00 % ₹ 32.[illegible]	9.00 % ₹ 32.[illegible]	
29 29	[illegible] [illegible]	₹ [illegible]				9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
30 30	[illegible] [illegible]	₹ 1,40[illegible]				9.00 % ₹ 12[illegible]	9.00 % ₹ 12[illegible]	
31 31	[illegible] [illegible]	₹ [illegible]				9.00 % ₹ 49[illegible]	9.00 % ₹ 49[illegible]	
32 32	[illegible] [illegible]	₹ [illegible]				9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
33 33	[illegible] [illegible]	₹ [illegible]				9.00 % ₹ 6,[illegible]	9.00 % ₹ 6,[illegible]	
34 34	[illegible] [illegible]	₹ [illegible]				9.00 % ₹ 105.65	9.00 % ₹ [illegible]	
35 35	[illegible] [illegible]	₹ [illegible]				9.00 % ₹ 1,02[illegible]	9.00 % ₹ 1,02[illegible]	
36 36	[illegible] [illegible]	₹ [illegible]				9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
37 37	[illegible] [illegible]	₹ [illegible]				9.00 % ₹ 14.[illegible]	9.00 % ₹ 14.[illegible]	
38 38	[illegible] [illegible]	₹ [illegible]				9.00 % ₹ 25.1[illegible]	9.00 % ₹ 25.1[illegible]	
39 39	[illegible] [illegible]	₹ 216.06				9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
40 40	[illegible] [illegible]	₹ [illegible]				9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
41 41	[illegible] [illegible]	₹ [illegible]				9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
42 42	[illegible] [illegible]	₹ [illegible]				9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
43 43	[illegible] [illegible]	₹ [illegible]				9.00 % ₹ 102.[illegible]	9.00 % ₹ [illegible]	
44 44	[illegible] [illegible]	₹ [illegible]				9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
45 45	[illegible] [illegible]	₹ [illegible]				9.00 % ₹ 21[illegible]	9.00 % ₹ [illegible]	
46 46	[illegible] [illegible]	₹ [illegible]				9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
47 47	[illegible] [illegible]	₹ [illegible]				9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	

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[illegible]	[illegible] [illegible]	₹ 1,14[illegible]				9.00 % ₹ 1,[illegible]	9.00 % ₹ 1,[illegible]	
[illegible]	[illegible] [illegible]	₹ 227.[illegible]				9.00 % ₹ 18.[illegible]	9.00 % ₹ 18.79	
[illegible]	[illegible] [illegible]	₹ 14[illegible]0.44				9.00 % ₹ 2[illegible]	9.00 % ₹ 2[illegible]	
[illegible]	[illegible] 2086.27	₹ 2[illegible]72.25				9.00 % ₹ 204.[illegible]	9.00 % ₹ 204.80	
[illegible]	[illegible] [illegible]	₹ 4852.2[illegible]				9.00 % ₹ 419.09	9.00 % ₹ 419.[illegible]	
[illegible]	[illegible] [illegible]	₹ 4,[illegible]				9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
[illegible]	[illegible] [illegible]	₹ 4852.[illegible]				9.00 % ₹ 4[illegible]	9.00 % ₹ [illegible]	
[illegible]	[illegible] [illegible]	₹ 5910.51				9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
[illegible]	[illegible] [illegible]	₹ 6257.[illegible]				9.00 % ₹ 5[illegible]	9.00 % ₹ 540.1[illegible]	
[illegible]	[illegible] [illegible].61	₹ [illegible]				9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	
[illegible]	[illegible] [illegible]	₹ [illegible]				9.00 % ₹ [illegible]	9.00 % ₹ [illegible]	

Exec. [illegible] Engineer
[illegible]
E.H.V. Project Dn, Kalyan

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LONG TEXT

Sl. No	Item Code	[illegible]	[illegible]
24	[illegible]	[illegible] Detailed Survey	
25	[illegible]	[illegible] Check Survey	
26	[illegible]	Excavation of pile Normal Soil	[illegible]
27	[illegible]	[illegible] Excavation of pile Submerged Soil	[illegible]
28	[illegible]	[illegible] Excavation of pile Hard Murum/Soft Rock	[illegible]
29	[illegible]	[illegible] Excavation of pile Dry Boulder Rock	[illegible] Dry Boulder Rock
30	[illegible]	[illegible] Excavation of pile Hard Rock by chiselling	[illegible] by chiselling
31	[illegible]	[illegible] Concrete [illegible] M-30	[illegible]
32	[illegible]	[illegible] Concrete [illegible] M-20	[illegible]
33	[illegible]	[illegible] Steel Reinforcement in Concrete [illegible]	[illegible]
34	[illegible]	[illegible] Earthing [illegible] Type	[illegible]
35	[illegible]	[illegible] Earthing [illegible]	[illegible]
36	[illegible]	[illegible]	[illegible]

Executive Engineer

(321)

Sl No / Item No	Item Code	Description	Long Description
			[illegible] stem bolts, ladders, platforms, [illegible] hoists, shackl[illegible] [illegible] plates etc) and [illegible] [illegible] and application [illegible] [illegible] position (including [illegible] of [illegible], transportation of materials from [illegible] to work site etc.
57	[illegible]	BNCH: Benching-Normal Soil/Dis Soil	
58	[illegible]	BNCH: Benching-H M /S R / H R	
59	[illegible]	TFP:Excavn of FDN Protecn Wall (NS/SD/[illegible])	Excavation for foundation of revetment wall protection wall in all types of soil, sand, gravels, soft murum, soft murum with boulder [illegible] including shoring, [illegible] wherever necessary & disposal of the excavated stuff as directed upto [illegible] lead [illegible] Normal Soil/Sand/Gravel/Soft Murum
60	[illegible]	TFP:Excavn of FDN Protecn Wall (HCS/SS)	Excavation for foundation of revetment wall/protection wall in all types of soil, sand, gravels, soft murum, soft murum with boulder [illegible] including shoring, [illegible] wherever necessary & disposal of the excavated stuff as directed upto [illegible] lead [illegible] Black cotton soil/[illegible] soil
61	[illegible]	TFP:Excavn of FDN Protecn Wall (SR/HR)	Excavation for foundation of revetment wall/protection wall in all types of soil, sand, gravels, soft murum, soft murum with boulder [illegible] including shoring, [illegible] wherever necessary & disposal of the excavated stuff as directed upto [illegible] lead [illegible] Soft rock/Hard rock
62	[illegible]	TFP Excavn of FDN Protecn Wall (H/R)	Excavation for foundation of revetment wall/protection wall in all types of soil, sand, gravels, soft murum, soft murum with boulder [illegible] including shoring, [illegible] wherever necessary & disposal of the excavated stuff as directed upto [illegible] lead [illegible] Hard Rock [illegible]
63	[illegible]	P&C Cmp Mech CC 1:2:6 for Retaing Wall	Providing & casting in situ cement concrete of 1:2:6 [illegible] for [illegible] of retaining wall including [illegible] [illegible] water and [illegible], [illegible] [illegible]
64	[illegible]	P&C Cmp Mech CC 1:2:4 for Retaing Wall	Providing & casting in situ cement concrete 1:2:4 [illegible] for [illegible] of retaining wall including [illegible] [illegible] [illegible], [illegible], [illegible]
65	[illegible]	P&C UCR Masonry in Cmp Stone in CM 1:6	Providing & constructing [illegible] masonry [illegible] [illegible] [illegible] [illegible] [illegible]
66	[illegible]	[illegible]	[illegible]

Executive Engineer

S.No.	[illegible]	Description	Specification
			[illegible]
47	[illegible]	220KV D/C tower (4 ACSR/AAAC) on D/C line	[illegible]
48	[illegible]	EW STRG ... Stringing 220KV	[illegible]
49	[illegible]	Dewatering including diversion of stream	[illegible]
50	[illegible]	TE TACK WELDING M/C TOWER	[illegible]
51	[illegible]	TE TACK WELDING D/C TOWER	[illegible]
52	[illegible]	220KV D/C tower ... Setting Temp.	[illegible]
53	[illegible]	220KV M/C Tower ... Sub Sta. template	[illegible]

Executive Engineer

Sr. No.	Item Code	Description	[illegible]
			stub as dire
54 54	300085641	220KV MDC Tower DB (Stub Set Template)	Stub: 0 Degree 220KV Multi circuit Tower - Stub setting in all type of soils with the help of templates/ PROP including transportation if required to that desired location, fixing the stubs in position as per the alignment, fixing and leveling the template and the stub as dire
55 55	300008667	220KV MDC Tower DC (Stub Set Template)	Stub: 15 Degree 220KV Multi circuit Tower - Stub setting in all types of soils with the help of templates/ PROP including transportation if required to that desired location, fixing the stubs in position as per the alignment, fixing and leveling the template and the stub as dire
56 56	300008653	220KV MDC Tower DD (Stub Setting Templ)	Stub: 30 Degree 220KV MC Tower - Stub setting in all type of soils with the help of template PROP including transportation if required to that desired location, fixing the stubs in position as per the alignment, fixing and leveling the template and the stub as directed
57 57	300005788	220KV Horizontal Tower	Degree Stub bolts and nuts
58 58	300005788	220KV Horizontal Tower	with bolts and nuts

Executive Engineer
[illegible]
E.H.V. Project Dn. Kalyan

DISPATCH INSTRUCTION

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] 24	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	5,000	
[illegible]	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	[illegible]	
[illegible] 26	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	2,250,000	
[illegible]	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	11,390,000	
[illegible] 28	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	2,750,000	
[illegible] 29	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	4,300,000	
[illegible] 30	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	1,740,000	
[illegible] 31	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	[illegible]	
[illegible] 32	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	2,205,000	
[illegible]	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	[illegible]	
[illegible] 34	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	[illegible]	
[illegible]	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	10,000	
[illegible]	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	[illegible]	
[illegible]	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	[illegible]	
[illegible] 38	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	[illegible]	
[illegible]	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	40,000	
[illegible]	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	[illegible]	
[illegible] 41	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	40,000	
[illegible]	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	[illegible]	
[illegible]	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	[illegible]	
[illegible]	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	[illegible]	
[illegible]	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	[illegible]	
[illegible]	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	[illegible]	
[illegible]	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	[illegible]	

Executive Engineer
M.S.E.T.C.L.
EHV Project Dn. Kalyan

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48	48	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	9.000	
49	49	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	200.000	
50	50	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	27.000	
51	51	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	19.000	
52	52	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	2.000	
53	53	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	5.000	
54	54	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	5.000	
55	55	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	6.000	
56	56	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	14.000	
57	57	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	12.000	
58	58	[illegible]	7620 EHV Const Division Kalyan, 2nd Floor, Kalyan Thane 421301	7621 S&I SDN KALYAN	[illegible]	

Executive Engineer
M.S.E.T.C.L.
E.H.V. Project Dn, Kalyan

MAHATRANSCO
MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO.LTD.
CIN No. [illegible]
(A Government of Maharashtra Undertaking)
Office of the Addl. Executive Engineer,
E.H.V.T.L. Projects Sub-Division,
4th floor, 'D' Wing, 'Tejashri Bldg.',
[illegible] road,
M.S.E.B. Colony, Kalyan (W) 421 301.
E-mail: [illegible]
[illegible]

No. AddEE/EHV/TLP/SDN/KLN/T-14[illegible] Date: 01 February, 2018

To,
M/S BNC Power Projects Limited,
Plot No. 67, Shri Shivaji Housing Society,
Shivajinagar, Pune. 411016
Email: bnchoudhary@yahoo.co.in

Subject: Handing over of site

Reference:
1) MSETCL/CO/SCM/D&T/TKC-I/T-1720/Supply/BNC/394 dated 11.01.2018
2) MSETCL/CO/DEM/D&T/TKC-I/T-1720/ETC/BNC/395 dated 11.01.2018
3) Instructions in meeting at EHV Projects Circle, Kalwa to hand over site, dated 30 January, 2018

Dear Sir,

In connection to above subject, the work of 'LILO on 220 kV Kalwa-Wada and LILO on 220 kV Padgha-Wada Line for 400 kV Kudus S/S' is awarded to you vide Corporate Office LOAs under reference 1 & 2. Now, it is to confirm that, the site is handed over to you for execution of work as per said LOAs, today i.e. on 01 February, 2018.

1) Various joint site visits of MSETCL and M/S BNC staff, along the complete route, are already carried out. You are requested to start the work as per instructions in LOAs, deploy adequate skilled, experienced manpower at site; complete the work as per instructions in LOAs.
2) Visit to 400 kV Kudus S/S is carried out; all 220 kV bays present situation, sequence of bays at present, change of sequence of bays if needed, availability of space for future bays, etc studied in detail.
3) On site, discussed possible hurdles like ROW issues during execution of this project, in detail.
4) On site, discussed possible difficulties of outages of existing lines (4 crossing lines and line to be LILO) during execution of this project. So that, same shall be in mind in deciding the proposed locations for towers.
5) The situation at site, issues, present lines loading conditions, future outage constraints, timely execution of project, etc - all these things are discussed in detail with agency.

On 30 January, 2018, Hon. SE, EHV Projects Circle, Kalwa explained the project in detail to all. He instructed agency for timely completion of project. Instructed agency to complete detailed survey and submit the detailed report at the earliest.

It is requested to submit copy of bar chart and action plan for complete scope of work to this sub division. You are instructed to submit weekly progress report to this office.

Additional Executive Engineer,
EHV Tr. Line Projects Sub-Division, Kalyan.

Copy s.w.r.s.to,
1) The Superintending Engineer, EHV Projects Circle, Kalwa.
2) The Executive Engineer, EHV Projects Division, Kalyan.
submitted for information and further needful, guidelines please.

Executive Engineer
M.S.E.T.C.L.
E.H.V. Project Circle, Kalwa

Scanned with ACE Scanner

DOCUMENTS REGARDING DATE OF FOUNDATION CASTING AND ERECTION FOR TOWER LOCATION 37 AND 38

1. JOINT MEASUREMENT SHEET FOR LOC 37 AND 38 FOR FOUNDATION CASTING WORK
2. MONTHWISE QUANTITY ABSTRACT FOR TOWER ERECTION WORK LOCATION NO 37 AND 38

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn., Kalwa

(2[illegible])
(9[illegible])

MAL-25

MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.

JOINT MEASUREMENT CERTIFICATE

Name of Work	Work of Construction of LILO of 220KV Kolshet-Wada & [illegible] Padghe - Wada line for 400KV Kudus S/S [illegible]
Agency	M/s. [illegible] Power Projects Ltd
[illegible]	
Location No.	37 | MDN+0
Date of [illegible]	11/05/2018
[illegible]	
Type of Foundation	OFR

EXCAVATION Details :

Sr. No.	Type of Soil	Pit Size Length	Width	Depth	Total Excavation Cu.M.
1	[illegible]	[illegible]	[illegible]	0.977	21.267
2	[illegible]	[illegible]	22.606	0.375	39.565
3	[illegible]	[illegible]	[illegible]	1.600	455.295
4	[illegible]	[illegible]	[illegible]	0.962	342.391
		Total		3.555	855.66

CONCRETE DETAILS

Concrete	Item	Measurement	Total Quantity
[illegible]	[illegible]		[illegible]
[illegible]	[illegible]		[illegible]

[illegible]

Sr. No.	Type of Steel	Diameter	Length in Mtr	No. of Bar	Unit Weight	Total Weight in Kg
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	4.469
[illegible]		[illegible]	[illegible]	[illegible]	1.85	4.957
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
		[illegible]	[illegible]	102	1.85	[illegible]
					Total Weight in	23.431
					[illegible]	[illegible] MT

[illegible]

Executive Engineer
M.S.E.T.C.L.
EHV Project Division

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[illegible]

MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD

JOINT MEASUREMENT CERTIFICATE

Name of Project		Work of Construction of D/C on 220KV [illegible]
Name of Contractor / Agency	:	M/s BNC Power Projects Ltd.
Location No. & Type	:	38 MCN+6
Date of Casting	:	27/09/2016
Type of Foundation		WBC

EXCAVATION DETAILS

Sr. No.	Description	Length	Width	Depth	Total [illegible]
1	[illegible]	[illegible]	16.850	3.400	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Total			3.500	[illegible]

CONCRETE DETAILS

Description	[illegible]	Measurements	Total Volume
[illegible]	[illegible]		33.020
[illegible]	[illegible]		[illegible]

STEEL DETAILS

Sr. No.	Description	Diameter	Length in mtr	No. of Bar	Unit Weight	Total weight in Kg
[illegible]		32mm	[illegible]	40	[illegible]	[illegible]
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
		25mm	[illegible]	[illegible]	1.50	[illegible]
[illegible]		[illegible]	[illegible]	110	[illegible]	[illegible]
[illegible]		20mm	[illegible]	110	1.55	[illegible]
[illegible]		[illegible]	[illegible]	[illegible]	1.55	[illegible]
					Total Weight in [illegible]	[illegible]
					Say	[illegible]

[illegible]

[illegible]

For BNC Power Projects Ltd

BNC POWER PROJECTS PUNE

(Authorized Signatory)

Executive Engineer
M.S.E.T.C.L.
E.H.V. Project Dn., Kalyan

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Monthwise Quantity abstract for Erection work

Name of Work of Construction of LILO of 220KV Kalwa-Wada & 220 KV Padghe - Wada line for 220KV Kudus S/S [illegible]
PKG9.

Ref : LOA No. - MSETCL/CO/O&M/D&T/TCC-1/T-018/EHV/MMC/[illegible] dtd 15/02/2018

Sr. No.	Loc. No.	Typed Tower	Erection of Tower	Date of erection
1	7	MD+4	45.41	5/6/2021
2	8	MDN+6	43.13	17/05/2020
		Totals	88.54	MT
3	7	MCN+5	27.15	13/10/2020
		Totals	27.12	MT
4	47	MDN+6	34.53	14/01/2020
5	49	MDN+0	34.45	01/01/2019
		Total	68.98	MT
6	12	MA+5	13.65	15.11.2020
7	58	MC+0	24.45	23.01.2020
		Totals	38.08	MT
8	6	MCN+9	26.45	15.01.2021
		Totals	26.44	MT
9	[illegible]	MCN+5	29.41	21.01.2021
10	[illegible]	MCI+0	27.15	08.01.2021
		Total	56.50	MT
11	41	MI+10	26.47	6/04/2021
12	1	MI+10	26.43	6/05/2021
		Total	52.90	MT
13		DD+4	17.26	2/1/2021
14	25	MD	26.70	2/2/2021
		Total	43.96	MT
15	33	MD+6	16.21	2/4/2021
16	34	MD	26.45	3/4/2021
		Total	43.30	MT
17	35	MD+6	14.84	4/5/2021
18	36	MD	26.03	4/23/2021
19	48A	Dead end tower	4.30	4/25/2021
20	45B	Dead end tower	9.30	4/25/2021
		Total	54.51	MT
21	48	Dead end tower	9.30	6/1/2021
22	47	Dead end tower	9.30	5/5/2021
23	49	Dead end tower	0.30	5/7/2021
24	33	Dead end tower	4.53	5/7/2021
25	16	MD	26.42	5/7/2021
26	15	MC+5	24.43	6/25/2021
		Total	64.55	MT

For BNC Power Projects Ltd

Authorised Signatory

BNC Power Projects Ltd Pune

Addl. Executive Engineer
M.S.E.T.C.L.
Special Project [illegible]

Executive Engineer
M.S.E.T.C.L.
E.H.V. Project Dn., Kalyan

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CORRESPONDENCE REGARDING FOREST ONLINE PROPOSAL, HARDCOPY SUBMISSION, AND MOVEMENT OF PROPOSAL FROM DCF TO CCF THANE AND CCF THANE TO APCCF NAGPUR

Executive Engineer
M.S.E.T.Co.Ltd.
E.H.V. Proj. [illegible]

TimeLine Details

Proposal received date at each stage of flow.

A. General Details

(i) Proposal No. : FP/MH/TRANS/30180/2017

(ii) Name of Project for which Forest land is required : The 220KV M/C LILO on Padghe-Wada and Kolshet-Wada Line for 400 KV Kudus SS Padghe Through the Village of [illegible] [illegible]. The total forest land area required for the project is 6.45 Ha.

(iii) Short narrative of the proposal and Project/scheme for which the forest land is required : Maharashtra State Electricity Transmission Co. Ltd Plants to construct and operate [illegible] of approved vide MER NO [illegible] dt 13.11.2017 with an estimated cost of Rs 19346 lakhs. The 220KV M/C LILO on Padghe-Wada and Kolshet-Wada Line for 400 KV Kudus S/S Padghe Through the Village of [illegible]

(iv) State : Maharashtra

(v) Category of the Project : Transmission Line

(vi) Shape of forest land proposed to be diverted : Linear

(vii) Area of forest land proposed for diversion (in ha.) : 9.4

B. TimeLine

Proposal No.	Submitted by User Agency	Query for Shortcoming(if any) by Nodal Officer	Resubmission of Proposal by User Agency	Query by Nodal Officer for submitting Hard Copies	Uploading(by U.A.) of copies of receipt received from DFO & DC	Division	Circle	Nodal Office	State Government	Regional Office	Stage-I Approval on	Stage-II Approval on
FP/MH/TRANS/30180/2017	09/11/2017	13/11/2017	20/11/2017	23/11/2017								

C. Essential Details Sought (Date)

Communication between Regional Office & State Government	Communication between State Government & Nodal Officer	Communication between Nodal Officer & Circle	Communication between Circle & Division	Communication between Division & User Agency

NOTE:- Proposal is pending with User Agency for submitting hard copy of proposal.

http://forestsclearance.nic.in/timeline.aspx?pid=FP%2fMH%2fTRANS%2f30180%2f2017

Pg ①

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn. Kalyan

MAHATRANSCO
Maharashtra State Electricity Transmission Co. Ltd.

MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.

From,
Office of the Executive Engineer,
E.H.V. Projects Division,
2nd floor, 'A' wing, 'Tejashri Bldg.',
Jahangir Maidan, Karnik road,
M.S.E.T. Co. Ltd., Kalyan (W) 421 301.
Tel. – 0251 2328540 / Fax – 0251 2201657
E-mail – eeehvcdnkalyan@gmail.com
ee7020@mahatransco.in

To,
The Deputy Conservator Of Forest
Thane D.F.O. Office
Thane

Ref. No. EE/EHV P/DN/KLN/T- /No. 1132

Date: 29.11.2017

Sub: Submission of 5 (Five) nos. of hard copies of forest proposal for work of LILO on 220 KV Boisar-Borivali & Boisar Ghodbunder Line for 400kV Kudus S/S. Online Submission is already done.

Ref: - 1. FP/MH/TRANS/30204/2017

We have submitted the above proposal through online on first of week of November vide under ref (1). Now we have received the mail from Your Nodal office to submit hard copies of the proposal along with concerned documents to your good office for further process. Accordingly the proposal is submitting herewith the following documents in 5(Five) sets to your perusal and further process of the same please.

1. Kharsra maps with line route marking along with tower schedule and co-ordinates along with forest and non-forest area statement.
2. Topo sheet.
3. 7/12 list
4. Total village joint map
5. Google Earth Map
6. Project note, Part A (I), All Certificates and other A/4 documents of total 129 pages.

Kindly go through the above documents for further process and send the file with all documents and your reports to C.C.F office for further process please.

Thanking You

(A.D. [illegible])
Executive Engineer
E.H.V. Projects Dn., Kalyan

Encl: 5 (Five) sets of above files

C.c. to,
1. The Superintending Engineer, EHV Projects Circle, Kalyan

Copy to:-
The Addl. Executive Engineer, S&I S/Dn, Kalyan

Executive Engineer
M.S.E.T.C.L.
E.H.V. Pr. C. Dn. Kalyan

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o/c

JOINT INSPECTION REPORT

1. The Name of Project :- Padghe- Wada 220kv transmission line for kudus substation

2. Details of the Forest Lands :-

Sr. No.	Range Name	Village Name	S. No. / Compt. No.	Status	Length in (Mtrs)	Width (Mtrs)	Forest area in Sq.Mts.	Re Area in Hectar remarks
1	Padgha	Eksal	76	RF	1561.00	35.00	54635.00	5.4635
2		Chinchavali tarf Kunde	3(New 59)	PF	59.00	35.00	2065.00	0.2065
			292	PF	224.00	35.00	7840.00	0.784
			293	PF	203.00	35.00	7105.00	0.7105
		Kunde	54	PF	177.00	35.00	6195.00	0.6195
3			52	PF	41.00	35.00	1435.00	0.1435
			51	PF	23.00	35.00	805.00	0.0805
4			59	PF	34.00	35.00	1190.00	0.119
5		Dighashi	240	PF	50.00	35.00	1750.00	0.175
6			216	RF	583.00	35.00	20405.00	2.0405
		Total			2955.00		103425.00	10.3425

3. The above referred Forest area ad-measuring(10.3425 Hect.) was jointly inspected by

1) S.B. Kand.
Sub Divisional Forest Officer, Murbad
2) M.D. Jadhav
Addl. Executive Engineer, MSETCL Kalyan

4. It is agreed that the forest area mentioned :- Yes

5. Classification of Forest :- Protected forest & Reserved Forest

6. Canopy Density :- less than 0.4 %

7. It is clarified that no work has been started :-

Executive Engineer
M.S.E.T.C.L.
E.H.V. Proj. [illegible] Kalyan

Pg ⑦

1) On forest area :- Yes, no work has been started

2) On non forest area :- Yes, no work has been started

8. Date of joint Inspection :- 25th Jun 2010

9. Remarks :-

1. Ekual S.NO 78 Has been distributed for Koyana Rehabilitation.

For Project Authority

[M.D.Jadhav]
Addl. Executive Engineer

Addl. Executive Engineer

For Forest Department

(S.R.Kund)
Sub Divisional Forest Officer, Mandvi

Executive Engineer
M.S.E.T.Co. Ltd.
E.H.V. Project Dn. Kalyan

(335)

(4)

SITE INSPECTION REPORT

Proposal no. FCP (MH) [illegible]

<table>
<tr><th>Sr. No.</th><th>Items</th><th>Observations and remarks</th></tr>
<tr><td>1.</td><td>Name of the Project and location (Range, Round, Beat)</td><td>Diversion of 220 kv M/C Line on Padgha-Vada transmission line, 10.3425 Hector.
<table>
<tr><th>Range</th><th>Round</th><th>Beat</th><th>Village</th></tr>
<tr><td>Palghar</td><td>Dighashi</td><td>Kandi</td><td>Shel</td></tr>
<tr><td>Palghar</td><td>Dighashi</td><td>Kandi</td><td>Chincholi
Kel Kande</td></tr>
<tr><td>Palghar</td><td>Dighashi</td><td>Dighashi</td><td>Kanda</td></tr>
<tr><td>Palghar</td><td>Dighashi</td><td>Dighashi</td><td>Dighashi</td></tr>
</table></td></tr>
<tr><td>2.</td><td>Name of the User Agency</td><td>Padgha-wada 220 kv transmission line for [illegible] substation Padgha-wada 220 kv transmission line for [illegible] substation for MSETCL.</td></tr>
<tr><td>3</td><td>Date of Site inspection</td><td>07/08/2018</td></tr>
<tr><td>4</td><td>Extent (ha) and legal status of forest land proposed for diversion</td><td>Reserve Forest & Protected forest, 10.3425 (As per Attach annexure)</td></tr>
<tr><td>5</td><td>a) Details of forest land proposed for diversion and activity wise break-up of forest land</td><td>Proposed area 10.3425 Hect.
The Detail activity –wise break-up of forest line proposed is as per Area Statement on page no.</td></tr>
<tr><td></td><td>b) Density and Eco-value class</td><td>Density : 0.2 - 0.4
Eco-value class : I
Category-RF, PF [illegible]</td></tr>
<tr><td></td><td>Whether the requirement of forest land as proposed by the User Agency in Col.2 of Part-I is unavoidable and barest minimum for the project. If no recommended area item-wise with details of alternative examined</td><td>Yes.
Required forest land is barest minimum and unavoidable.</td></tr>
<tr><td></td><td>Whether the proposal involves any construction of building (including residential) or not ? If yes, details thereof</td><td>No.</td></tr>
<tr><td></td><td>a) Whether forest area proposed for diversion is important from wildlife point of view or not.</td><td>No</td></tr>
<tr><td></td><td>b) Details of any rare or endangered or unique species of flora and fauna found in proposed forest</td><td>Nil</td></tr>
</table>

(n.5)

Executive Engineer
M.S.E.T.C.L.

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(4)

	land, if so, the details thereof.	
	c) Aerial distance from the nearest boundary of any Protected Area (km)	Within 5 km Tansa wild life Sanctuary.
	d) Remarks about sensitivity of the forest area likely to be affected due to project	There is no adverse effect on the Tansa Wildlife Sanctuary or Eco Sensitive Zone.
	e) Whether wildlife mitigation plan is required? If yes, reasons therefor.	No.
9.	Details of vegetation: a) Total number of trees to be felled:	515 ~~[illegible]~~
	b) Number of trees to be felled of girth below 60 cm.	375 (Small saplings 677)
	c) Number of trees to be felled of girth above 60 cm.	140
	d) Effect of removal of trees on the general ecosystem in the area.	Not Applicable
10.	Whether the proposal involves any violation of Forest (Conservation) Act 1980? If yes, a detailed report on violation including action taken against the concerned officials to be attached	No
11	Whether the proposal involves rehabilitation of displaced persons. If yes, whether rehabilitation plan has been approved by the State Government?	No rehabilitation on which is required but the area required for project belongs to project affected person who have been rehabilitated from Tiger Reserve.
12	a) Details on catchment and culturable command area under the project (if applicable) b) Status of catchment area treatment plan to prevent siltation of reservoir (if applicable)	Nil. Nil.
	Utility of the project	Transmission lines for which electricity coverage
13	Whether land being diverted has any socio-cultural/religious value? Whether any sacred grove or very old growth trees/forest exist in the areas proposed for diversion?	No
14	Any other important information related to the project (Separate note may be attached, if required)	–
15	Original documents and photographs enclosed:	All related Maps enclosed.

Executive Engineer
M.S.E.T.C.L.
[illegible] Dn. [illegible]

P9 (6)

8	Recommendation of the Inspecting Officer (CCF/ DCF)	This project is for public purpose and to avoid load shedding of electricity during peak demand period in around Thane district. Part of the land required for project is already distributed to project affected persons rehabilitated from Sahyadri Tiger Reserve. The project can only be recommended on the condition that the user agency reaches an amicable agreement with the project affected persons and submits the copy of the agreement to forest department.

Place : Thane

Date-07/08/2015

(Dr Jitendra Ramgaonkar)
Deputy Conservator of Forests,
Thane Forest division, Thane

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn. Kalyan

उप वनसंरक्षक, ठाणे वन विभाग यांचे कार्यालय
[illegible] सर्कल, लाल बहादूर शास्त्री मार्ग, नौपाडा, ठाणे-400 602, ☎ 25421375.
Email : dycfthane@mahaforest.gov.in

Letter

Sub- Diversion of 10.3425 Hect. of forest land for laying Padghe-wada 220 Kv Transmission line for kudus Substation.

Despatch No.FCA/25/ 905 /2018-19

ठाणे - 400602. Date: 14 / 08/ 2018

To
The Chief Conservator of Forest(T)
Thane

Ref: Executive Engineer, E.H.V.Projects Dn.Kalyan letter No. EE/EHVP/DN/KLN/T-No.1137 Dt.29.11.2017

Executive Engineer, E.H.V.Projects Dn.Kalyan mediated has submitted a proposal for Laying for work LILO on 220 KV Padghe-Wada. This project requires the area of Reserved forest and Protected Forest. Therefore the project authority is seeking GOI permission under Forest (Conservation) Act, 1980.

Sr.No	Name of Taluka	Village Name	Forest S.No	Forest area in Hect	Status
1	Bhiwandi	Ekசel	76	5.4635	R.F.
2		Chimbhavali turf Kunde	8	0.2065	P.F
3		Kunde.	292	0.284	P.F
			293	0.7105	P.F
			54pt	0.6195	P.F
			52	0.1435	P.F
			51	0.0805	P.F
			54pt.	0.119	P.F
4		Dighashi	211	0.175	P.F
			215	2.0405	R.F
				Total	10.3425

14/8/2018
मुख्य वनसंरक्षक (प्रादेशिक)
ठाणे

Executive Engineer
M.S.E.T.Co. Ltd.
E.H.V. Project Dn. Kalyan

The following documents which are necessary as per Government of India instructions have been received from the Agency.

1) Prescribed form – A, Part I & II.
2) Area statement.
3) Index map of suitable scale.
4) Certificate that there is no violation of Forest Conservation Act, 1980 by the Agency.
5) Brief project detail from the Project Authority.
6) The Project Authority has given an undertaking of Net Present Value.
7) The site inspection report of Deputy Conservator of Forests, Thane.

The project authority has not started the non-forestry work on Forest Land. This Project is less than 1.000 ha. and therefore the Compensatory land is not required. Hence Compensatory Afforestation on the area of double degraded forest land i.e. 1.000 ha. is proposed in this division. The project authority is willing to bear the cost of Compensatory afforestation as required the Government and nor felling of trees.

The following documents are awaited from the Agency for proposal.

1) The certificate under The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 from Collector, Thane is requested by Project authority. The certificate will be attached in the proposal when it will be issued by the Collector, Thane

This project is for infrastructure development and is of national interest and importance; hence the proposal is being recommended and is of diverting the required forest land under Forest (Conservation) Act, 1980 on the following conditions.

1) The legal status of forest land shall remain unchanged.
2) The area diverted will be used only for purpose mentioned in proposal.
3) Cost of Compensatory afforestation to be borne by the Project Authority.
4) Net Present Value to be borne by the Project Authority
5) As and when require by the Forest Department, , E.H.V.Projects Dn.Kalyan will provide well furnished.

Encl : 6 sets of proposals.

(Dr. Jitendra Ramgaokar)
Dy. Conservator of Forests,
Thane Forest Division, Thane

Copy forwarded to Executive Engineer , E.H.V.Projects Dn.Kalyan for information and necessary action.
Copy to Assistent Conservator of Forests, Mandvi for information and necessary action.
Copy to Range Forest Officer, Palghar, for information and necessary action.

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn., Kalyan.

उप वनसंरक्षक, ठाणे वन विभाग यांचे कार्यालय
[illegible] सर्कल, लाल बहादूर शास्त्री मार्ग, [illegible], ठाणे-400 602, दूरध्वनी
Email : dycfthane@mahaforest.gov.in

पत्र

INWARD No. 557
DATE: 25/3/2019
M.S.E.T.C.L.
EHV Projects Dn., Kalyan.
ARCH
SR
F & A

विषय : Submission forest proposal for work of LILO on 220 KV Padgha-wada for 400Kv Kudus S/S.

जा. क्र. कक्ष-2/वनजमीन/ 4086 /सन 2018-19
ठाणे - 400602. दिनांक: 20 /03/2019

प्रति,
कार्यकारी अभियंता
इ.एच.व्ही.प्रकल्प विभाग,
कल्याण

संदर्भ : आपले कडील पत्र क्रमांक EE/EHVp/DN/KLN/T/032 दि.29/11/2017

कार्यकारी अभियंता इ.एच.व्ही.प्रकल्प विभाग कल्याण आपणास उपरोक्त संदर्भांच्या अनुषंगाने कळविण्यात येते की 9.4 हेक्टरचा क्षेत्र मागणी करणारा प्रस्ताव आपण सादर केला होता. सदर प्रस्तावाच्या on line Part-1 प्रणाली मध्ये सुध्दा 9.4 हेक्टर क्षेत्र नमूद करण्यात आलेले आहे. परंतु [illegible] प्रस्ताव [illegible] क्षेत्र 10.3425 हेक्टर निश्चित झालेले आहे. त्याप्रमाणे आपण 10.3425 हेक्टरचा सुधारित प्रस्ताव या कार्यालयात सादर केला आहे. त्याप्रमाणे प्रस्ताव मा.मुख्य वनसंरक्षक यांना सादर करणेत आलेला आहे. सदर प्रस्ताव Part II on line प्रणाली मध्ये भरावयाचे असल्याने 10.3425 हेक्टर क्षेत्राचा on line प्रणाली Part-I मध्ये दुरुस्ती करून या कार्यालयास तात्काळ सादर करावे.

(डॉ. मिलिंद [illegible])
उप वनसंरक्षक,
ठाणे वन विभाग, ठाणे

Executive Engineer
M.S.E.T.C.L. Ltd.
EHV Project Dn., Kalyan

[illegible] / T-2.56 G

Office of Deputy Conservator of Forest, Thane Forest Division
Marathon Circle, Lal Bahadur Shastri Road, Naupada, Thane 400602

Letter

[Round Seal - Text in English]

Subject: Submission forest proposal for work of LILO on 220 KV Padgha-Wada for [illegible] [illegible]

O. No. Kaksha-15/FCA/[illegible]/Year 2018-19
Thane - 400601 Date 20/03/2019

To
Executive Engineer
E.H.V. Project Division
Kalyan

Reference: Your letter No. EE/EHV/PDN/KLN/[illegible] Dt. 29/11/2017

In connection with the aforementioned reference, it is hereby informed to the Executive Engineer, E.H.V. Project Division Kalyan that you have submitted a proposal for transferring 9.4 Hectares. Area of 9.4 Hectares is also mentioned in the online Part – I system of the said proposal. However, after confirmation of the area, the proposal affecting area has been fixed as 10.3425 Hectares and accordingly you have submitted revised proposal of 10.3425 Hectares. Subsequently, the proposal has been furnished before the Hon'ble Chief Conservator of Forest. As the said proposal is to be uploaded on Part II online, correction of area of 10.3425 Hectares be carried out in the online system Part I and submit to this office with immediate effect.

Sd/-
(Dr. Jitendra Ramgaonkar)
Deputy Conservator of Forest
Thane Forest Division, Thane

Sd/-
[Seal – Text in English]

Translated by
Mr. Rajesh Sidram Dasa
A Panel Translator of Govt. of Maharashtra
Appointed at Sr. No. [illegible] of the Panel constituted by the Government of Maharashtra vide GR No. [illegible]
[illegible]
Language Pair – Marathi ⇄ English

TRUE TRANSLATION

MR. RAJESH SIDRAM DASA
[illegible] Flat No. 501, [illegible] Gardens, Katraj-Kondhwa Road, Gokulnagar, Katraj, Pune – 411046
Mobile No. [illegible] Email: [illegible]@gmail.com

MAHATRANSCO

MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.

From,
Office of the Executive Engineer,
EHV Projects Division
3rd Floor, 'A' wing, 'Tejashri Bldg.',
[illegible]
M.S.E.T. Co. Ltd. Kalyan (W) 421 301
Tel: 0251-[illegible] Fax: +0251-[illegible]
Email: [illegible]
[illegible]

To,
Deputy Conservator of Forests,
Thane Division,
Thane

Ref. No. EE/EHV PC/KLN/T-[illegible] No. 000429 Date: 0[illegible] APR 2019

Sub: Correction in forest proposal area for proposed project of construction and laying of 220KV M/C LILO on Padghe-Wada & Kolshet-Wada transmission line for 400kv Kudus S/S of MSETCL from 9.4 Ha to 10.3425Ha.

Ref: 1. On-line forest proposal vide FP/MH/TRANS/[illegible]/2017 DT.09.11.2017
2. Your reference letter No. [illegible] 2018-19 [illegible] [illegible]/03/2019

With reference to above subject, The online forest proposal for proposed project of construction and laying of 220KV M/C LILO on Padghe-Wada & Kolshet-Wada transmission line for 400kv Kudus S/S was submitted by this office vide under ref(1).
Previously the online forest proposal is submitted for forest area of 9.4Ha and the same is incorporated in Part-I of forest proposal. But after joint inspection by your forest authority, the forest area changes from 9.4 Ha to 10.3425. The said proposal is in process of C.C.F. office, Thane.

Your office has conveyed vide letter under ref(2) to make correction in forest area of part-I of on line proposal of the above said work from 9.4Ha to 10.3425. Accordingly this office has made necessary correction in forest area of part-I so as to process part-II of on line forest proposal.

In above regard, it is requested to process the proposal to next stage to get approval accordingly.
Submitted for further needful action please.

(V.B. Aware)
Executive Engineer
EHV Project Division, Kalyan

Copy s.w.r.to:

The Superintending Engineer, EHV Projects Circle, Kalyan

Copy to:

The Additional Executive Engineer, [illegible] S/Stn. Kalyan

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Project Dn., Kalyan

(343)

[illegible] No. FCA/2005, dated [illegible]

[illegible] herewith for your ready [illegible]

[illegible] Engineer, [illegible] Company Ltd., EHV Projects Division Karur

[illegible] Authority has submitted a proposal for Diversion of [illegible] ha. of Forest land for laying [illegible] Wind 220 KV Transmission line [illegible]

[illegible] Authority is seeking [illegible]

[illegible] of the land proposed for diversion are as under:

[illegible]	[illegible]	Village	Survey No.	Area	Legal Status
[illegible]	[illegible]	Ekal	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	Chinnathirupathi [illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	Kinnu [illegible]	[illegible]	0.710	[illegible]
			301	0.610	[illegible]
			142	0.110	[illegible]
			[illegible]	0.020	[illegible]
[illegible]	[illegible]	Dighalle	[illegible]	[illegible]	[illegible]

Executive Engineer

399

[illegible]

[illegible] Talks for [illegible]

[illegible] proposal by Project [illegible]

[illegible] before recommending the proposal to

[illegible] may be [illegible]

[illegible] can be

[illegible] the proposal

[illegible] area 16 [illegible]

[illegible] District, [illegible]

[illegible] certified that it is suitable for Afforestation

[illegible]

17. The Deputy Conservator of Forests, [illegible] not likely [illegible] any monument/site of [illegible] archaeological or religious importance.

18. [illegible] Deputy Conservator of Forests, [illegible] site inspection on dated 07.08.2018. The [illegible] enclosed to the [illegible]

19. The Deputy Conservator of Forests [illegible]

[illegible]

Executive Engineer

Annexure-X

UNDERTAKING

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashtra.

Ref:-Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610
Dated - 29.08.2025.

Condition No.10

With reference to above, we the project authority, do hereby agrees and undertake and agrees to pay the Additional amount of the Net Present Value (NPV) of the diverted forest land if any, becoming due after revision of the same by the Hon'ble Supreme court of India in future, shall be charged by the State Government from the User Agency.

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

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

PLACE:- Kalyan.
DATE :- 31 / 10 /2025

Annexure - XI

UNDERTAKING

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashtra.

Ref:-Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610 Dated - 29.08.2025.

Condition No. 11

With reference to above, we the project authority, do hereby agrees and undertake that, All the funds received/deposited from the User Agency under the project shall be transferred/deposited to CAMPA fund only through e-portal (https://parivesh.nic.in/).

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

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

PLACE:- Kalyan.
DATE :- 31 / 10 /2025

Annexure II

AGENCY COPY

यूनियन बैंक Union Bank of India

NEFT / RTGS CHALLAN for CAMPA Funds

Date : 28-10-2025

Agency Name.	MAHATRANSCO
Application No.	6448241315
MoEF/SG File No.	FC-II/MH-201-2022-NGP
Location.	MAHARASHTRA
Address.	O/O THE EXECUTIVE ENGINEER, MSETCL, EHV CONSTRUCTION DIVISION, KALYAN Thane
Amount(in Rs)	36743499/-

Amount In Words :Three Crore Sixty-Seven Lakh Forty Three Thousand Four Hundred and Ninety-Nine Rupees Only

NEFT/RTGS to be made as per following details;

Beneficiary Name:	MAHARASHTRA CAMPA
IFSC Code.	UBIN0996335
Pay to Account No.	150786448241315 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India FCS Centre,21/1, III Floor, Jellite Towers, Mission Road, Bengaluru-560027

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

BANK COPY

यूनियन बैंक Union Bank of India

NEFT / RTGS CHALLAN for CAMPA Funds

Date : 28-10-2025

Agency Name.	MAHATRANSCO
Application No.	6448241315
MoEF/SG File No.	FC-II/MH-201-2022-NGP
Location.	MAHARASHTRA
Address:	O/O THE EXECUTIVE ENGINEER, MSETCL, EHV CONSTRUCTION DIVISION, KALYAN Thane
Amount(in Rs)	36743499/-

Amount In Words :Three Crore Sixty Seven Lakh Forty-Three Thousand Four Hundred and Ninety-Nine Rupees Only

NEFT/RTGS to be made as per following details;

Beneficiary Name.	MAHARASHTRA CAMPA
IFSC Code:	UBIN0996335
Pay to Account No.	150786448241315 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India FCS Centre, 21/1, III Floor, Jellite Towers, Mission Road, Bengaluru-560027

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

Note: After making the required payment through challan, if the payment status has not been updated even after 7 working days, then kindly mail a copy of your challan with transaction date and reference id to Email: fcsblr@unionbankofindia.bank , epurse@unionbankofindia.bank, ubin0903710@unionbankofindia.bank

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

Annexure-XI/B

Account Statement from 29 Oct 2025 to 29 Oct 2025

Txn Date	Value Date	Description	Ref No./Cheque No.	Branch Code	Debit
29/10/2025	29/10/2025	TO DEBIT THROUGH CHEQUE-SBI 001219FOR MAHARASHTRA CAMPA-804057	/ 804057	399	1,00,00,000.00
29/10/2025	29/10/2025	TO DEBIT THROUGH CHEQUE-SBI 001219FOR MAHARASHTRA CAMPA-804058	/ 804058	390	1,00,00,000.00
29/10/2025	29/10/2025	TO DEBIT THROUGH CHEQUE-SBI 001219FOR MAHARASHTRA CAMPA-804059	/ 804059	309	1,00,00,000.00
29/10/2025	29/10/2025	TO DEBIT THROUGH CHEQUE-SBI 001219FOR MAHARASHTRA CAMPA-804060	/ 804060	399	67,43,548.20
29/10/2025	29/10/2025	CHQ TRANSFER-CHEQUE TRANSFER TO-804056	/ 804056	399	4,75,718.00
29/10/2025	29/10/2025	TO CLEARING-Chq 804048 Sess 3 BHOIR BALU DAMU 0000219000-804048	/ 804048	5076	22,440.00
29/10/2025	29/10/2025	TO TRANSFER-INB NEFT UTR NO: SBIN525302217102-Vilas Padu Patil	NEFT INB: CNAEQDLZG1 TRANSFER TO 4698138044302 / Vilas Padu Patil	99922	51,444.00
29/10/2025	29/10/2025	TO TRANSFER-INB NEFT UTR NO: SBIN525302215404-Dhananjay Maruti Kadam	NEFT INB: CNAEQDLXH5 TRANSFER TO 4688149044309 / Dhananjay Maruti Kadam	99922	21,744.00
29/10/2025	29/10/2025	TO TRANSFER-INB TI Balance Sachin Palkar-	CT00WIRWE0 TRANSFER TO 61012081868 Mr. SACHIN SITARAM PA /	99922	366.00

UTR No. SBIN525302291106

Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Projects Dn Kalwa

Scanned with O

Annexure - XI - [illegible]

Proposal No.	Application No	[illegible] No (kms)	Proposal Name	Category	Area (ha.)	User Agency Name	Date of In-PRINCIPLE	Verified Date	Action	Payment Details
[illegible]	TRANS [illegible]	[illegible]	[illegible] Transmission Line	[illegible] Line	[illegible]	[illegible]	[illegible] 2025	[illegible]	✓ Paid	Paid
[illegible]	TRANS [illegible]	[illegible]	220 KV DC [illegible] Transmission Line	[illegible]	[illegible]	[illegible]	[illegible] 2024	[illegible] 2025	Generate Challan [illegible]	[illegible]
[illegible]	TRANS [illegible]	[illegible]	220 KV DC [illegible] Transmission Line	Transmission Line	[illegible]	[illegible]	[illegible] 2024	[illegible] 2024	✓ Paid	Paid
[illegible]	TRANS [illegible]	[illegible]	220kV [illegible] Transmission Line	Transmission Line	[illegible]	[illegible]	[illegible] 2024	[illegible] 2024	✓ Paid	Paid
[illegible]	TRANS [illegible]	[illegible]	132 KV DC LILO [illegible] SUBSTATION	Transmission Line	[illegible]	[illegible]	[illegible] 2024	[illegible] 2024	✓ Paid	Paid
[illegible]	TRANS [illegible]	[illegible]	[illegible] Transmission Line	Transmission Line	[illegible]	[illegible]	[illegible] 2024	[illegible] 2024	✓ Paid	Paid
[illegible]	TRANS [illegible]	[illegible]	132 KV DC [illegible] Line from [illegible]	Transmission Line	[illegible]	[illegible]	[illegible]	[illegible]	✓ Paid	Paid
[illegible]	TRANS [illegible]	[illegible]	132 KV DC [illegible] Line from [illegible]	Transmission Line	[illegible]	[illegible]	[illegible]	[illegible]	✓ Paid	Paid
[illegible]	TRANS [illegible]	[illegible]	[illegible] INCREASING & TOWER SHIFTING OF 220KV [illegible] LINE	Transmission Line	[illegible]	[illegible]	[illegible]	[illegible]	✓ Paid	Paid

Annexure - XII

CERTIFICATE

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashrta.

Ref:- Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610 Dated - 29.08.2025.

Condition No.12

With reference to above, we the project authority hereby agreed and taken approval of SBWL and NBWL attached herewith.

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

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

PLACE:- Kalyan.
DATE :- 31 /10 /2025

Annexure-XII/A

महाराष्ट्र शासन
महसूल व वन विभाग
प्रधान मुख्य वनसंरक्षक (वनबल प्रमुख), महाराष्ट्र राज्य, नागपूर यांचे कार्यालय.
O/o Principal Chief Conservator of Forests (HoFF), Maharashtra State
प्रधान मुख्य वनसंरक्षक (वन्यजीव), महाराष्ट्र राज्य
Principal Chief Conservator of Forests (Wildlife), Maharashtra State
"Van Bhavan" 3rd Floor, Ramgiri Road, Civil Lines, Nagpur 440 001
Phone - 0712-2549563
E-mail - [illegible]
Website - www.mahaforest.gov.in

पत्र-ईमेल क्रमांक:- कक्ष २३(२)/वजी/सर्व्हे/प्र.क्र.६५/ ८८१९ /२०२४-२५ दिनांक ०८/१०/२०२४

प्रति,
कार्यकारी अभियंता,
महाराष्ट्र राज्य विज वहिनी. कं. लि.
कल्याण
Email- ee7620mahatransco.in/ ee7620@gmail.com

विषय:- ठाणे जिल्ह्यातील तानसा वन्यजीव अभयारण्याच्या मानित पर्यावरण संवेदनशील क्षेत्रातून जाणाऱ्या ४०० के. व्ही. कुडूस सबस्टेशनसाठी २२० के.व्ही. पडगे-वाडा आणि कोलशेत-वाडा ट्रान्समिशन लाइनवर २२० के.व्ही. ट्रान्समिशन लाइनचे बांधकामासाठी वन्यजीव मान्यतेचा प्रस्ताव. (**तानसा वन्यजीव अभयारण्याचे मानित पर्यावरण संवेदनशील क्षेत्र**)

संदर्भ:
१. या कार्यालयाचे पत्र क्रमांक कक्ष-२३(२)/वजी/सर्व्हे/प्र.क्र.६५/८६६, दि. २८/०५/२०२४.
२. शासन पत्र क्र. डब्ल्यूएलपी-०३.२४/प्र.क. १७/फ-१, दि. २४/०६/२०२४ अन्वये दिनांक २७/०६/२०२४ रोजी संपन्न झालेली राज्य वन्यजीव मंडळाच्या स्थायी समितीची द्वितीय बैठक.
३. शासन पत्र क्र. डब्ल्यूएलपी-०३.२४/प्र.क्र. १७/फ-१, दि. ०९/०७/२०२४
४. या कार्यालयाचे पत्र क्रमांक कक्ष-२३(२)/वजी/सर्व्हे/प्र.क्र.६५/१०३९, दि. ०५/०७/२०२४.
५. महाराष्ट्र राज्य विद्युत पारेषण कंपनी मर्या यांनी या कार्यालयास उद्देशून लिहिलेले पत्र क्र. का.अ/अउदाप्र. वि./कल्याण/१२४३, दिनांक ०८/०७/२०२४
६. या कार्यालयाचे पत्र क्रमांक कक्ष-२३(२)/वजी/सर्व्हे/प्र.क्र.६५/११५६, दि. १५/०७/२०२४.
७. केंद्र शासनाचे परिवेश या संकेतस्थळावरील दिनांक २०/०९/२०२४ रोजीची Dy. Director (Wildlife) यांची Remark.

संदर्भीय पत्र १ अन्वये विषयांकित प्रकरणीचा प्रस्ताव राज्य वन्यजीव मंडळाचे निर्णयार्थ ठेवण्यासाठी शासनास सादर करण्यात आलेला होता. राज्य वन्यजीव मंडळाच्या स्थायी समितीची द्वितीय बैठक दिनांक २७/०६/२०२४ रोजीचे बैठकीमध्ये विषयांकित प्रस्ताव निर्णयार्थ मंडळासमोर सादर करण्यात आला होता. मंडळाने सदर बैठकीमध्ये प्रस्तुत प्रस्तावाची मुख्य वन्यजीव रक्षक, महाराष्ट्र राज्य यांनी घालून दिलेल्या अटींवर राष्ट्रीय वन्यजीव मंडळाकडे पाठविण्याची शिफारस केलेली आहे.

Annexure - XII/B

शासनाकडून संदर्भ पत्र ३ अन्वये राज्य वन्यजीव मंडळाच्या स्थायी समितीची द्वितीय बैठकीचे कार्यवृत्तांतास मान्यता प्राप्त झाली असून, राज्य वन्यजीव मंडळाच्या स्थायी समितीने घालून दिलेल्या अटींची पुर्तता करण्यासाठी प्रकल्प यंत्रणेस संदर्भ पत्र ४ अन्वये अटींची पुर्तता करण्याचे कळविण्यात आले होते.

त्याअनुषंगाने तानसा वन्यजीव अभयारण्याच्या मानिव पर्यावरण संवेदनशील क्षेत्रामध्ये येणाऱ्या प्रकल्पाच्या अंदाजपत्रकीय रक्कम रू. २९९७.०८ लक्षाच्या २ % रक्कम रु. ५९.९४२ लक्ष उपवनसंरक्षक (वन्यजीव), ठाणे यांचेकडे जमा करणेबाबत व मुद्रांकावर (Stamp Paper) लिखीत हमीपत्र संदर्भ पत्र ५ अन्वये प्रकल्प यंत्रणेने या कार्यालयास सादर केलेले आहे. त्यानुसार प्रस्ताव प्रस्तुत प्रस्ताव Part - V सह राष्ट्रीय वन्यजीव मंडळाचे निर्णयार्थ ठेवण्यासाठी केंद्र शासनास या कार्यालयाचे संदर्भ पत्र ६ अन्वये शासनास विनंती करण्यात आली होती.

आता प्रस्तावास केंद्र शासनाचे परिवेश या संकेतस्थळावरील दिनांक २०/०९/२०२४ रोजीचे Dy. Director (Wildlife) यांचे Remark खालीलप्रमाणे आहे.

As per the Ministry's guidelines, only those activities proposed in ESZ which require Environment Clearance shall require recommendations of the SCNBWL.

The projects related to transmission lines are not listed in the schedule of the EIA Notification, 2006, and only projects listed in the schedule of the EIA Notification, 2006, as amended from time to time, require prior environmental clearance.

Since, the project does not require EC, it does not require consideration by the SCNBWL.

वरील Remark पाहता सदर प्रस्तावास राष्ट्रीय वन्यजीव मंडळाच्या मान्यतेची, तसेच २% रक्कम भरणा करण्याची आवश्यकता नाही. असे कळविले असल्याने, सदर प्रकल्पाची कामे सुरू करण्याकरीता, इतर प्राधिकरणाकडुन काही परवानगी घेणे आवश्यक असल्यास ती घेवून कामे करण्यास मान्यता प्रदान करण्यात येत आहे.

(विवेक खांडेकर)
मुख्य वन्यजीव रक्षक तथा
अपर प्रधान मुख्य वनसंरक्षक (वन्यजीव),
महाराष्ट्र राज्य

प्रतिलिपी :- प्रधान सचिव (वने), महसूल व वनविभाग, मंत्रालय मुंबई याना माहितीस सादर.
प्रतिलिपी :- अपर प्रधान मुख्य वनसंरक्षक तथा केंद्रस्थ अधिकारी यांना माहिती व योग्य त्या कार्यवाहीस अग्रेषित.
प्रतिलिपी :- अपर प्रधान मुख्य वनसंरक्षक (वन्यजीव) पश्चिम, मुंबई यांना माहिती व योग्य त्या कार्यवाहीस अग्रेषित.
प्रतिलिपी :- उपवनसंरक्षक (वन्यजीव), ठाणे यांना माहिती व योग्य त्या कार्यवाहीस अग्रेषित.

Government of Maharashtra

Revenue and Forest Department

Office of the **Principal Chief Conservator of Forests (Head of Forest Force), Maharashtra State, Nagpur**

O/o Principal Chief Conservator of Forests (HoFF), Maharashtra State

Phone - 0712 [illegible]
E-mail - [illegible]@mahaforest.gov.in
Website - www.mahaforest.gov.in

Principal Chief Conservator of Forests (Wildlife),
Maharashtra State, 'Van Bhavan' [illegible] Ramgiri
Road, Civil Lines, Nagpur 440001

Letter / E-mail No.: Section-29(2)/Wildlife/Survey/Case No. 65/[illegible]/2024-25 **Date:** [illegible]/10/2024

To:
The Executive Engineer,
Maharashtra State Electricity Transmission Co. Ltd.,
Kalyan
Email: [illegible]@mahatransco.in / [illegible]@gmail.com

Subject: Proposal for wildlife clearance for construction of a 220 KV transmission line on the 220 KV Padghe Wada and Kolshet Wada transmission Lines for the 400 KV Kudus Substation passing through the Eco-Sensitive Zone (ESZ) of Tansa Wildlife Sanctuary, Thane District ([illegible] Eco-Sensitive Zone of Tansa Wildlife Sanctuary)

References:

1. This office's letter No. Section-29(2)/Wildlife/Survey/Case No. 65/866, dated 21/06/2024
2. Government Letter No. WLP-0324/Case No. 127/F-1, dated 24/06/2024, regarding the second meeting of the State Board for Wildlife (Standing Committee) held on 27/06/2024.
3. Government Letter No. WLP-0324/Case No. 127/F-1, dated 04/07/2024.
4. This office letter No. Section-29(2)/Wildlife/Survey/Case No. 65/1069, dated 05/07/2024
5. Letter No. Ka.A/Auda.Vi./Kalyan/1243 dated 08/07/2024 from Maharashtra State Electricity Transmission Co. Ltd. addressed to this office.
6. This office letter No. Section-29(2)/Wildlife/Survey/Case No. 65/[illegible], dated [illegible]/07/2024.
7. Remark of the Dy. Director (Wildlife), Government of India, dated 20/09/2024, as reflected on the Parivesh portal.

As per the above references, the proposal in question was submitted to the State Government for placing before the State Board for Wildlife (SBWL) for its consideration and decision.

The subject proposal was placed before the Second Meeting of the Standing Committee of the State Board for Wildlife held on 27/06/2024, wherein the Committee recommended forwarding the proposal to the National Board for Wildlife (NBWL), subject to the conditions prescribed by the Chief Wildlife Warden

Maharashtra State

As per Government Reference No. 3 above, approval has been accorded to the minutes of the [illegible] meeting of the SBWL's Standing Committee, and the project authority was accordingly informed vide Reference No. [illegible] to comply with the conditions laid down by the Committee.

In compliance with these conditions, the project authority (MSETCL) has submitted to this office, vide its letter dated 08/07/2024 (Reference No. 4) — a written undertaking on stamp paper and proof of deposit of 2% of the estimated project cost (₹2987.08 lakh), i.e. an amount of ₹59.742 lakh, to the Deputy Conservator of Forests (Wildlife), Thane.

Accordingly, this office had requested the State Government vide letter (Reference No. 6) to forward the proposal (as at Part V) to the Central Government for consideration by the National Board for Wildlife (NBWL).

Now, as per the remarks of the Dy. Director (Wildlife), Government of India, dated 20/10/2024, uploaded on the Parivesh portal, the following has been stated:

"As per the Ministry's guidelines, only those activities proposed in ESZ which require Environmental Clearance (EC) shall require recommendations of the Standing Committee of the NBWL (SCNBWL). The projects related to transmission lines are not listed in the schedule of the EIA Notification, 2006, and only projects listed in that schedule, as amended from time to time, require prior environmental clearance.
Since this project does not require EC, it does not require consideration by the SCNBWL."

In view of the above remarks, it is hereby informed that the said project does not require the approval of the National Board for Wildlife, nor is there any need to deposit 2% of the project cost.

Accordingly, permission is hereby granted to commence the project work, subject to obtaining any other necessary permissions from relevant authorities, if required.

Sd/-

(Vivek Khandekar)
Chief Wildlife Warden &
Additional Principal Chief
Conservator of Forests (Wildlife),
Maharashtra State

Copy to:

- The Principal Secretary (Forests), Revenue and Forest Department, Mantralaya, Mumbai – for information.
- The Additional Principal Chief Conservator of Forests & Nodal Officer – for information and necessary action.
- The Additional Principal Chief Conservator of Forests (Wildlife), West, Mumbai – for information and necessary action.
- The Deputy Conservator of Forests (Wildlife), Thane – for information and necessary action.

Annexure - XII/

महाराष्ट्र शासन
महसूल व वन विभाग
प्रधान मुख्य वनसंरक्षक(वनबल प्रमुख), महाराष्ट्र राज्य, नागपूर यांचे कार्यालय.
O/o Principal Chief Conservator of Forests (HoFF), Maharashtra State
प्रधान मुख्य वनसंरक्षक (वन्यजीव), महाराष्ट्र राज्य
Principal Chief Conservator of Forests (Wildlife), Maharashtra State
"Van Bhavan" 3rd Floor, Ramgiri Road, Civil Lines, Nagpur 440 001
Phone - 0712 2549563
E-mail - pccfwlngp@mahaforest.gov.in
Website - www.mahaforest.gov.in

पत्र-ईमेल क्रमांक:- कक्ष-२३(२)/वजी/सर्व्हे/प्र.क्र.६५/846 /२०२४-२५, दिनांक 25/०६/२०२४

प्रति,
प्रधान सचिव (वने),
महसूल व वनविभाग,
मंत्रालय, मुंबई-३२.

विषय:- ठाणे जिल्ह्यातील तानसा वन्यजीव अभयारण्याच्या मानीव पर्यावरण संवेदनशील क्षेत्रातून जाणाऱ्या ४०० के.व्ही. कुडूस सबस्टेशनसाठी २२० के.व्ही. पडघे-वाडा आणि कोलशेत-वाडा ट्रान्समिशन लाइनवर २२० के.व्ही. LILO M/C ट्रान्समिशन लाइनचे बांधकाम आणि टाकण्यासाठी १२.०२२५ हे. वनजमिन वळतीकरणाचा प्रस्ताव.
(तानसा वन्यजीव अभयारण्याचे मानीव पर्यावरण संवेदनशील क्षेत्र)

संदर्भ या कार्यालयास उद्देशून लिहिलेले अपर प्रधान मुख्य वनसंरक्षक (वन्यजीव), पश्चिम, मुंबई यांचे पत्र क्रमांक कक्ष-३/जमीन/NBWL/प्र.क्र.२६१/१३९, दिनांक १३/०५/२०२४.

राष्ट्रीय उद्यान/अभयारण्य/व्याघ्र प्रकल्प मार्ग/ पर्यावरण संवेदनशील क्षेत्रात वनेत्तर काम करण्यासाठी भारत सरकार, पर्यावरण व वन मंत्रालय, यांचे पत्र क्रमांक F.No. 6-30/2019 WL, दिनांक १३/१२/२०२३ अन्वये सुधारीत मार्गदर्शक सूचना निर्गमित केलेल्या आहेत.

विषयांकित प्रकरणी प्रस्तावित प्रकल्प ठाणे जिल्ह्यातील तानसा वन्यजीव अभयारण्याच्या मानीव पर्यावरण संवेदनशील क्षेत्रातून जाणाऱ्या ४०० के.व्ही. कुडूस सबस्टेशनसाठी २२० के.व्ही. पडघे-वाडा आणि कोलशेत-वाडा ट्रान्समिशन लाइनवर २२० के.व्ही. LILO M/C ट्रान्समिशन लाइनचे बांधकाम करण्यासाठी २६.२९२० हे. वन व वनेत्तर जमीन वळतीकरणाच्या प्रस्तावास वन्यजीव मान्यतेकरिता अपर प्रधान मुख्य वनसंरक्षक (वन्यजीव) पश्चिम, मुंबई यांनी संदर्भिय पत्रान्वये सदर प्रस्ताव शिफारशीसह या कार्यालयास सादर केलेला आहे.

सदर प्रस्तावास राष्ट्रीय वन्यजीव मंडळाच्या स्थायी समितीची मान्यता आवश्यक आहे. प्रस्तावित प्रकल्प प्रथम राज्य वन्यजीव मंडळाचे स्थायी समितीचे शिफारशी व परीक्षणार्थ ठेवणे आवश्यक आहे

Annexure - XII/D

सदर प्रस्तावातील ठळक बाबी खालील प्रमाणे आहेत.

- सदर क्षेत्र हे तानसा वन्यजीव अभयारण्याचे मानीव पर्यावरण संवेदनशील क्षेत्रात प्रस्तावित आहे.
- सदर प्रकल्पाकरीता १२.७२२५ हे. वनक्षेत्र आणि १४.२६९५ हे. वनेत्तर क्षेत्र असे एकुण २६.९९२० हे. प्रस्तावित असून, सदर क्षेत्र तानसा वन्यजीव अभयारण्याचे मानीव पर्यावरण संवेदनशील क्षेत्रात येत आहे.
- सदर प्रकल्प तानसा वन्यजीव अभयारण्याचे मानीव पर्यावरण संवेदनशील क्षेत्रातील वनक्षेत्राची लांबी ३.४३५ कि.मी. व वनेत्तर क्षेत्रातील लांबी ४.०७७ कि.मी. अशी एकुण ७.५१२ कि.मी. अंतरात प्रस्तावित आहे.
- प्रकल्पाचे स्थळ हे तानसा वन्यजीव अभयारण्याचे मानीव पर्यावरण संवेदनशील क्षेत्रातील पडघे-वाडा आणि कोलशेत –वाडा मध्ये प्रस्तावित आहे.
- सदर प्रस्तावामध्ये ६० से.मी. चे खालील ५०७ वृक्ष आणि ६० से.मी. च्या वर १६२ असे एकुण ६६९ वृक्षांची तोड प्रस्तावित आहे.
- वन्यजीव (संरक्षण) अधिनियम, १९७२ चे कलम ३८-०-१(g) अनुसार प्रस्तुत प्रकल्प व्याघ्र भ्रमणमार्गात येत असल्याने, राज्य वन्यजीव मंडळ तसेच राष्ट्रीय वन्यजीव मंडळाच्या स्थायी समितीची मान्यता घेणे प्रकल्प यंत्रणेस बंधनकारक आहे.
- प्रस्तावासोबत प्रकल्प यंत्रणेने प्रस्तावित स्थळाचे ड्रोनव्दारे घेतलेले छायाचित्र आणि चित्रीकरण सादर केलेले आहे.
- सदर प्रकल्प यंत्रणेने परिवेश या संकेत स्थळावर ऑनलाईन सादर केलेला आहे.
- **तानसा वन्यजीव अभयारण्याच्या मानीव पर्यावरण संवेदनशील क्षेत्रातील प्रकल्पाची एकुण किंमत अंदाजे रु. २११७.०८ लक्ष राहणार आहे**
- महाराष्ट्र शासनाचे दिनांक २३/११/२०२३ रोजीचे पत्रान्वये वनजमिनीवर करण्यात येणा-या विकासात्मक कामासाठी (ऑप्टीकल फायबर केबल (OFC), विद्युत केबल्स, पाण्याची पाईपलाईन, गॅस/पेट्रोलियम पाईपलाईन, रस्ते ई.) खोदकाम करतांना प्रकल्प यंत्रणाद्वारे / उत्खननकर्त्याद्वारे "Call Before u Dig" (CBuD) या मोबाईल ॲपचा वापर अनिवार्य करण्यात आला असून, खोदकाम करण्यास परवानगी देण्याच्या आदेशामध्ये सदर ॲपचा वापर केल्याशिवाय खोदकाम/ उत्खनन करता येणार नाही या अटीचा समावेश करण्यात यावा, असे निर्देश आहेत. त्याअनुषंगाने सदर अटीचा समावेश Part-IV मध्ये करण्यात आलेला आहे.

Annexure - XI
/6

प्रस्तावित प्रकल्पास उपरोक्त निर्देशानुसार राज्य वन्यजीव मंडळाचे विचारार्थ व अनुमोदनार्थ ठेवण्यास विनंती आहे. या कार्यालयाचे अभिप्राय प्रपत्र भाग- १ मधील मुद्दा क्रमांक ७ (i) ते (vi) बाबत व प्रपत्र भाग IV ची पूर्तता करुन शासनास सादर करण्यात येत आहे.

सहपत्र- वरील प्रमाणे प्रपत्र भाग I ते IV

(महिप गुप्ता)
मुख्य वन्यजीव रक्षक तथा
प्रधान मुख्य वनसंरक्षक (वन्यजीव),
महाराष्ट्र राज्य

प्रतिलिपी :- अपर प्रधान मुख्य वनसंरक्षक तथा केंद्रस्थ अधिकारी यांना माहिती व योग्य त्या कार्यवाहीस अग्रेषित.

प्रतिलिपी :- अपर प्रधान मुख्य वनसंरक्षक (वन्यजीव) पश्चिम, मुंबई यांना माहिती व योग्य त्या कार्यवाहीस अग्रेषित.

प्रतिलिपी :- उपवनसंरक्षक (वन्यजीव), ठाणे यांना माहिती व योग्य त्या कार्यवाहीस अग्रेषित.

प्रतिलिपी :- कार्यकारी अभियंता, महाराष्ट्र राज्य विज वाहिनी, कं. लि. कल्याण यांना माहिती व योग्य त्या कार्यवाहीस अग्रेषित.(Email- Ee7620mahatransco.in / ee7620@gmail.com)

(महिप गुप्ता)
मुख्य वन्यजीव रक्षक तथा
प्रधान मुख्य वनसंरक्षक (वन्यजीव),
महाराष्ट्र राज्य

Government of Maharashtra
Revenue and Forest Department
Office of the Principal Chief Conservator of Forests (Head of Forest Force), Maharashtra State, Nag
O/o Principal Chief Conservator of Forests (HoFF), Maharashtra State

Phone 0712-2549563
Email: pccfwlngp@mahaforest.gov.in
Website: www.mahaforest.gov.in

Principal Chief Conservator of Forests (Wildlife),
Maharashtra State
Van Bhavan, 2nd Floor, Ramgiri Road, Civil
Lines, Nagpur 440 001

Letter/Email No.: Section-23(2)/W Mith./Survey/Case No. 65/800/2024-25 Date: 24/06/2024

To,
The Principal Secretary (Forests),
Revenue and Forest Department,
Mantralaya, Mumbai-32.

Subject: Proposal for diversion of 12.0225 hectares of forest land for construction and laying of a 220 KV LILO M/C transmission line on the 220 KV Padgha-Wada and Kolset-Wada transmission lines for the 400 KV Kudus Substation passing through the Eco-Sensitive Zone (ESZ) of Tansa Wildlife Sanctuary in Thane District. *(Notified Eco Sensitive Zone within Tansa Wildlife Sanctuary)*

Reference: Letter No. Section-3/Land/NBWL/Case No. 202/139 dated 13/06/2024 from the Additional Principal Chief Conservator of Forests (Wildlife), West, Mumbai addressed to this office.

As per the Government of India, Ministry of Environment and Forests, Letter No. F. No. 6-30/2019-WL dated 13/12/2023, revised guidelines have been issued for carrying out non-forest activities in National Parks / Wildlife Sanctuaries / Tiger Corridors / Eco-Sensitive Zones.

In the subject matter, the Additional Principal Chief Conservator of Forests (Wildlife), West, Mumbai has submitted a proposal along with recommendations for clearance for diversion of 26.2920 hectares (12.0225 ha forest + 14.2695 ha non-forest land) for construction of a 220 KV LILO M/C transmission line on the Padgha-Wada and Kolset-Wada transmission lines leading to the 400 KV Kudus Substation, which passes through the Eco-Sensitive Zone (ESZ) of Tansa Wildlife Sanctuary in Thane District.

The said proposal requires the approval of the Standing Committee of the National Board for Wildlife (NBWL). The proposal must first be placed before the Standing Committee of the State Board for Wildlife (SBWL) for consideration and approval.

ent Features of the Proposal:

- The proposed area lies within the Eco-Sensitive Zone of Tansa Wildlife Sanctuary.
- The project involves the diversion of 12.9225 hectares of forest land and 13.3695 hectares of non-forest land, totalling 26.2920 hectares.
- The transmission line traverses 3.435 km of forest area and 4.077 km of non-forest area, covering a total distance of 7.512 km within the ESZ.
- The project site is located between Padgha-Wada and Kudus-Wada within the ESZ of Tansa Wildlife Sanctuary.
- A total of 669 trees (507 below 60 cm girth and 162 above 60 cm girth) are proposed to be felled.
- As the proposed project falls within a tiger corridor, as per Section 38-O(1)(g) of the Wildlife (Protection) Act, 1972, obtaining approval from both the State Board for Wildlife (SBWL) and the National Board for Wildlife (NBWL) is mandatory.
- The project authority has submitted drone photographs and video footage of the proposed site along with the proposal.
- The project has been submitted online through the Parivesh portal.
- The estimated cost of the project within the ESZ of Tansa Wildlife Sanctuary is approximately ₹2997.08 lakh (₹29.97 crore).
- As per the Government of Maharashtra Circular dated 23/11/2023, all project authorities must mandatorily use the "Call Before You Dig (CBuD)" mobile application for excavation related to developmental works (Optical Fibre Cables, Electric Cables, Water Pipelines, Gas/Petroleum Pipelines, Roads, etc.) on forest lands. The excavation permission order must include the condition that no digging/excavation can be carried out without using the CBuD app. Accordingly, this condition has been included in Part IV of the proposal.

Hence, it is requested that the aforementioned proposal be presented to the State Board for Wildlife for consideration and approval in accordance with the decisions mentioned above. The remarks of this office on Points 7(i) to 7(vi) in Part I of the proposal and the completed Part IV forms are submitted to the Government for further action.

Enclosures: Proforma Part I to Part IV, as mentioned above.

Sd/

(Mahip Gupta)

Chief Wildlife
Conservator &
Principal Chief
Conservator of Forests
(Wildlife),
Maharashtra State

Copy to:

- Additional Principal Chief Conservator of Forests and Nodal Officer, for information and necessary action.
- Additional Principal Chief Conservator of Forests (Wildlife) West, Mumbai — for information and necessary action.
- Deputy Conservator of Forests (Wildlife), Thane — for information and necessary action.
- Executive Engineer, Maharashtra State Electricity Transmission Co. Ltd., Kalyan — for information and necessary action.
  (Email: [illegible]@mahatransco.in / [illegible]@gmail.com)

Sd/-

(Mahip Gupta)
Chief Wildlife
Conservator &
Principal Chief
Conservator of Forests
(Wildlife),
Maharashtra State

Annexure-XII/

(To be attached to part I)

Opinion of the Chief Wildlife Warden, Maharashtra State

["Proposal for Diversion of 12.0225 ha. of forest land for construction & laying of 220 KV LILO M/C Transmission line on 220 KV Padge-Wada and Lolshet -Wada Transmission line for 400 KV Kudus substation Passing through Deemed Eco Sensitive Zone of Tansa WLS in Thane Dist (Deemed Eco-Sensitive Zone of Tansa Wildlife Sanctuary)"]

i) Brief history of the Protected Area :-

The Tansa Wildlife Sanctuary comprises forests covering the catchment area of three rivers namely Tansa, Vaitarna and Gargai. A small area on the eastern drains into Bhatsa River. About 216.75 Sq. km area was notified as sanctuary in 1970 (Notification No. WLP/1667/142879/Y, dated 12th June 1970). An additional area 88.06 Sq. Km was notified under WPA,1972 vide WLP 1085/CR- 588/TV/F-5 dtd. 16th Sept 1985, but being contiguous RF area with the Wildlife Division of Tansa Wildlife Sanctuary is 333.69 Sq. Km of which 62% of the area of Tansa Wildlife Sanctuary is in Shahapur Taluka, District-Thane, 27% in Wada Taluka and 11% in Mokhada Taluka of Palghar district. The lakes of Tansa and Vaitarna are the major source of drinking water supply to Mumbai and Thane

ii) Current status of wildlife:

At least [illegible] species of mammals, 24 species of reptiles and about 221 species of birds have been found in the sanctuary. The list of species representing 144 genera of vertebrates are found to Zoological Survey of India in Mid eighties (Singh and Pradhan 1992). The study also covered their status in the sanctuary

iii) Current status of pressures on Protected Areas:-

The sanctuary area is constantly under threat from human activities, due to encroachment on fertile plains of sanctuary is threading the wild fauna and flora as the forest areas are cleared for agriculture and dwelling units by the tribal population on a very large scale. Forest fires, grazing of livestock, dumping of domestic waste are some activities which are threatening wildlife sanctuary.

iv) Impact of project on wildlife, habitat management and access/use of resource by various stakeholders :-

The beneficial for meeting the load demand of industrial area in Wada area which may increase the employment in tribal area of Palghar District

Annexure - XII/G

Hence bare minimum area for Transmission line has been proposed as per technical requirements of the user agency. No. noticeable negative impacts envisaged on the flora and fauna of the Wildlife Sanctuary.

v) Contiguous wildlife areas, which would benefit wildlife if added to National Parks/Sanctuary :-

NA

vi) Other areas in the State, which have been recommended by State Government, Wildlife Institute of India, BNHS, SACON, IISC, IUCN or other expert body for inclusion in Protected Area Network :-

The areas recommended by Wildlife Institute of India, BNHS, and other stakeholders are considered and majority of the areas have been notified as Protected Areas from 2012 to 2024. Following is the abstract of such area notified as protected areas during 2012 to 2024.

Sr. No.	Particular	Nos.	Area (in Sq.km.)
1	Wildlife Sanctuary	18	2376.30
2	Conservation Reserve	27	1874.42
	Total	45	4250.72

Proposals for notification of following Protected Areas are being examined and some are under the consideration of State Government.

Sr. No.	Name of proposed WLS /Cons. Reserve	District	Approx. Area (sq.kms)
1	2	3	4
1	Gaganbawada Conservation Reserve	Kolhapur	105.47
2	Ajara- Bhudargad Conservation Reserve	Kolhapur	246.63
3	Taharabad Conservation Reserve	Nashik	122.45
4	Velhe-Mulshi Conservation Reserve	Pune / Raigad	87.41
5	Naneghat Conservation Reserve	Pune / Thane	98.78
6	Bhorgirigad Conservation Reserve	Pune	37.64
7	Dindori Conservation Reserve	Nashik	62.10
8	Surgana Conservation Reserve	Nashik	86.28
9	Kareghat Conservation Reserve	Nandurbar	97.45
10	Chinchpada Conservation Reserve	Nandurbar	93.91
11	Alibag Conservation Reserve	Raigad	60.93
12	Ghera Manikgad Conservation Reserve	Raigad	53.25

Annexure-XII/

13	Rajmachi Conservation Reserve	Thane/Pune	83.15
14	Lonavala Conservation Reserve	Pune / Raigad	121.80
15	Gumtara Conservation Reserve	Thane	175.50
16	Jawhar Conservation Reserve	Palghar	118.28
17	Dhamani Conservation Reserve	Palghar	49.15
18	Asherigad Conservation Reserve	Palghar	80.95
19	Ekara Conservation Reserve	Chandrapur	102.99
	Total		1845.62

Nagpur
Dated : 24/06/2024

(Maheep Gupta)
Chief Wildlife Warden &
Principal Chief Conservator of Forests (Wildlife)
Maharashtra State

Annexure - XII

UNDERTAKING

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashrta.

Ref:-Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610
Dated - 29.08.2025.

Condition No.13

With reference to above, we the project authority, do hereby agrees and undertake that, The forest land proposed for diversion shall under no circumstances be transferred/sublet to any other agency department or person without prior approval of the Central Government.

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

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

PLACE:- Kalyan.
DATE :- 31 /10 /2025

Annexure - XV

UNDERTAKING

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashrta.

Ref:-Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610 Dated - 29.08.2025.

Condition No.15

With reference to above, we the project authority, do hereby agrees and undertake that, the User Agency shall provide fire wood preferably alternate fuel to labourers working at the site to avoid damage/tree felling.

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

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

PLACE:- Kalyan.
DATE :- 31 / 10/2025

Annexure-XVI

UNDERTAKING

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashrta.

Ref:-Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610
Dated - 29.08.2025.

Condition No.16

With reference to above, we the project authority, do hereby agrees and undertake that, the User Agency shall maintain required Row and shall comply with all other conditions as per the guidelines issued by the Ministry time to time for the transmission line projects.

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL.
Kalyan.

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

PLACE:- Kalyan.
DATE :- 31 / 10/2025

Annexure- XVII

UNDERTAKING

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashtra.

Ref:-Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610 Dated - 29.08.2025.

Condition No.17

With reference to above, we the project authority, do hereby agrees and undertake that, Disturbance shall be kept minimal by creating labour camps outside the forest area as far as possible and it will be the responsibility of the User Agency to ensure that the labourers & staff engaged in execution of work do not destruct nearby forest flora & fauna.

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

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

PLACE:- Kalyan.
DATE :- 31 / 10 /2025

Annexure -XVIII

UNDERTAKING

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashtra.

Ref:-Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610
Dated - 29.08.2025.

Condition No.18

With reference to above, we the project authority, do hereby agrees and undertake that, the total forest area utilized for the project shall not exceed 12.0255 ha. and the forest area diverted shall not be used for any purpose other than those shown in the diversion proposal.

(Ajay Athavale)
Executive Engineer,
EHV Project Division, MSETCL,
Kalyan.

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

PLACE:- Kalyan.
DATE :- 31 / 10 /2025

Annexure :- XIX

UNDERTAKING

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet - Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashrta.

Ref:-Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610 Dated - 29.08.2025.

Condition No.19

With reference to above, we the project authority, do hereby agrees and undertake that, the User Agency and the State Government shall ensure compliance to provisions of the all Acts, Rules, Regulations and Guidelines for the time being in force, as applicable to the transmission line projects.

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

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

PLACE:- Kalyan.
DATE :- 31 / 10/2025

Annexure - XIV

UNDERTAKING

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashrta.

Ref:-Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14630 Dated - 29.08.2025.

Condition No.14

With reference to above, we the project authority, do hereby undertake that, the layout plan of the proposal shall not be changed without the prior approval of the Central Government.

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

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

PLACE:- Kalyan.
DATE :- 31 / 10 /2025

Annexure -XX.

UNDERTAKING

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashrta.

Ref:-Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610
Dated - 29.08.2025.

Condition No.1.20

With reference to above, we the project authority, do hereby agrees and undertake that, any other conditions that the Central Government or DDG (Central) of Regional Office. Nagpur may impose from time to time in the interest of afforestation, conservation and management of flora and fauna in the area shall be complied

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

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

PLACE:- Kalyan.
DATE :- 31 / 10 /2025

Annexure - XXI

UNDERTAKING

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe - Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashtra.

Ref:-Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610 Dated - 29.08.2025.

Condition No.21

With reference to above, we the project authority, do hereby agrees and undertake that, in the event of failure to comply with any of the above conditions the User Agency is liable for penal action as per provision of Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 and rules/ guidelines / notifications made there under.

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

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

PLACE:- Kalyan.
DATE :- 31 / 10 /2025

Annexure-XX

UNDERTAKING

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashtra.

Ref:-Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610
Dated - 29.08.2025.

Condition No.22

With reference to above, we the project authority, do hereby agrees and undertake that, the State Government or Union territory Administration and the user agency shall also monitor, at least once every year, the compliance of conditions imposed during In-Principle approval and upload the monitoring report in the online portal.

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

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

PLACE:- Kalyan.
DATE :- 31 / 10 /2025

Annexure XXIII

Diversion of 12.0225 Ha Forest Land in favour of EHV Project Division, Kalyan for Construction and laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe Wada & Kolshet Wada Tr.line for 400 KV Kudus Sub Station passing through Village Eksal, Chichavali, Kunde, & Dighashi Taluka Bhiwandi District Thane in the State of Maharashtra.

Condition No. 23

UNDERTAKING

We hereby agreed and undertake that, We will process and submit compliance report on the above conditions through online (http://parivesh.nic.in)

Place : Thane

Date : 4/11/2025

(Sachin Repal)
Deputy Conservator of Forests
Thane Forest Division Thane

Annexure- XXIII
A

UNDERTAKING

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet – Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashtra.

Ref:-Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610
Dated - 29.08.2025.

Condition No.23

With reference to above, we the project authority, do hereby agrees and undertake that, the State Government shall process and submit compliance report on the above conditions through online (https parivesh.nic.in/).

(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.

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

PLACE:- Kalyan.
DATE :- 31 / 10 /2025

Annexure - XXIV

UNDERTAKING

Diversion of 12.0225 Ha. forest land in favour of EHV Project Division M.S.E.T.C.L. Kalyan for construction of laying of 220 KV LILO M/C Transmission Line on 220 KV Padghe – Wada and Kolshet Wada Transmission Line for 400 KV Kudus Sub-station passing through Thane in the State of Maharashtra.

Ref:-Regional office Nagpur vide letter no. F.No.FC-II/MH-201/2022-NGP/14610
Dated - 29.08.2025.

Condition No.24

With reference to above, we the project authority, do hereby agrees and undertake that, the State Government shall issue working permission only after ensuring compliance to all such condition (s) as per the provision of Van (Samakshan Evam Samvardhan) Rules 2023 and obtaining all clearance approval from the all Acts, Rules, Regulation from the competent authorities.

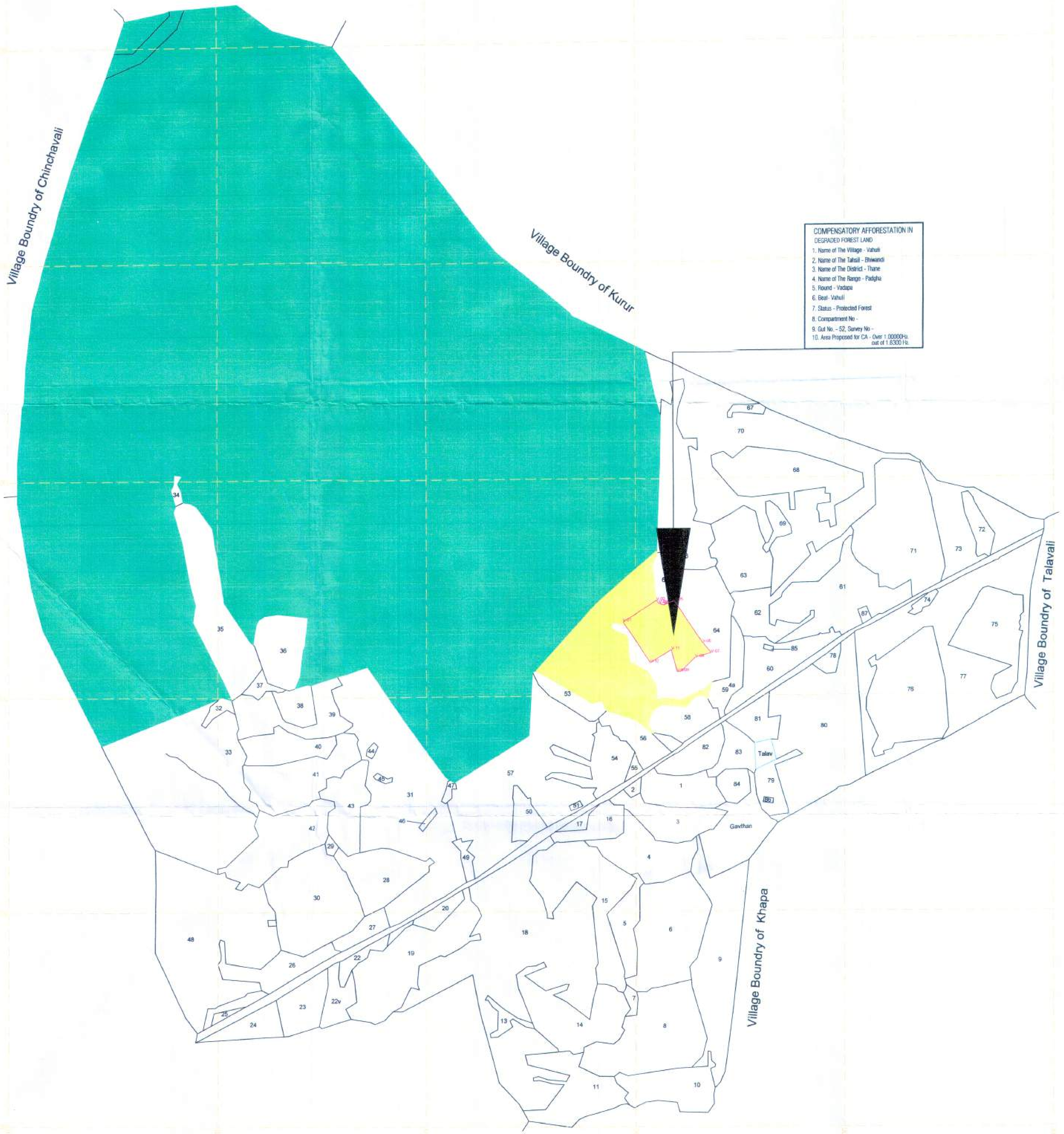
(Ajay Athavale)
Executive Engineer,
EHV Project division, MSETCL,
Kalyan.
Executive Engineer
M.S.E.T. Co. Ltd.
E.H.V. Projects Dn Kalyan

PLACE:- Kalyan.
DATE :- 31 / 10/2025

Geo Digital Map | 01/01

Village - Vahuli
Taluka - Bhiwandi
District - Thane
Scale - 1:5000

Raising of drawf medicinal plants over 1.0000 Ha. out of 1.8300 Ha.degraded forest area at Village Vahuli, Taluka Bhivandi, District Thane.
Diversion of 12.0225 Ha. Forest Land in favour of EHV Project Division Maharashtra State Electricity Transmission Company Ltd. Kalyan For Construction of Laying of 220kv Lilo M/C Transmission Line on 220kv Padghe Wada & Kolshet Wada Transmission line for 400kv Kudus Sub Station passing through Thane District in the State of Maharashtra



COMPENSATORY AFFORESTATION IN
DEGRADED FOREST LAND
1. Name of The Village - Vahuli
2. Name of The Tahsil - Bhiwandi
3. Name of The District - Thane
4. Name of The Range - Padgha
5. Round - Vadapa
6. Beat - Vahuli
7. Status - Protected Forest
8. Compartment No -
9. Gut No. - 52, Survey No -
10. Area Proposed for CA - Over 1.00000Ha.
out of 1.8300 Ha.

MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.
Construction of Laying of 220kv Lilo M/C Transmission Line on 220kv Padghe Wada & Kolshet Wada Transmission line for 400kv Kudus Sub Station
Forest Co Ordinates

Sr no	X	Y	LATITUDE	LONGITUDE	Point ID	Remarks
1	305470.85	2141170.94	19° 21' 18.6686" N	73° 08' 52.9012" E	V-01	
2	305550.21	2141221.11	19° 21' 20.3278" N	73° 08' 55.6018" E	V-02	
3	305556.49	2141213.91	19° 21' 20.0958" N	73° 08' 55.8197" E	V-03	
4	305568.27	2141210.44	19° 21' 19.9871" N	73° 08' 56.2245" E	V-04	
5	305593.49	2141220.27	19° 21' 20.3155" N	73° 08' 57.0850" E	V-05	
6	305661.14	2141123.31	19° 21' 17.1860" N	73° 08' 59.4379" E	V-06	
7	305681.87	2141099.89	19° 21' 16.4316" N	73° 09' 00.1567" E	V-07	
8	305643.87	2141089.15	19° 21' 16.0693" N	73° 08' 58.8590" E	V-08	
9	305608.03	2141057.30	19° 21' 15.0212" N	73° 08' 57.6429" E	V-09	
10	305599.45	2141056.82	19° 21' 15.0024" N	73° 08' 57.3490" E	V-10	
11	305586.07	2141107.19	19° 21' 16.6359" N	73° 08' 56.8723" E	V-11	
12	305535.75	2141077.58	19° 21' 15.6557" N	73° 08' 55.1591" E	V-12	

INDEX

COMPENSATORY AFFORESTATION IN
DEGRADED FOREST LAND
1. Name of The Village - Vahuli
2. Name of The Tahsil - Bhiwandi
3. Name of The District - Thane
4. Name of The Range - Padgha
5. Round - Vadapa
6. Beat - Vahuli
7. Status - Protected Forest
8. Compartment No -
9. Gut No. - 52, Survey No -
10. Area Proposed for CA - Over 1.0000Ha.
out of 1.8300 Ha.

Raising of drawf medicinal plants over 1.0000 Ha. out of 1.8300 Ha.degraded forest area at Village Vahuli, Taluka Bhivandi, District Thane.

Diversion of 12.0225 Ha. Forest Land in favour of EHV Project Division Maharashtra State Electricity Transmission Company Ltd. Kalyan For Construction of Laying of 220kv Lilo M/C Transmission Line on 220kv Padghe Wada & Kolshet Wada Transmission line for 400kv Kudus Sub Station passing through Thane District in the State of Maharashtra

Legend

Proposed Forest Area	☐
Reserve Forest	🟩
Protected Forest	🟨

Maharashtra State Electricity Transmission Company Ltd.

Diversion of 12.0225 Ha. Forest Land in favour of EHV Project Division Maharashtra State Electricity Transmission Company Ltd. Kalyan For Construction of Laying of 220kv Lilo M/C Transmission Line on 220kv Padghe Wada & Kolshet Wada Transmission line for 400kv Kudus Sub Station passing through Thane District in the State of Maharashtra

Geo Digital Map - Vahuli
Scale - 1:5000

Forests Surveyor
Thane Forest Division

RFO Padgha

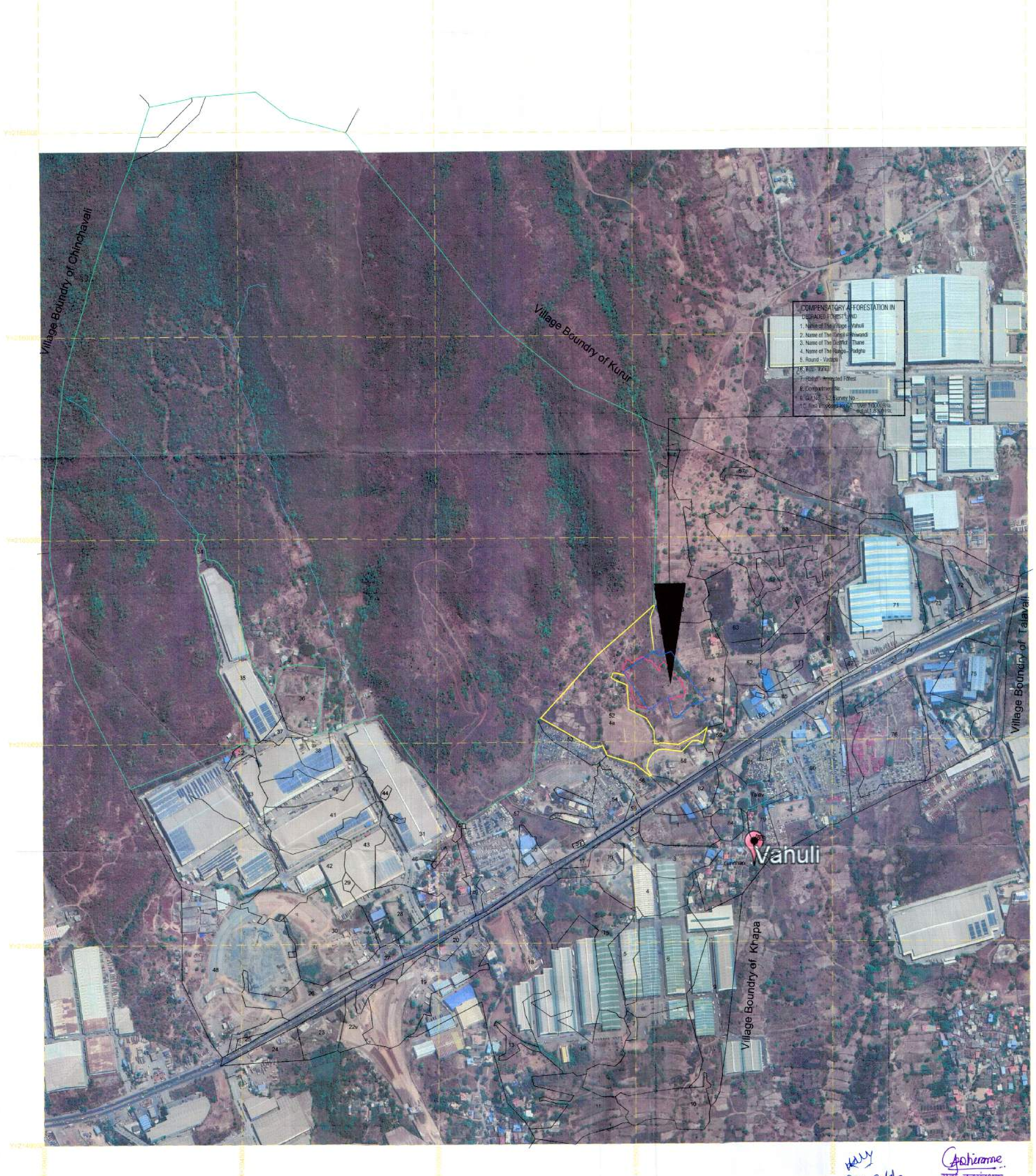
Gohiome

Ranger Surveyor
Thane Forest Division, Thane.

Deputy Conservator of Forests
Thane Forest Division, Thane

Annexure - VI/15

Raising of drawf medicinal plants over 1.0000 Ha. out of 1.8300 Ha.degraded forest area at Village Vahuli, Taluka Bhivandi, District Thane.
Diversion of 12.0225 Ha. Forest Land in favour of EHV Project Division Maharashtra State Electricity Transmission Company Ltd. Kalyan For Construction of Laying of 220kv Lilo M/C Transmission Line on 220kv Padghe Wada & Kolshet Wada Transmission line for 400kv Kudus Sub Station passing through Thane District in the State of Maharashtra


Village Boundry of Chinchavali
Village Boundry of Kurur
Village Boundry of Talavali
Village Boundry of Khapa
Vahuli
COMPENSATORY AFFORESTATION IN DEGRADED FOREST LAND

Google Map		01/01

Village - Vahuli
Taluka - Bhiwandi
District - Thane
Scale - 1:5000

MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO. LTD.
Construction of Laying of 220kv Lilo M/C Transmission Line on 220kv Padghe Wada & Kolshet Wada Transmission line for 400kv Kudus Sub Station
Forest Co Ordinates

Sr no	X	Y	LATITUDE	LONGITUDE	Point ID	Remarks
1	305470.85	2141170.94	19° 21' 18.6686" N	73° 08' 52.9012" E	V-01	
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6	305661.14	2141123.31	19° 21' 17.1860" N	73° 08' 59.4379" E	V-06	
7	305681.87	2141099.89	19° 21' 16.4316" N	73° 09' 00.1567" E	V-07	
8	305643.87	2141089.15	19° 21' 16.0693" N	73° 08' 58.8590" E	V-08	
9	305608.03	2141057.30	19° 21' 15.0212" N	73° 08' 57.6429" E	V-09	
10	305599.45	2141056.82	19° 21' 15.0024" N	73° 08' 57.3490" E	V-10	
11	305586.07	2141107.19	19° 21' 16.6359" N	73° 08' 56.8721" E	V-11	
12	305535.75	2141077.59	19° 21' 15.6557" N	73° 08' 55.1591" E	V-12	

INDEX

COMPENSATORY AFFORESTATION IN DEGRADED FOREST LAND
1. Name of The Village - Vahuli
2. Name of The Tahsil - Bhiwandi
3. Name of The District - Thane
4. Name of The Range - Padgha
5. Round - Vadapa
6. Beat - Vahuli
7. Status - Protected Forest
8. Compartment No -
9. Gut No. - 52, Survey No -
10. Area Proposed for CA - Over 1.0000Ha. out of 1.8300 Ha.

Raising of drawf medicinal plants over 1.0000 Ha. out of 1.8300 Ha.degraded forest area at Village Vahuli, Taluka Bhivandi, District Thane.

Diversion of 12.0225 Ha. Forest Land in favour of EHV Project Division Maharashtra State Electricity Transmission Company Ltd. Kalyan For Construction of Laying of 220kv Lilo M/C Transmission Line on 220kv Padghe Wada & Kolshet Wada Transmission line for 400kv Kudus Sub Station passing through Thane District in the State of Maharashtra

Legend

Proposed Forest Area	☐
Reserve Forest	🟩
Protected Forest	🟨

Maharashtra State Electricity Transmission Company Ltd.

Diversion of 12.0225 Ha. Forest Land in favour of EHV Project Division Maharashtra State Electricity Transmission Company Ltd. Kalyan For Construction of Laying of 220kv Lilo M/C Transmission Line on 220kv Padghe Wada & Kolshet Wada Transmission line for 400kv Kudus Sub Station passing through Thane District in the State of Maharashtra

Google Map - Vahuli
Scale - 1:5000

RFO Padgha

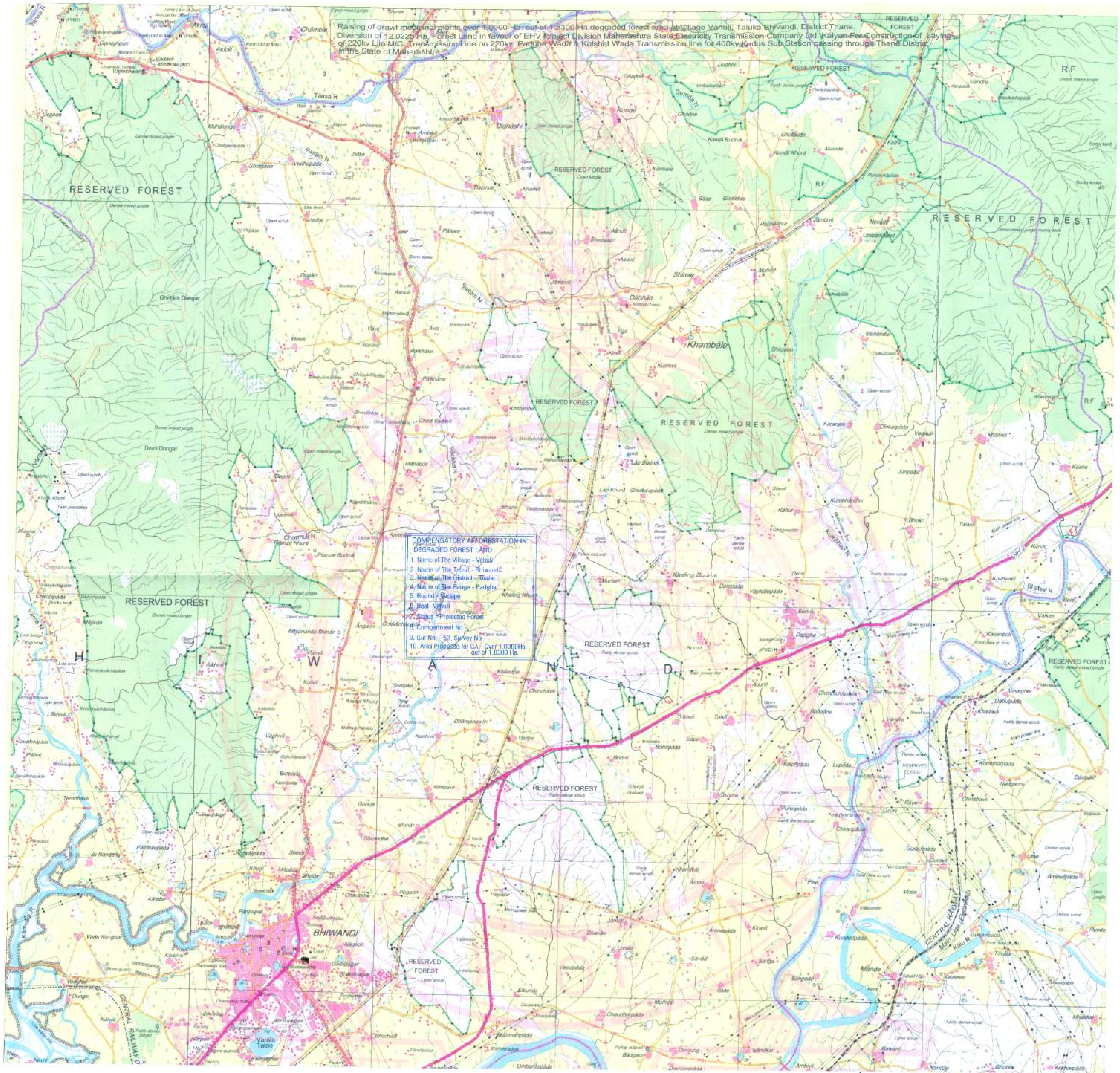
सहा. वनसंरक्षक
भिवंडी (मुख्यालय - ठाणे)

Forests Surveyor
Thane Forest Division

Ranger Surveyor
Thane Forest Division, Thane.

Deputy Conservator of Forests
Thane Forest Division, Thane

Annexure III / F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COMPENSATORY AFFORESTATION IN DEGRADED FOREST LAND
1. Name of The Village - Vahuli
2. Name of The Tahsil - Bhiwandi
3. Name of The District - Thane
4. Name of The Range - Padgha
5. Round - Vadape
6. Beat - Vahuli
7. Status - Protected Forest
8. Compartment No -
9. Gut No. - 52, Survey No -
10. Area Proposed for CA - Over 1.0000Ha out of 1.8300 Ha.
RESERVED FOREST
RF
Khambale
Padgha
BHIWANDI
CENTRAL RAILWAY
H I W A N D I

Route Map

SHEET No. 1 OF 1

Construction of Laying of 220kv Lilo M/C Transmission Line on 220kv Padghe Wada & Kolshet Wada Transmission line for 400kv Kudus Sub Station

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W E
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TOPOSHIT INDEX

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INDEX

COMPENSATORY AFFORESTATION IN DEGRADED FOREST LAND

1. Name of The Village - Vahuli
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Route Map - Vahuli
Scale - 1:50000

RFO Padgha

Gahirame
सहा. वनसंरक्षक
भिवंडी (मुख्यालय - ठाणे)

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