



SOUTH CENTRAL RAILWAY
SECUNDERABAD DIVISION
TRACTION DISTRIBUTION

TENDER No. C/E.29/TRD/11/2026-27
FOR

**“SC Division- Provision of 25 kV AT supply for
inter locking of LC Gates 3 Nos (LC No. 1&40 on
PDPL-NZB and LC No.97 on VKB-PRLI s.”**

NOTE TO TENDERERS

- 1) **Payment of EMD and TDC:** As per IRGCC 2022 or latest.
- 2) The administration will not own any responsibility, if website is not opened for downloading / uploading the tender documents due to any technical snag.
- 3) Corrigendum Notice on IREPS: for the purpose of corrigendum in the tender, NIT period is splitted as under:
 - (a) **Advertisement period:** Time during which all information pertaining to tender shall be available but offers cannot be submitted.
 - (b) **Offer submission period:** Fifteen days prior to opening/closing of tender, during which tenderers can submit their offers.
- 4) The prospective tenderers are advised to visit website "**http://www.ireps.gov.in**" before the date of tender closing to note any changes/corrigenda for any tender.
- 5) The Railway reserves the right to cancel the tender without assigning any reason thereto.
- 6) The tenderers are required to submit their offer on line ONLY before tender closing time and date as mentioned in the tender notice.
- 7) The tenders will be opened after closing date and time mentioned in the tender notice.
- 8) **If the date of opening happens to be a holiday, the tenders will be opened on the next working day.**
- 9) **Warning:** It is hereby brought to the notice of all prospective tenderers that if any change/additions/deletions/ alterations are found to be made by them and the same is subsequently detected / noticed at any stage even after award of the contract, all necessary action including banning of business would be taken. In addition, the tenderers are liable to be prosecuted under law.
- 10) If any plan/drawing is attached with the tender form, ₹.200/- for plan/drawing will be levied extra.

Visit our site at "<http://www.ireps.gov.in>"

ANNEXURE - I

TENDER FORM (First Sheet)

As per IRSGCC 2022 and latest amendments/Correction Slip

TENDER FORM (Second Sheet)

As per IRSGCC 2022 and latest amendments/Correction Slip

**P R E A M B L E
T E N D E R P A P E R S**

SCOPE OF WORK:

The work is to be executed under power block, and is to be carried out under high degree of planning and execution. All safety precautions & safety rules which are applicable for execution of 25kV AC supply and also to be followed the other conditions by the contractor as per special conditions of contract.

1. Earnest Money:

As per IRSGCC 2022 and latest amendments/Correction Slip

2. Security Deposit:

As per IRSGCC 2022 and latest amendments/Correction Slip

3. Performance Guarantee

As per IRSGCC 2022 and latest amendments/Correction Slip

4. Eligibility Criteria: As per NIT

4.1 Technical Eligibility Criteria: As per IRSGCC 2022 and latest amendments/Correction Slip

Similar Nature of Works:

S No	Type of work	Definition of similar nature of work
1	Similar nature of work for OHE tenders (Vide Headquarters letter No.E.252/Tr.D/Policy/Vo I.VI dt.01.06.2020)	Provision or modification to sub-stations / switching stations, switch gear equipment's, control and protection equipment, reactors, power factor correction equipment, transformers or any other

4.2 Electrical License: The tenderer should have valid Electrical Contractors License Grade "A" / 33kV or above issued by Govt. Electrical License Board (OR) the site Supervisor should possess necessary "A" Grade / 33kV or above License issued by a Government Licensing Authority to carryout works of appropriate voltage. The license should have been issued on a date prior to date of tender opening. A copy of valid license shall be submitted with the offer. Offer without valid license shall be summarily rejected

Note : A copy of valid license shall be submitted with the offer. Offer without valid license shall be summarily rejected.

4.3. Financial Eligibility Criteria:

As per IRSGCC 2022 and latest amendments/Correction Slip

4.4. Bid Capacity:

As per IRSGCC 2022 and latest amendments/Correction Slip

4.5 No Technical and Financial credentials are required for tenders having value upto Rs 50 lakh.

5. Tenderer Credentials:

As per IRSGCC 2022 and latest amendments/Correction Slip

6. Partnership Deeds, Power of Attorney etc.:

As per IRSGCC 2022 and latest amendments/Correction Slip.

7. Employment/Partnership etc. of Retired Railway Employees:

As per IRSGCC 2022 and latest amendments/Correction Slip

8. Participation of Joint Venture (JV) in Works Tender:

As per IRSGCC 2022 and latest amendments/Correction Slip

9. Participation of Partnership Firms in works tenders:

As per IRSGCC 2022 and latest amendments/Correction Slip

10.0 Care in Submission of Tenders:

As per IRSGCC 2022 and latest amendments/Correction Slip

11. Validity of offer

The tenderer shall keep that offer valid for a period of **60 days** from the date of opening of tender.

12. PERIOD OF COMPLETION

The contractor shall commence the work within **2 weeks** from the date of issue of letter of acceptance of tender and shall complete the work in all respects within the period as specified in the Tender Notice and in the Schedule where items of work are furnished from the date of letter of acceptance of the Tender.

The Railway attach utmost importance to the timely completion of the work on or before the date contracted for. In this connection, the attention of the contractor is specially invited to the clauses regarding 'Liquidated damages' and termination of contract owing to default of contractor provided for in General Conditions of Contract.

13. SCHEDULE OF RATES:

13.1 Schedule of prices of the tender papers lists out prices for work involved against this tender are based on the standard rates (SOR and NON- SOR), the total

contract value (after loading percentage) has been assessed.

- 13.2 The tenderer is required to quote only common percentage below/on par/above against the SOR items and a common percentage against NON-SOR items for each Part separately in price schedule. The percentage so quoted will be loaded to the rates given in the schedule of prices, to arrive at the rates payable to the contractor against this tender.

TENDER FORM (Third Sheet)

As per IRSGCC 2022 and latest amendments/Correction Slip

INDIAN RAILWAYS STANDARD GENERAL CONDITIONS OF CONTRACT,
(GCC) April 2022

I/We have gone through the general conditions with all amendments up to date of contract governing the performance of the works covered by this tender and I/we have kept myself/ourselves fully informed of the provisions of these Standard General Conditions of Contract, April 2022.

In token of acceptance, I/We am/are appending my/our signature.

Signature of the Tenderer

Note: The General Conditions of the contract can be perused, in the office of the Senior Divisional Electrical Engineer/Traction Distribution/Secunderabad, S.C.Railway during office working hours **OR** from Indian Railways web site www.indianrailways.gov.in

FORMS

Form No	Description
1.	<i>Offer Letter - see before preamble</i>
2.	<i>Alternate proposals of the Tenderers</i>
3.	<i>Tenderer's scheme of work and time schedule</i>
4.	<i>Names of manufacturers, places of manufacturers and inspection of supplies.</i>
5.	<i>Performance guarantee bond</i>
6.	<i>Indemnity bond for 'on account' payments</i>
7.	<i>Indemnity bond for railway supply materials given on loan to contractors</i>
8.	<i>Guarantee bond for indemnification of railway materials</i>
9.	<i>NEFT Mandate Form</i>

FORM - 2

ALTERNATE PROPOSALS OF THE TENDERERS

Para No. of Alternate proposals to the Tender papers	Technical advantages and/or financial implications of the proposal.
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TENDERER'S SCHEME OF WORK AND TIME SCHEDULE

1.	Preparation of designs and drawings.							
2.	Bulk order of materials							
3.	Casting of foundations / civil works if any.							
4.	Delivery of materials at site							
5.	Erection works.							
6.	Erection of other equipments other than structures.							
7.	Commissioning.							
	Days from the date of issue of letter of intent acceptance of tender.							

FORM - 4

NAMES OF MANUFACTURERS, PLACES OF MANUFACTURERS AND INSPECTION OF SUPPLIES.

ITEM No.	DESCRIPTION OF ITEM	NAME & ADDRESS OF MANUFACTURERS	PLACE OF MANUFACTURE	PLACE OF MANUFACTURE
1.	2.	3.	4.	5.

Declaration by the tenderer

We hereby confirm that all the equipments, components and materials which will be supplied by us would conform to technical and other particulars as detailed in tender papers and would comply with the RDSO's specifications with their latest version as specified in tender paper. We further confirm that the equipments, components and materials except those listed below would be procured from the approved sources/suppliers approved by CORE/RDSO.

i)

ii)

iii)

Technical details conforming the Schedule of guarantee particulars of the concerned specification and the details of manufacturer for the above items are enclosed.

(On stamp paper of requisite value)

PERFORMANCE GUARANTEE BOND

(TO BE USED BY APPROVED SCHEDULE BANKS)

1. In consideration of the President of India (herein after called "the Government") having agreed to exempt _____ (herein after called "the said Contractor(s)") from the demand under the terms and conditions of an agreement dated _____ made between _____ and _____ for _____ (herein after called "the said Agreement"), of PERFORMANCE GUARANTEE for the due fulfillment by the said Contractor(s) of the terms and conditions contained in the said Agreement, on production of a bank Guarantee for Rs. _____ (Rupees _____ only). We, _____ herein after referred to as "the Bank" (indicate the name of the bank) at the request of _____ (contractor (s)) do hereby undertaken to pay to the Government an amount not exceeding Rs. _____ against any loss or damage caused to or would be caused to or suffered by the Government by reason of any breach by the said Contractor(s) of any of the terms or conditions contained in the said Agreement.
2. We _____ (indicate the name of the bank) do hereby undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the Government stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Government by reason of breach by the said contractor(s) failure to perform the said Agreement. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____.
3. We undertake to pay to the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor(s)/supplier(s) in any suit or proceedings pending before any court or Tribunal relating there to our liability under this present being absolute unequivocal.

The payment so made by us under this bond shall be valid discharge of our liability for payment thereunder and the contractor(s)/supplier(s) shall have no claim against us for making such payment.

4. We, _____ (indicate the name of the bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the Government under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till _____ Office/ Department) Ministry of _____ certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before the _____ (b) we shall be discharged from all liability under this guarantee thereafter.
5. We _____ (indicate the name of bank) further agree with the Government that the Government shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to attend time of performance by the said Contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said Contractor(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said contractor(s) or any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.
6. This guarantee will not be discharged due to the change in the constitution of the bank or the contractor(s) /Supplier(s).
7. We, _____ (indicate the name of bank) lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Government in writing.

Dated the _____ day of _____ 20____ (year)
for _____

(Indicate the name of Bank)

Note: See para 4(B) of the Chapter Preamble.

INDEMNITY BOND FOR 'ON ACCOUNT' PAYMENTS

We, M/s _____ here by undertake that we held at our stores Depot/ at _____ on behalf of the President of India, acting in the premises through Senior Divisional Electrical Engineer, in charge of the Traction Distribution (Secunderabad division) of South Central Railway and his property in trust for him all materials listed in tender schedule for which 'On Account' payment have been made to not exceeding Rs. _____. Against _____, _____, _____ of South Central Railway. Vide _____ and the materials handed over to us by the Purchaser as per Contract for the purpose of execution of the said Contract, until such time the materials are duly erected or otherwise handed over to him.

We shall be entirely responsible for the safe custody and protection of the said materials against all risk till they are duly delivered as erected equipment to the Purchaser, or as he may direct otherwise and shall indemnify the Purchaser against any loss damage, or deterioration whatsoever in respects of the said materials while on our possession and against disposal of surplus materials. The said materials shall at all times be open to inspection by any officer authorised by the Senior Divisional Electrical Engineer, Traction Distribution (Secunderabad division) of South Central Railway.

Should any loss, damage or deterioration of materials occur or surplus materials disposed off and a refund becomes due, and the Purchaser shall be entitled to recover from us the full cost as per prices included in Schedule B-NON-SOR items or Schedule items to the contract and in respect of other and also compensation for such loss or damage, or deterioration, if any along with the amount to be refunded, without prejudice to any other remedies available to him by deduction from any sum which at any time here after becomes due to us under the said or any other Contracts.

In the event of any loss, damages or deterioration as above said, the assessment of such loss or damages and the assessment of such compensation therefore would be made by the President of India or his authorized nominees and the said assessment shall be final and binding upon us.

Dated this _____ day of _____, 20____ (year) _____
For and on behalf of Messers _____ (Contractor)

Signature of Witness:

Name of Witness IN BLOCK LETTERS

Address:

INDEMNITY BOND FOR RAILWAY SUPPLY MATERIALS GIVEN ON LOAN TO CONTRACTORS

We, M/s. _____ here by undertake that we have taken on loan Railway materials listed at Annexure value Rs. _____ from Sr.DEE/TRD/SC. The materials are given on loan to us to erect them at _____ work site. We hereby under take to return the materials by _____. We hereby undertake to abide by the agreement clause regarding materials taken on Loan.

We shall be entirely responsible for the safe custody and protection of the said materials against all risk till they are duly delivered as erected equipment to the purchaser, or as he may direct otherwise and shall indemnify the purchaser against any loss damage, or deterioration whatsoever in respects of the said materials while on our possession and against disposal of surplus materials. The said materials shall at all times be open to inspection by any officer authorised by the Senior Divisional Electrical Engineer, in-charge of the Traction Distribution (Secunderabad division) of South Central Railway.

Should any loss, damage or deterioration of materials occur or surplus materials disposed off and a refund becomes due, and the purchaser shall be entitled to recover from us the full cost as per prices included in schedule B- NON-SOR items or schedule-3 items to the contract and in respect of other materials as indicated in agreement and also compensation for such loss or damage, or deterioration, if any along with the amount to be refunded, without prejudice to any other remedies available to him by deduction from any sum which at any time here after becomes due to us under said or any other Contracts under Indian Railways anywhere in India.

In the event of any loss, damages or deterioration as above said, the assessment of such loss or damages and the assessment of such compensation therefore would be made by the President of India or his authorized nominees and the said assessment shall be final and binding upon us.

Dated this _____ day of _____ 20____ or and on behalf of Messers.
_____(Contractor).

Signature of Witness:

Name of the Witness (IN BLACK LETTERS)

Address:

FORM - 8**GUARANTEE BOND FOR INDEMNIFICATION OF RAILWAY MATERIALS (FOR GIVING RAILWAY MATERIALS FOR P.O.H, REPAIRS ETC., AT CONTRACTOR'S FACTORY)**

Against General Manager/South Central Railway/Secunderabad's agreement No. _____ dated _____, a contract for _____ (Nature of work) _____ entered into between president of India acting through _____ (hereinafter called contractor), We _____ Bank are holding most in favour and on behalf of Government of India the amount of Rs. _____ (Rs. _____ only) being the security towards cost of raw materials namely _____ at the contractor's factory exclusively for the _____ under the said contract. We _____ Bank hereby undertake to indemnify and keep indemnified the President of India acting through _____ against any loss or damage that may be caused or suffered by the President of India (Government) by reason of any breach by the contractor of any of the terms and conditions of the said contract and performance thereof. We _____ bank agree that the decision of the president of the India whether any breach of the terms and conditions of the said contract or in the performance thereof has been committed by the contractor and the amount of loss/or damage that has been caused or suffered by the President of India (Government of India) shall be final and binding on us and the amount of said loss or damage shall be paid by us forthwith on demand and without demur to the President of India.

We _____ bank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for satisfactory performance and fulfillment in all respects of the said contract by the contractor till _____ (Date) _____ and that if any claim accrues or arises against us by virtue of this guarantee before the said date, the same shall be enforceable against us the _____ (Name of the Bank), notwithstanding the fact that the same is enforced within six months after the said date provided that notice of any such claim has been given to us _____ Bank) _____ by the President of India before the said date, payment under this letter of guarantee shall be made promptly upon receipt of notice to that effect from the President of India.

It is fully understand that the guarantee is effective from _____ and that we _____ Bank undertake not to revoke this guarantee during its currency without the consent of the President of India (Government) in writing.

We _____ Bank further agree that the President of India shall have fullest liberty without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said contract or to extend time of performance by the said contractor and to forebear or enforce any of the terms and conditions relating to the said contract and we _____ bank shall not be released from our liability under this guarantee by reason of any such variation or extension being granted to the said contractor for any forbearance and or omission on the part of the President of India or any indulgence by the President of India to the said contractors or by any other matter or thing whatsoever which under the law relating to sureties, would but for this provision, have the effect of so releasing us from our liability under this guarantee.

We _____ bank further agree that the guarantee herein contained shall not be affected by any change in the constitution of the Bank or the said contractor.

Dated:

**Seal of the bank &
Signature of the bank Authority**

Witnesses (with address)

1).

2).

MANDATE FORM FOR PAYMENT THROUGH "NEFT/RTGS"

To

The Senior Divisional Finance Manager,
South Central Railway,
Secunderabad.

Sub: National Electronic Transfer (NEFT)/Real Time Gross Settlement
(RTGS) payments – Reg.

We refer the NEFT/RTGS being set up by the SC Railway for remittance of payments using Reserve Bank of India's NEFT/RTGS scheme. Our payments may be made through NEFT/RTGS to our Bank Account as follows:

S. No	Particulars	
1	Bank's Name & Branch Name	
2	Branch Address	
3	Name of the city	
4	# Bank Telephone /Fax No.	
5	Bank's IFSC Code for NEFT	
6	Bank's IFSC Code for RTGS	
7	Bank's MICR Code	
8	Beneficiaries Name	
9	Beneficiaries Bank Account No. (CORE BANKING A/C No.)	
10	Type of account	
11	# Telephone No. of Beneficiary Mobile No. of Beneficiary	
12	# Beneficiary's E-mail ID, if any	

Optional

I/We hereby declare that the particulars given above are correct and complete. If the transaction is delayed, not affected for reasons of incomplete incorrect information. I/We could not hold Railways responsible.

Signature of Beneficiary

With Stamp& Address

Certified that the above bank particulars are correct as per our records.

Name, Signature & Bank's Stamp

Counter signature of Officer of executive department in Railway

ANNEXURE-"I"

As per IRSGCC 2022 and latest amendments/Correction Slip

ANNEXURE-"II"

As per IRSGCC 2022 and latest amendments/Correction Slip

ANNEXURE-"III"

As per IRSGCC 2022 and latest amendments/Correction Slip

ANNEXURE-"IV"

As per IRSGCC 2022 and latest amendments/Correction Slip

ANNEXURE-V

FORMAT FOR AFFIDAVIT TO BE SUBMITTED / UPLOADED BY TENDERER ALONGWITH THE TENDER DOCUMENTS

As per IRSGCC 2022 and latest amendments/Correction Slip

ANNEXURE – VI

TENDERER’S CREDENTIALS (BID CAPACITY)

As per IRSGCC 2022 and latest amendments/Correction Slip

ANNEXURE-"VII"

As per IRSGCC 2022 and latest amendments/Correction Slip

ANNEXURE-"VIII"

As per IRSGCC 2022 and latest amendments/Correction Slip

DECLARATION:

The above is only for guidance all the terms and conditions will be treated as final as per IRSGCC 2022 or latest.

ANNEXURE – IX

LIST OF STANDARD DRAWINGS AND SPECIFICATIONS

This Annexure contains reference to drawing numbers, charts, Schedules, specifications and other data referred to in various paragraphs of this Tender Paper.

*All references to drawings, charts, schedules or specifications given in this Annexure **shall be taken to be the latest version available as on date of issue of LOA** of such drawings, charts and schedules of specifications as issued by the Purchaser.*

(A) LIST OF STANDARD DRAWINGS FOR CONVENTIONAL TYPE OHE (REGULATED)

Sl. No.	Brief Description	Drawing Series	Number	Mod.
1.	Extra allowance for settings of structures on curves (1676mm Broad gauge).	ETI/OHE/G	00111 Sh-1	C
2	Standard setting of structures in the vicinity of signals (broad gauge)	ETI/OHE/G	00112	D
3	Typical design of side bearing foundation.	ETI/OHE/G	00131	
4	-Deleted-			
5	Typical design cantilever mast.	R/E/33/G	00141 Sh.3	
6	Standard drilling schedule of OHE masts 9.5m long RSJ and BFB respectively.	ETI/OHE/G	00144 Sh.3	C
7	Span and stagger chart for (conventional OHE, Cd.Cu catenary & Cu.cont.wire) for wind pressure 75,112.5&150kgf/sq.m.	ETI/OHE/G	00202	
8	Employment schedule for Cantilever Mast Regulated OHE Cat. 65/ Cu and Cont 107/Cu, WP 112.5kgf.sq.m without EW&without RC.	ETI/OHE/G	00153 Sh.1	E
10	Employment schedule for Cantilever Mast Regulated OHE Cat. 65/Cu and Cont 107/ Cu, WP 112.5kgf.sq.m with EW & with RC	ETI/OHE/G	00153 Sh.3	
11	Employment schedule for Cantilever Mast Regulated OHE Cat. 65/Cu and Cont 107/ Cu, WP 112.5kgf.sq.m with EW & with RC	ETI/OHE/G	00153 Sh.4	
12	Employment schedule for Cantilever Mast unregulated OHE Cat.65/Cu and Cont 107/Cu, WP 112.5kgf.sq.m at 35xC& with 28 kgf/sq.m at 4xC without(EW&RC)	ETI/OHE/G	00154	
13	Employment schedule of bracket tubes regulated Conventional OHE (Cd Catenary & Cu contact wire 1000kgf tension Each)	ETI/OHE/G	00153 sh-1 to sh-3	
14	Dropper schedule for – uninsulated Overlap spans.	ETI/OHE/G	00169	A
15	Dropper schedule for insulated Overlap spans.	ETI/OHE/G	00170	A
16	Dropper schedule for conventional regulated OHE with zero presage (1400/1400)	ETI/OHE/G	00177	A
17	Adjustment chart of regulating equipment 3-Pulley type 3:1 ratio.	ETI/OHE/G	00195	A
18	Schematic arrangement of regulated OHE.	ETI/OHE/G	02101	A
19	Schematic arrangement of uninsulated overlaps (3&4 span overlaps).	ETI/OHE/G	02121 Sh.4	A
20	Schematic arrangement of insulated overlap.	ETI/OHE/G	02131 Sh.3	A
21	Termination arrangement of Tramway OHE with 3 pulley type regulating equipment (3:1 ratio).	ETI/OHE/G	04212	B
22	General distribution of droppers.	ETI/OHE/G	00161	-
23	Outline of Pantograph (Broad gauge and metre gauge).	R/E/33/G	00181	A
24	General formation of single track Embankments and cutting (Broad gauge).	R/E/33/G	01101-sh-1	A

Sl. No.	Brief Description	Drawing Series	Number	Mod.
25	General formation of double track Embankments and cutting (Broad guage).	R/E/33/G	01102 Sh.1	A
26	General formation of multiple tracks (1675mm guage).	R/E/33/G	01103 Sh.1	A
27	Standard anchor arrangement.	R/E/33/G	01401 Sh-1	E
28	Anchor arrangement with dwarf mast.	ETI/OHE/G	01402	B
29	Schedule of anchor block for B.G. track.	ETI/OHE/G	01403 Sh.1	D
30	Double guy rod arrangement with anchor block for B.G. track.	ETI/OHE/G	01403 Sh.2	C
31	Schedule of anchor block for B.G. track (Black cotton soil)	ETI/OHE/G	01403 Sh.3	B
32	Standard guide tube arrangement on a mast and structures.	ETI/OHE/G	01505	-
33	Trapezoidal counter weight arrangement on OHE structures.	ETI/OHE/G	01502	-
34	Arrangement of 3KV & 25KV Pedestal insulator supports on OHE masts and portals.	ETI/OHE/G	01601	
35	Standard arrangements for mounting of number plate on OHE Structures.	ETI/OHE/G	01701	A
36	Schematic arrangement of regulated overhead equipment.	ETI/OHE/G	02101	A
37	Typical arrangement of OHE on cantilever masts for double track section.	ETI/OHE/G	2102	-
38	Typical arrangement for fixing of bracket assembly on 9.5m mast and structure to suit raising of tracks in future.	ETI/OHE/G	02102 Sh.3	-
39	Mast on platforms (1676mm guage).	ETI/OHE/G	02104 Sh.1	A
40	Details of bracket arrangement on tangent and curved tracks.	ETI/OHE/G	02106 Sh.1	A
41	Details of bracket arrangement for OHE (High Speed).	ETI/OHE/G	02106 Sh.3	C
42	Single bracket assembly on Structures and dropped arms.	R/E/33/G	02107	D
43	Box type cantilever Arrangement.	ETI/OHE/G	02108	A
44	Arrangement at anticreep.	ETI/OHE/G	02111	A
45	Standard cantilever arrangement for boom anchor anticreep location.	ETI/OHE/G	02113	-
46	Schematic arrangement of uninsulated over Lap (type-I) 3&4 Span overlaps.	R/E/33/G	02121 Sh.1	F
47	Schematic arrangement of insulated overlap.	ETI/OHE/G	02131 Sh.1	
48	General arrangement of regulated OHE at turn-outs (overlap& crossed type).	ETI/OHE/G	02141	C
49	General arrangement of regulated OHE at cross over (overlap &crossed type).	ETI/OHE/G	02151	
50	Arrangement of neutral section.	ETI/OHE/G	02161 Sh.1 of 2	C
51	Arrangement of neutral section assembly (PTFE Type) at SWS.	ETI/OHE/G	02162	-
53	Schematic arrangement of unregulated overhead equipment.	ETI/OHE/G	03101	-
54	Standard termination of OHE (Regulated & un-regulated).	ETI/OHE/G	03121	E
55	General arrangement of Unregulated OHE at turnouts (crossed & overlap type).	ETI/OHE/G	03151	-
56	General arrangement of unregulated OHE crossovers and diamond crossings (overlap and crossed type).	ETI/OHE/G	03152 Sh.1	-
57	General arrangement of unregulated OHE at diamond crossing.	ETI/OHE/G	03152 Sh.2	-
58	General arrangement of head span.	ETI/OHE/G	03201	A
59	General arrangement of pull off.	ETI/OHE/G	03301	-
60	In span jumper connection between catenary& contact wire.	ETI/OHE/G	05101	-
61	Continuity jumper connection at uninsulated overlap.	ETI/OHE/G	05102	C
62	Arrangement of anti-theft jumper.	ETI/OHE/G	05107	A
63	Connection at turnouts.	ETI/OHE/G	05103	B

Sl. No.	Brief Description	Drawing Series	Number	Mod.
64	Potential equalizer connection at insulated overlap and neutral section.	ETI/OHE/G	05104	-
65	Connections at diamond crossing.	ETI/OHE/G	05106	A
66	General arrangement of connections to OHE by copper cross feeder (150)	ETI/OHE/G	05121 Sh.1	C
67	General arrangement of connections at switching station on double track section by copper cross feeder (150).	ETI/OHE/G	05122 Sh.1	C
68	General arrangement of connections at switching station on multiple track section by copper cross feeder (150).	ETI/OHE/G	05123 Sh.1	C
69	Suspension of 25kV feeder (Spider) on OHE masts.	ETI/OHE/G	05143	B
70	Termination of feeder, return conductor & return feeder (copper & aluminum).	70 RE/33/G	05145	A
71	Arrangement of suspension of double spider 25KV feeder and return feeder between sub-station and feeding station.	70 RE/33/G	05152	C
72	Assembly of section insulators.		05181	C
73	General arrangement of earth wire on OHE mast.	ETI/OHE/G	05201	A
74	General arrangement of earth wire on OHE mast.	ETI/OHE/G	05201-1	
75	Arrangement of transverse bonds.	ETI/OHE/G	05251	A
76	Connection of return conductor to track.	ETI/OHE/G	05306	F
77	Suspension arrangement of aluminum return conductor (spider) on traction Structures.	ETI/OHE/G	05307	B
78	Suspension of return conductor (spider) from boom of Structures (with clevis type disc insulators).	ETI/OHE/G	05312	A
79	Connections between OHE and aluminum return conductor at booster stations.	ETI/OHE/G	05413	B
80	Mounting of 25KV Isolators on OHE Structures (General arrangement).	ETI/OHE/G	05513 Sh.1	A
81	Details of small part steel work for supporting 25KV Isolator on new T.T.C. boom.	ETI/OHE/G	05513 Sh.2	A
82	Connection from isolator to OHE.	ETI/OHE/G	05516	A
83	Characteristics of conductors/bus-bar for 25KV AC traction.	ETI/OHE/G	05600	A
84	Arrangement of mounting 25KV/240, 10 KVA LT supply transformer.	ETI/OHE/G	05522	-
85	Employment Schedule for Cantilever Mast regulated OHE Caty 65 Cu, Cont.107/Cu (WP 75 kgf/sq.m.)	ETI/C	0702 sh-1 to 5	B
86	Employment Schedule for Tramway type regulated OHE (WP 75 kgf/sq.m.)	ETI/C	0704	B
87	Employment Schedule for 8"x8"x35 lbs BFB (9.5M.long) (WP 112.5 kgf/sq.mm Cat.65/Cu&Cont.107/Cu.	ETI/C	0708	B
88	Employment schedule for OHE mast overlap central location with 3.0m implantation. Cat.65/Cu&Cont.107/Cu.WP 75kgf/sq.m.	ETI/C	0709	A
89	Employment schedule for OHE mast overlap central location with 3.0m implantation. Cat.65/Cu&Cont.107/Cu.WP 112.5 kgf/sq.m.	ETI/C	0710	A
90	Employment schedule for OHE mast (9.5) overlap center location with 3.0m implantation. Cat.65/Cu&Cont.107/Cu.WP 75 kgf/sq.m.	ETI/C	0711	A
91	Employment schedule for OHE mast overlap inter location with 3.0M implantation. Cat.65/Cu&Cont.107/Cu.WP 112.5 kgf/sq.m.	ETI/C	0712	A

Sl. No.	Brief Description	Drawing Series	Number	Mod.
92	Employment Schedule for (9.5m) long 200x200x49.9kg mast - Caty. 65/Cu & Cont.107/Cu.WP 75 kgf/sq.m.	ETI/C	0713	B
93	Employment schedule for 9.5m long 200x200x49.9kg mast Cat.65/Cu and Cont.107/Cu WP 112.5 Kgf/sq.m.	ETI/C	0714	A
94	Employment schedule for OHE for 9.5 m mast overlap anchor location with 3.0M implantation. Cat.65/Cu&Cont.107/Cu.WP 75 kgf/sq.m.	ETI/C	0715	A
95	Employment schedule for OHE for 9.5 m mast overlap anchor location with 3.0M implantation. Cat.65/Cu&Cont.107/Cu.WP 112.5kgf/sq.m.	ETI/C	0716	A
96	Employment Schedule for regulated OHE mast (9.5m) wind pressure 75kgf/sq.m for composite OHE (1000<<1000) kgf tension.	ETI/C	0721 sh-1 to 4	
97	Employment Schedule for regulated OHE mast (9.5m) wind pressure 75kgf/sq.m. for composite OHE with extra setting distance. Overlap Anchor location.	ETI/C	0722	-
98	Employment Schedule for regulated OHE mast (9.5m) wind pressure 75kgf/sq.m. for composite OHE with extra setting distance. Overlap center location.	ETI/C	0723	-
99	Employment Schedule for regulated OHE mast (9.5m) wind pressure 75kgf/sq.m. for composite OHE with extra setting distance. Overlap inter location.	ETI/C	0724	-
100	Employment schedule for pre-stressed concrete mast (PC 42) 9.5m long, for conventional OHE, Normal Location (WP 150,112.5 & 75kgf/sq.m.	ETI/C	0725	A
101	Standard portal (N.O, P, R, G&Double BFB type).	ETI/C	0064	-
102	Volume chart and equivalent chart of foundation.	ETI/C	0058 Sh.1	E
103	-do-new pure gravity.	ETI/C	0058 Sh.2A	D
104	-d0- Dry black cotton soil (NBC type)	ETI/C	0058 Sh.3A	B
105	-do- New pure gravity (500m, exposed)	ETI/C	0058 Sh.4	B
106	-d0- Dry black cotton soil (NBC type) 2.5m depth.	ETI/C	0058 Sh.5	B
107	-do- (For a direct load of 4000Kg)	ETI/C	0058 Sh.6	B
108	Special BFB portal for 5 tracks (General arrangement)	ETI/C	0026 Sh.1	C
109	Protective screen at foot-over bridge and road over-bridge.	ETI/C	0068	G
110	Chart for portal foundation.	ETI/C	0005/68	
111	Muff for OHE Structures.	ETI/C	0007/68	E
112	Structures muff for sand core foundations.	ETI/C	0012/69	E
113	9.5m standard traction mast (fabricated 'K' series).	ETI/C	0018-2	D
114	Remote Control Cubicle at switching station, foundation, RCC slab Building plan & steel door.	ETI/C	0067	B
115	9.5m standard traction mast (fabricated with bottom plates 'B' series)	ETI/C	0071	E
116	Details of OHE foundation in soft rock (bearing capacity 45,000 Kgf/sq.m).	ETI/C	0059	B
117	Details of foundation for fencing upright.	ETI/C	0032	B
118	Employment schedule for switching and booster station main masts.	ETI/C	0185	B
119	Drilling schedule for S-1 mast	ETI/C	0030	F
120	-do- S-2 mast.	ETI/C	0031	D
121	-do- S-3 mast (length 11.4m)	ETI/C	0180	C

Sl. No.	Brief Description	Drawing Series	Number	Mod.
122	Drilling schedule for 8" x 6"x35 lbs.RSJ mast 8.0m long for booster transformer station Type S-4.	ETI/C	0036	E
123	Drilling Schedule for S-5 mast (11.4m long)	ETI/C	0042	E
124	-do- S-6 mast (length 12.4m)	ETI/C	0181	C
125	-do- S-7 -do-	ETI/C	0182	C
126	-d- S-8 -d0-	ETI/C	0183	C
127	-do- S-9 mast (length 9.4m)	ETI/C	0184	C
128	General arrangement & details of fencing panels & gate for switching station.	ETI/C	0186 Sh.1	E
129	Details of fencing upright and anti-climbing device for switching station.	ETI/C	0186 Sh.2	E
130	S-100 fabricated mast for mounting LT supply transformer and drop out fuse switch at switching station.	ETI/C	0043	B
131	S-101 details of mast for supporting isolator inside switching station.	ETI/C	0044	A
132	Details of anchor beam or SP,SSP,&FP	ETI/C	0033	D
133	Details of small part steel for switching station.	ETI/C	0034 Sh.1	K
134	Details of bracing for switching & B.T. masts.	ETI/C	0034 Sh.2	B
135	Details of small parts steel of our rigger for switching stations and booster transformer stations.	ETI/C	0037	C
136	Details of small parts steel for booster transformer stations.	ETI/C	0040	E
137	Details pre-cast cable trench for switching station.	ETI/C	0038	E
138	Standard 'R' type portal (rod laced) general arrangement.	ETI/C	0011/69Sh.1	C
139	Standard 'G' type portal special upright and end piece.	ETI/C	0056	C
140	Short bored pile foundation for traction mast (permissible BM&volume)	ETI/C	0062	B
141	Chart for portal foundations in dry black cotton soil safe bearing capacity 16500 Kg/sq.m.	ETI/C	0063	B
142	Dwarf mast foundation on wet dry black cotton soil.	RE/ALD/OHE /SK/C	02	-
143	Typical design of new pure gravity foundation.	ETI/SK/C	131	A
144	Typical design of side gravity foundation.	ETI/SK/C	142	A
145	Rock Anchor for B.G.Track.	ETI/SK/C	208	-
146	Bracket fitting for PSC Masts capacity-4.200kgm.	ETI/SK/C	214 Sh.1	E
147	SPS details for Earth wire clamp on PSC mast.	ETI/SK/C	214 Sh.2 of 2	A
148	Special arrangement of OHE under overline structure.	ETI/OHE/SK	529	D
149	Earthing and bonding of PSC mast.	ETI/OHE/SK	537 Sh.1 of 2	D
150	Typical earthing arrangement in SPUN PSC Mast with 18mm dia rod.	ETI/OHE/SK	537 Sh.2	B
151	Arrangement of antitheft jumper at overlap.	ETI/OHE/SK	566	-
152	Catenary dropper assembly	ETI/OHE/P	1190	B
153	Parallel clamp (20/20)	ETI/OHE/P	1550	E
154	Standard guide tube assembly.	ETI/OHE/P	5060-2	C
155	Standard anti-wind clamp	ETI/OHE/P	2550-1/2	L
156	Multiple cantilever cross arm assembly	RE/33/P	3120	H
157	Anchor fitting assembly on rolled sections	ETI/OHE/P	3230	C
158	Anchor fitting assembly on 'K' series, TCC masts and 'P' type portal upright.	ETI/OHE/P	3240	D
159	Anchor assembly on 'N' and 'O' type portal upright	ETI/OHE/P	3250	D

Sl. No.	Brief Description	Drawing Series	Number	Mod.
160	Structure bonds	ETI/OHE/P	7000	E
161	Earthing stations	ETI/OHE/P	7020	B
162	Longitudinal rail bond	ETI/OHE/P	7030	F
163	Short super mast assembly	ETI/C/P	8010	G
164	Long super mast assembly	ETI/C/P	8020	C
165	Bracket attachment assembly on portal upright (N,O,R,P,G&BFB Type)	ETI/C/P	8030	B
166	Super mast assembly on portals	ETI/C/P	8050	C
167	Medium super mast assembly	ETI/OHE/P	8060	C
168	Compensating plate	ETI/OHE/P	5191-1/2	D
169	Suspension clamp	RE/33/P	1160	J
170	Double suspension clamp	RE/33/P	1170	K
171	Double suspension lock plate	RE/33/P	1172	C
172	Catenary splice (65)	ETI/OHE/P	1090	
173	Typical location & schematic connection diagram for a three interruptor switching station.	ETI/PSI	003	C
174	Typical general arrangement of a three interruptor switching station.	ETI/PSI	004	F
175	Typical location plan & general arrangement for sectioning & paralleling station.	ETI/PSI	005	F
176	Typical location plan and arrangement for a feeding station	ETI/PSI	006	E
177	Typical general arrangement at a Booster transformer station (with 4 cross feeder) type III	ETI/PSI	013	B
178	Typical general arrangement of 280 KVA Booster Transformer station (with 4 cross feeder) Type III	ETI/PSI	018	A
179	Typical general arrangement at a booster transformer station (without cross feeder) Type-I	ETI/PSI	011	C
180	Typical number plate for auxiliary transformer	ETI/PSI/P	7525	-
181	Typical fencing and anti-climbing arrangement at switching station	ETI/PSI	104	F
182	Typical earthing layout of sub-sectioning and paralleling station	ETI/PSI	201	B
183	Typical earthing layout of a sectioning and paralleling station.	ETI/PSI	202	B
184	Typical earthing layout of a feeding station.	ETI/PSI	203	B
185	Earthing details for interruptor L.T. supply transformer 25KV lightning arrestors P.T. Type-I (S-100 masts, S-101 mast, fencing upright and main mast)	ETI/PSI	204	C
186	Typical earthing layout at a booster transformer stations (without cross feeder for Type-I and II	ETI/PSI	211-1	A
187	Typical cable run layout of a sub-sectioning & paralleling station.	ETI/PSI	301	C
188	Typical cable run layout of a sectioning and paralleling station	ETI/PSI	302	C
189	Typical cable run layout of a feeding station	ETI/PSI	303	B
190	Typical earthing layout at a booster transformer station (with 4 cross feeder for Type III, IV & V	ETI/PSI	212	B
191	Typical drawing for a terminal board	ETI/PSI	501	C
192	36mm Aluminum Bus terminal	ETI/PSI/P	6480	C
193	-do- splices	ETI/PSI/P	6490	B
194	-do- Tee connector	ETI/PSI/P	6500	C
195	36mm aluminum tee terminal	ETI/PSI/P	6510	D
196	36/15 Tap connector	ETI/PSI/P	6520	B

Sl. No.	Brief Description	Drawing Series	Number	Mod.
197	36mm Aluminum flexible bus splice	ETI/PSI/P	6550	B
198	36mm Aluminum bus splice cum tee connector	ETI/PSI/P	6560	B
199	Typical number plate for interruptor and double pole isolator	ETI/PSI/P	7520	B
200	Typical number plate for potential transformer Type	ETI/PSI/P	7521	B
201	Typical number plate for booster transformer	ETI/PSI/P	7522	B
202	Standard plan Remote Control cubicle at switching station	RE/Civil/BS-115/95		-
203	Typical details of pressed steel door, window and ventilator	RE/Civil/S-115/95	R1	
204	Bolted base connection for portals located in drains	ETI/C	0010	C
205	Details of base plate for mast on drains in station yards	ETI/C	0002/68	A
(B) LIST OF STANDARD DRAWINGS FOR TRAMWAY TYPE O.H.E. (REGULATED)				
206	Span and stagger chart for Tramway type OHE (Regulated)	ETI/OHE/G	04201	-
207	Drilling schedule of OHE mast 8.5m&9m ling RSJ and BFB for tramway OHE	ETI/OHE/G	04202 Sh.1 Sh.2	C
208	Schematic arrangement of (regulated) tramway type OHE.	ETI/OHE/G	04203	C
209	Arrangement of bracket assembly for Tramway Type OHE (regulated)	ETI/OHE/G	04204	B
210	Arrangement of anti-creep for Tramway Type OHE (regulated)	ETI/OHE/G	04205	B
211	Arrangement of anti-creep for Tramway Type OHE (Regulated alternative arrangement)	ETI/OHE/G	04206	B
212	Arrangement of section Insulator for Tramway Type OHE (Regulated)	ETI/OHE/G	04207 Sh.1	B
213	Small parts steel for supporting section insulator assembly for regulated Tramway Type OHE.	ETI/OHE/G	04207 Sh.2	B
214	General arrangement of turnouts for Tramway type OHE (Regulated)	ETI/OHE/G	04208	-
215	Adjustment chart for Tramway type OHE (Regulated)	ETI/OHE/G	04209	-
216	Bridle wire clamp (6mm) with two bolts	ETI/OHE/P	1070-1	B
217	Large suspension clamp 20mm (with armour rod)	ETI/OHE/P	1580 Sh.2	
218	Hook Bracket	ETI/OHE/P	2380	C
219	BFB Steady arm assembly for Tramway OHE (Regulated)	ETI/OHE/P	2540-1	
220	Anti wind clamp for tramway OHE (Regulated)	ETI/OHE/P	2550-3	E
221	Counter weight assembly (light)	ETI/OHE/P	5090-3	F
222	Counter weight assembly with pulley type regulating equipment (3:1 ratio)	ETI/OHE/P	5090-1	B
223	Employment schedule for tramway type regulated OHE without R.C. and E.W.(W.P.112.5 kgf/sq.m)	ETI/C	0705	B
224	Proctive screen at FOB/ROBs	ETI/C	0068	G
225	Proposed height gauges at level crossings upto 7.3m spans.	RE/Civil/92-84	R2	-
(C) LIST OF STANDARD DRAWINGS FOR COMPOSITE OHE (REGULATED)				
226	DELETED			
227	Employment Schedule of bracket tube regulated conventional OHE (Cd-Cu catenary and Cu-contact wire (1000kgf tension each) for wind pressure 150kgf/m2 at 10 deg C.	ETI/OHE/G	00158 Sh.3	-
228	Employment schedule of bracket tubes unregulated conventional OHE (Cd.Cu-catenary) and Cu-contact wire.	ETI/OHE/G	00159 Sh.3	-
229	Schematic arrangement of uninsulated overlap (A1.Alloy Catenary and copper contact wire.	ETI/OHE/G	02121 Sh.3	-
230	Schematic arrangement of insulated overlap (A1.Alloy	ETI/OHE/G	02131 Sh.2	A

Sl. No.	Brief Description	Drawing Series	Number	Mod.
	Catenary and copper contact wire.			
231	General arrangement of regulated composite OHE at turnouts (overlap and crossed type)	ETI/OHE/G	02141 Sh.2	-
232	Standard terminations of Regulated composite OHE.	ETI/OHE/G	03121 Sh.2	B
233	In span jumper connection between Aluminum Alloy catenary & copper contact wire.	ETI/OHE/G	05101 Sh.2	B
234	Continuity jumper connection at un-insulated overlap (A1.Alloy catenary and copper contact wire)	ETI/OHE/G	05102 Sh.2	B
235	Connections at turnouts for composite OHE	ETI/OHE/G	05103 Sh.2	B
236	Potential equalizer connection at insulated overlap & neutral section (A1.Alloy catenary & copper contact wire)	ETI/OHE/G	05104 Sh.2	B
237	Connection at diamond crossing for composite OHE.	ETI/OHE/G	05106 Sh.2	C
238	General arrangement of connection to composite OHE by cross feeder (SPIDER)	ETI/OHE/G	05124 Sh.2	C
239	General arrangement of connection at switching station on double track section for composite OHE.	ETI/OHE/G	05125 Sh.2	C
240	General arrangement of connection at switching station on multiple track section (with composite OHE and spider cross feeder)	ETI/OHE/G	05126 Sh.2	C
241	Assembly of section insulator (with A1.alloy catenary and copper contact wire)	ETI/OHE/G	05181 Sh.2	B
242	Standard arrangement of supporting cantilevers on the BOOM of portals and TTC (to avoid Bird's nesting).	ETI/C	0076	C
Employment schedule for OHE mast (9.5m) wind pressure 112.5kgf/sq.m for composite OHE (1000+1000) kgf Tension.				
243	OHE only	ETI/C	0717 Sh.1	A
244	-do- OHE + EW		0717 Sh.2	-A
245	-do- OHE + RC	ETI/C	0717 Sh.3	-A
246	-do- OHE + EW + RC		0717 Sh.4	-A
Employment schedule for OHE mast (9.5m) wind pressure 112.5kgf/sq.m for composite OHE (1000+1000) kgf Tension.				
247	-do- Overlap anchor location	ETI/C	0718	-
248	-do- Overlap Central location	ETI/C	0719	-
249	-do- Overlap Inter location	ETI/C	0720	-
250	Employment schedule for OHE mast (9.5m) wind pressure 150 kgf/m2 Copper OHE	ETI/C	0726 Sh.1	-
251	Employment schedule for OHE mast (9.5m) wind pressure 150 kgf/m2 Copper OHE&EW	ETI/C	0726 Sh.2	-
252	Employment schedule for OHE mast (9.5m) wind pressure 150 kgf/m2 Copper OHE&RC	ETI/C	0726 Sh.3	-
253	Employment schedule for OHE mast (9.5m) wind pressure 150 kgf/m2 Copper OHE RC,&EW	ETI/C	0726 Sh.4	-
254	Employment schedule for OHE mast (9.5m) wind pressure 150 kgf/m2 Copper OHE, with higher implantation overlap anchor location.	ETI/C	0727	-
255	Employment schedule for OHE mast (9.5m) wind pressure 150 kgf/m2 Copper OHE, with higher implantation overlap central location.	ETI/C	0728	-
256	Employment schedule for OHE mast (9.5m) wind pressure 150 kgf/m2 Copper OHE, with higher implantation overlap inter location	ETI/C	0729	-

Sl. No.	Brief Description	Drawing Series	Number	Mod.
257	Implantation Schedule for Tramway type regulated OHE WP 150kgf/m ² without RC&EW	ETI/C	0706	B
258	Aluminum alloy catenary suspension clamp (MCI)	ETI/OHE/SK	176	D
259	Double suspensions lock plate. (galvanized MCI)	ETI/OHE/SK	205	B
260	Parallel grove clamp (14/9)	ETI/OHE/SK	123	D
261	Parallel grove clamp (18/14)	ETI/OHE/SK	231	D
262	Catenary dropper clip assembly with bimetallic washer.	ETI/OHE/SK	333	D
263	Envelope type end fitting assembly for all A1. Alloy standard Catenary wire (size 19/2.79mm)	ETI/OHE/SK	436	c
264	Crimp type repair sleeve for AAA stranded catenary wire.	ETI/OHE/SK	285	C
265	Catenary splice (cone type) AL. Alloy catenary.	ETI/OHE/SK	134	D
266	Aluminum catenary suspension clamp assembly (MCI).	ETI/OHE/SK	468	A
267	Double suspension clamp assembly (MCI for AL. Alloy catenary).	ETI/OHE/SK	469	A
268	Span and stagger chart for composite OHE.	ETI/OHE/SK	375	A
269	Double suspension clamp body for Aluminum alloy catenary.	ETI/OHE/P	1171-1	A

Sl. No.	Description	Drawing No.
[D]Design drawings of 25kV single phase conventional OHE by using 65 sqmm. cadmium copper catenary wire and 150sq.mmHDGC contact wire		
270	Employment schedule for cantilever mast regulated OHE (150 sq.mm. contact wire) without EW and without RC (wind pressure 150 kgf/sq.m).	ETI/OHE/G/00120 Sh-1 (Rev 'B' or latest)
271	Employment schedule for cantilever mast regulated OHE (150 sq.mm. contact wire) without EW and without RC (wind pressure 110 kgf/sq.m).	ETI/OHE/G/00121 Sh-1 (Rev 'B' or latest)
272	Employment schedule for cantilever mast regulated OHE (150 sq.mm. contact wire) without EW and without RC (wind pressure 75 kgf/sq.m).	ETI/OHE/G/00122 Sh-1 (Rev 'A' or latest)
273	Employment schedule for cantilever mast regulated OHE (150 sq.mm. contact wire) for 31.5m and 27.0m spans.	ETI/OHE/G/00123 (Rev 'A' or latest)
274	Schematic arrangement of un-insulated overlap (Three span and four span) for higher section of OHE.	ETI/OHE/SK/607
275	Schematic arrangement of insulated overlap (Three span and four span) for higher section of OHE.	ETI/OHE/SK/608
276	Sag and tension chart (higher section of OHE).	ETI/OHE/SK/605
277	Dropper schedule of regulated OHE (for higher section of OHE).	ETI/OHE/SK/606
278	Span and stagger chart.	ETI/OHE/SK/124
279	Dropper schedule for insulated overlap span (for higher section of OHE).	ETI/OHE/SK/148
280	Dropper schedule for un-insulated overlap span (for higher section of OHE).	ETI/OHE/SK/149
281	Contact wire ending clamp (107/150).	ETI/OHE/P/1110-2
282	Contact wire dropper clip (107/150).	RE/33/P/1180
283	BFB steady arm assembly.	ETI/OHE/P/2390
284	BFB steady arm swivel.	ETI/OHE/P/2392
285	Catenary ending clamp (65).	ETI/OHE/P/1120
286	Catenary ending clamp (65) wedge type.	ETI/OHE/P/1120-1
287	Equalizing plate assembly.	ETI/OHE/P/5192-1/2
288	Compensating plate.	ETI/OHE/P/5191-1/2

E) LIST OF STANDARD SPECIFICATIONS. (OHE, SSP, SP, FP)

Sl.No.	TITLE OF SPECIFICATION	SPECIFICATION No.	Rev.
1	Annealed copper stranded jumper wire conductor for jumper wire.	ETI/OHE/3(2/94)	1
2	Copper bus-bar	RE/30/OHE/5(11/60) and IS-613-2000	-
3	Steel tubes.	ETI/OHE/11 (5/89)	-
4	Hot dip zinc galvanization of steel mast (Rolled and Fabricated) tube and fittings used on 25 KV ac OHE.	ETI/OHE/13 (4/84) with A & C slip No. 1, 2 & 3	3
5	Indian Railway standard specification for sparing zinc coating on the OHE mast.	ETI/C/3(5/93), May.83	-
6	Stainless steel wire ropes	ETI/OHE/14(9/94)	5
7	25 CV Solid core porcelain insulators for 25 kV ac, 50 Hz. single phase Overhead Traction lines.	ETI/OHE/15(9/91)	6
8	25 KV single pole and double pole isolators for Railway Electrification	ETI/OHE/16(1/94)	2
9	Steel and Stainless steel Bolts nuts and washers	ETI/OHE/18(4/84) with A&C correction slip No.1, 2 and 3.	4
10	Aluminium alloy and section tubes for 25 kV Traction Overhead Equipment	ETI/OHE/21(9/74) IS-733-1983, IS- 1285-2002	
11	Standard for drawings for Traction Overhead equipment.	RE/OHE/25(3/66)	
12	Section Insulators assembly without sectioning insulator.	ETI/OHE/27(8/84) with A & C slip No. 1 of 10/92.	1
13	Enameled steel plates	ETI/OHE/33(7/88)	
14	Galvanized steel wire rope.	ETI/OHE/36(12/73)	1
15	Hard drawn joint less grooved copper contact wire for AC traction	ETI/OHE/76(6/97) with A & C slips 1 to 3	
16	Fitting for 25 KV 50 HZ AC Overhead Traction equipment.	ETI/OHE/49(9/95) with A&C correction slip No.1, 2, 3 and 4	1
17	Cadmium copper conductor for Overhead Rly. Traction.	ETI/OHE/50(6/97) with A&C correction slip No.1,2,3,4& 5.	1
18	Principles for OHE layout plans and sectioning diagrams for 25 KV AC traction.	ETI/OHE/53(6/88) Aug. 92.	4
19	Code of bonding and earthing for 25 KV AC 50 Hz single phase traction system.	ETI/OHE/71(11/90) Mar. 93	2
20	Technical specification for galvanized steel stranded wire for traction bonds for 25 KV AC electric traction system.	TI/SPC/OHE/GALSTB/0040, Aug.05	1
21	Control & relay board for railway traction sub-station.	ETI/PSI/27(6/87) Sep.89	4
22	Control & distribution panel for colour light signaling supply in 25 KV AC traction system	TI/SPC/PSI/CLS/0021, Aug.03	-
23	Standards for electrical distribution system in stations & yards where 25 KV Ac traction is to be introduced.	ETI/PSI/44(12/73), Dec. 73	-
24	25 KV Dropout fuse switch & operating pole for use with 10 KVA and 100 KVA.25,KV/230 V LT. supply transformer.	ETI/PSI/14(1/86) with A&C slip NO.1 of 4/87.	1
25	25KV/240V Auxiliary Transformer (5 kVA, 10 KVA)	ETI/PSI/15 (08/2003) with A & C slip No.2 of 10/92	-
26	Regulating Equipment for 25 kV ac Traction 3 pulley Type (3:1)	ETI/PSI/48 A(9/85) with A&C slip No.1 of 11/87.	
27	Control and relay panel incorporating static type relays	ETI/PSI/65 (1/97), April, 02	2

Sl.No.	TITLE OF SPECIFICATION	SPECIFICATION No.	Rev.
	for 25 KV AC traction sub station on Indian Railways.		
28	7.5 KV Lightning arrestors with A&C slip No.1 of (2/91).	ETI/PSI/3(8/75)	
29	25 KV Potential transformers.	ETI/PSI/8(10/92)Amend 2(9/93)	
30	25 KV Booster transformers. Oil filled type (100 kVA and 150 kVA (single phase, 50 Hz.)	ETI/PSI/92(8/93) ETI/PSI/98(8/92)Amend.2 (1/94)	
31	Control and Relay Panel incorporating static type relay for 25 kV ac Traction Sub-station and Switch stations.	ETI/PSI/65 (1/97)	2
32	110V, 40AH Lead Acid batteries.	ETI/PSI/21(6/81) with A&C slip No.1 of 7/81.	
33	Battery charger for 110 V battery 40 AH	ETI/PSI/1(6/81)	
34	25 KV dropout fuse switch.	ETI/PSI/14(01/86), Aug. 03	1
35	25 KV single pole, out door SF-6 Gas Interrupters.	ETI/PSI/160(12/94)	
36	25 KV single pole out door Vacuum interrupter	ETI/PSI/161(12/94)	
37	Out door circuit breaker for 25 KV AC traction sub station.	TI/SPC/PSI/CB/002, Jul. 03	-
38	Code of practice for earthing of power supply installation for 25 KV AC 50 Hz single phase traction system.	ETI/PSI/120(2/91), Oct.93	1
39	25KV Composite Type Bracket Insulator (Standarad)with silicon rubber as base material	TI/SPC/OHE/INSCOM/0991	-
40	25KV Composite Type Stay Insulator (Standarad)with silicon rubber as base material	TI/SPC/OHE/INSCOM/0991	-
41	25KV Composite Type 9 Tonne Insulator (Standarad)with silicon rubber as base material	TI/SPC/OHE/INSCOM/0991	-

NOTE:-

1. Please refer ACTM-Vol.II (Part-II) Chapter –II -Section-III for list of “Standard Drawings of Overhead equipment”.
2. Above drawings can be purchased from the office of CEE/CORE/ALD on payment of their costs.
3. Any amendment in specification and drawings subsequent to LOA, if required to be carriedout shall need approval of Sr.DEE/TRD/SC duly considering the financial implication of the same either in upward or downward direction.
4. Drawings with latest revision to be adopted.

ANNEXURE-X**UNIT QUANTITIES OF FINISHED WIRES AND CONDUCTORS FOR VARIOUS WORKS**

Wire/ Conductor	Applicable linear density Kg/m	No. Sch-1	Bare unit requirement per unit of work (m.)	Allowance for erection per unit of work returnable as scrap (m.)	Total requirement per unit of work (col.4&5)	Remarks
1	2	3	4	5	6	7
Contact wire (107 sq.mm)	0.9512	6(a) 6(b) 6(c) 6(d) 10 12(a) 31(g) 12(c)	1005.0 1005.0 1005.0 1005.0 0.5 4.0 3.0 4.0	5 5 5 5 - - - -	1010.0 1010.0 1010.0 1010.0 0.5 4.0 3.0 4.0	
Cadmium copper catenary wire (65 sq.mm)	0.5973	5(a)(ii) 6(a) 10 12(C) 15(a) * 31(g)	1.0 1005.0 0.5 0.65 0.5 3.0	- 5 - - - -	1.0 1010.0 0.5 0.65 0.5 3.0	
19/7/1.25 (160 sq.mm) copper CONDUCTOR (large jumper)	1.504	15(d)	As required	-	As required	
37/2.25 mm (150 sq.mm) copper conductor (feeder wire)	1.3335	7(c)	1010	10	1020.0	
Cadmium copper wire (130)(tail feeder/large span)	1.1692	4(b)(iv) 5(a)(ii)* 6(a)* 6(d) 6(a)(v)	4.5 1.0 As required As required	- - - -	4.5 As required As required As required	
All aluminium conductor (spider)	0.6520	7(a) 7(b)	1010.0 2020.0	10 20	1020.0 2040.0	
Large Jumper(105) (Conventional /Tramway) Large Jumper 105 sq.mm)	0.982	10 15(a)(i)*	4.0/1.25 6.0	- -	4.0/1.25 6.0	
Cadmium copper bridle wire	0.2187	6(c)	8.5	-	8.5 per bracket	
Small jumper (50 sq.mm)	0.4352	4(b)(i) 4(b)(ii) (iii) &(iv) 6(a) 10 +15(a)	4.5 4.5 6.0 1.6 1.6	- - - - -	4.5 4.5 6.0 1.6 1.6	
Dropper wire (5mm)	0.1746	5(b) 5(c) 6(a)&(d)12 (a)&(d) 12(b) 31(a) 31(g)	1.5 1.5 180.0 5.0 6.0 10.0 10.0	- - 20 - - 2 2	1.5 1.5 200.0 5.0 6.0 12.0 12.0	

Wire/ Conductor	Applicable linear density Kg/m	No. Sch-1	Bare unit requirement per unit of work (m.)	Allowance for erection per unit of work returnable as scrap (m.)	Total requirement per unit of work (col.4&5)	Remarks
1	2	3	4	5	6	7
		6(c)	As required			
Dropper wire (7mm)	0.341	4(a)(I) 4(a)(v) 12(c)	1.8 1.8 0.80	0.2 0.2 -	2.0 2.0 0.80	
19/2.1(65 sq.mm) PVC catenary wire	-	15(c) 15(e)	AS required	-	As required	
19/2.29mm al alloy catenary	0.320	6(d)	1005	10	1015	

*** see note 4**

NOTE :

- Col.4 of the above table indicates the bare unit requirement of the various types of wire and conductors for various items of schedule-1. This concludes allowance for sag wherever required.
- Col.5 of the above table indicates the permissible allowance for the erection which should be left over with the contractor and should be returned to the purchaser in the form of scrap on completion of work incase these items are supplied by the purchaser. Such working allowance has been indicated on the assumption that all wire and conductors shall be made available in tailor made lengths as shall be indicated by the contractor to suit individual employment and, further, that the actual supplies shall be made in the serial order as will be indicated by the contractor. Should the purchaser be unable to supply the conductor as per above on account of which drums of a length longer than the ones desired by the contractor shall have to be erected, then such, extra length as shall result from the difference of the length of the drums actually employed and length of the drums ordered by the contractor shall be considered over and above the quantities admitted as allowances for section under column 5. Such extra length shall, in addition, be considered and shall be returned to the purchaser in the form of scrap.
- Col.6 of the above table indicates the total quantities of wires and conductors to be supplied to the contractor by the purchaser, free of cost incase these items are made railway supply (annexure IV). Such quantities do not take into account extra quantities which may be used on account of note 2 above and quantities damaged which shall be allowed for over and above the quantities indicated in Cl.6.
- Whenever cadmium copper wire (130) is required against 5(a) (ii), the quantity of cadmium copper wire (65) against this will be correspondingly reduced whether the jumper wire is supplied by the purchaser or the contractor.
- When copper wire (130) is required against 6(a), the quantities of cadmium copper wire (65) and contact wire (107) against this will be correspondingly reduced whether the jumper wire is supplied by the purchaser or the contractor.
- Whenever antitheft jumper is provided against 15(a), the length of jumper used shall be calculated depending on the setting distance of the anchor structure.
- Whenever large jumper(105) is employed against 15(a), the requirement of cadmium copper wire (65) shown against this will not be permissible and vice-versa.
- Whenever anti-creep is of the boom anchor type, catenary (cadmium copper) wire against 15(a) shall be 2 meters instead of 0.5 meters.
- The above unit requirement of quantities is for preparing utilisation statement of Non-SOR (Schedule-B) items payment to the extent of quantity used in SORs (Schedule-A) as erection.

LIST OF ADDRESSES

ADDRESSES : The list of addresses, to which correspondence, documents and other matters relating to the contract, should be sent is as under :-

i) For all Policy, Contractual and Commercial matters :-

- 1) The Principal Chief Electrical Engineer, S.C RAILWAY, Secunderabad - 500 071

ii) For Security Deposit and performance guarantee:

1. The Senior Divisional Electrical Engineer, Traction Distribution (Secunderabad Division) of South Central Railway

iii) For matters relating to particular design and working drawing :-

- 1) The Senior Divisional Electrical Engineer, Traction Distribution (Secunderabad Division) of South Central Railway

iv) For matters relating to basic design and drawings for fittings, components equipments and proto type tests :-

- 1) The Director General (TI), Research Designs & Standard Organization, Manak Nagar, Lucknow - 226001.

- 2) Principal Chief Electrical Engineer, Indian Railways (CORE)/Allahabad.

v) Matters relating to progressing of field work, scheduling of quantities and submission of bills :-

- 1) The Senior Divisional Electrical Engineer, Traction Distribution (Secunderabad Division) of South Central Railway
- 2) Concerned Assistant Divisional Electrical Engineer, Traction Distribution (Secunderabad Division) of South Central Railway

vi) CLARIFICATIONS :

Any clarification required by the Tenderer may be obtained from the "Senior Divisional Electrical Engineer, Traction Distribution (Secunderabad Division) of South Central Railway"

vii) For matters pertaining to issue of materials on loan to contractor :

Senior Divisional Electrical Engineer, Traction Distribution (Secunderabad Division) of South Central Railway.