

SCHEDULE OF WORK QUANTITY AND RATES								
SCHEDULE			3	Tender No :		EL-TRD-TENDER-25-26-35R		
Name of Work			OHE modification work and other allied work in connection with Ranoli - Bajwa connecting dead ends of both stations (CP:51-52)					
IRPSM ID				15061625355004				
S N	Description	Qty.	Unit	Unit Rate		Total Rate		Total
				Supply	Erection	Supply	Erection	
1	Supply of fabricated / rolled GI steel structures & SPS	155	MT	133967	0	20764885	0	20764885
2	Erection of fabricated / rolled GI steel structures & SPS	155	MT	0	13908	0	2155740	2155740
3	Digging, casting, grouting of concrete foundation including supply of material.	1750	Cu.M	0	7377	0	12909750	12909750
4	Supply of conventional cantilever assembly including 25kv LCP insulator	360	Nos.	26214	0	9437040	0	9437040
5	Erection of conventional cantilever assembly including 25kv LCP insulator	360	Nos.	0	3460	0	1245600	1245600
6	Supply of conventional type regulating equipment	10	Nos.	51507	0	515070	0	515070
7	Erection of conventional type regulating equipment	14	Nos.	0	15809	0	221326	221326
8	Supply of material for Fixed Termination Anchor with insulator	10	Nos.	12227	0	122270	0	122270
9	Erection of material for Fixed Termination Anchor with insulator	10	Nos.	0	2299	0	22990	22990
10	Supply of Guy Rod assembly complete	35	Nos.	11062	0	387170	0	387170
11	Erection of Guy Rod assembly complete	35	Nos.	0	2318	0	81130	81130
12	Supply of cut-in/9 Tonne Insulator	54	Nos.	5084	0	274536	0	274536
13	Erection of cut-in/9 Tonne Insulator	54	Nos.	0	1041	0	56214	56214
14	Supply of suspension insulator including suspension clamp, single clevis double strap etc.	45	SET	16346	0	735570	0	735570
15	Erection of suspension insulator including suspension clamp, single clevis double strap etc.	45	SET	0	1950	0	87750	87750
16	Supply of jumper and its fittings	16	Nos.	8996	0	143936	0	143936
17	Erection of jumper and its fittings	16	Nos.	0	1946	0	31136	31136
					Total			49192113

S N	Description	Qty.	Unit	Unit Rate		Total Rate		Total
				Supply	Erection	Supply	Erection	
18	Supply of section insulator assembly conventional type complete with insulator and related component	8	Nos.	50314	0	402512	0	402512
19	Erection of section insulator assembly conventional type complete with insulator and related component	8	Nos.	0	10384	0	83072	83072
20	Supply of copper anticreep wire arrangement for conventional OHE with insulator	12	Nos.	39788	0	477456	0	477456
21	Erection of copper anticreep wire arrangement for conventional OHE with insulator	8	Nos.	0	13502	0	108016	108016
22	Erection of conventional overhead equipment including supply of droppers, clips etc.	3.5	TKM	0	219108	0	766878	766878
23	Supply of new droppers complete with clips etc for the new span for modification and shifting of OHE to new structure/cantilever	90	Nos.	4805	0	432450	0	432450
24	Modification and shifting of OHE to new/another structure/cantilever, removal of old droppers, catenary and contact wire etc. if any, erection of contact and catenary wire and S & E of new droppers complete with clips etc. for the new span.	90	Nos.	0	4140	0	372600	372600
25	Transfer of OHE from one mast/support to another with adjustment of droppers if any.	20	Nos.	0	5261	0	105220	105220
26	Splicing and extension of anchored OHE	10	Nos.	0	7894	0	78940	78940
27	Supply of retro-reflective structure number plate	150	Nos.	943	0	141450	0	141450
28	Erection of retro-reflective structure number plate	150	Nos.	0	113	0	16950	16950
29	Supply of bonds of various types	2000	Mtr.	335	0	670000	0	670000
30	Erection of bonds of various types	2000	Mtr.	0	61	0	122000	122000
31	Supply of material for earthing station	15	Nos.	4448	0	66720	0	66720
32	Erection of material for earthing station	15	Nos.	0	1511	0	22665	22665
33	Supply of caution board	15	Nos.	1283	0	19245	0	19245
34	Erection of caution board	15	Nos.	0	174	0	2610	2610
					Total			3888784

S N	Description	Qty.	Unit	Unit Rate		Total Rate		Total
				Supply	Erection	Supply	Erection	
35	Survey, design and preparation of OHE layout plan and SED	10	TKM	0	13358	0	133580	133580
36	Preparation (S&E) of sectioning diagram (SWR) board	4	Nos.	0	5222	0	20888	20888
37	Dismantling of feeder wire and reerection of feeder	1200	Mtr.	0	326	0	391200	391200
38	Breaking of RCC foundation	25	Cu.M	0	4617	0	115425	115425
39	Transportation of released material	90	MT	0	2974	0	267660	267660
40	Dismantling of OHE wires - Contact, Catenary, Droppers, Clip etc.	1.26	TKM	0	46029	0	57996.54	57996.54
41	Dismantling of Section Insulators	3	Nos.	0	4195	0	12585	12585
42	Dismantling of cantilever assembly Complete	55	Nos.	0	1554	0	85470	85470
43	Dismantling of Regulating equipment Complete	7	Nos.	0	8786	0	61502	61502
44	Dismantling of Guy rod and termination	8	Nos.	0	1095	0	8760	8760
45	Dismantling of anti-creep complete	8	Nos.	0	1751	0	14008	14008
46	Dismantling of Single Pole/Double Pole Isolator	3	Nos.	0	4581	0	13743	13743
47	Supply of 25 kV SP Single Pole isolator with jumpering arrangement	3	Nos.	72583	0	217749	0	217749
48	Erection of 25 kV SP Single Pole isolator with jumpering arrangement	3	Nos.	0	5931	0	17793	17793
49	Dismantling of mast by cutting	50	Nos.	0	4019	0	200950	200950
50	Dismantling of TTC by cutting	5	Nos.	0	7139	0	35695	35695
51	Dismantling of Portal structure	7	Nos.	0	9286	0	65002	65002
52	Erection of 130sq.mm copper large span wire	900	Mtr.	0	93	0	83700	83700
53	Supply of 18mm bus bar with terminal connector	60	Mtr.	2310	0	138600	0	138600
54	Erection of 18mm bus bar with terminal connector	60	Mtr.	0	387	0	23220	23220
55	Erection of 107 sq.mm contact wire	0.26	TKM	0	92574	0	24069.24	24069.24
56	Erection of Catenary wire	0.26	TKM	0	76291	0	19835.66	19835.66
57	Dismantling of DA/CL Chair	12	Nos.	0	2451	0	29412	29412

Total	2038843
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S N	Description	Qty.	Unit	Unit Rate		Total Rate		Total
				Supply	Erection	Supply	Erection	
58	Supply of 25 kV Double Pole isolator with jumpering arrangement	4	SET	88012	0	352048	0	352048
59	Erection of 25 kV Double Pole isolator with jumpering arrangement	4	SET	0	8930	0	35720	35720
Total								387768

Sheet 1	49192113			
Sheet 2	3888784	Sheet -4	387768	
Sheet 3	2038843.4	Grand Total	55507508.44	

Notes:

Items details shall be read in conjunction with explanatory note of schedule of tender for respective items.

EXPLANATORY NOTE FOR SCHEDULE OF WORK (QUANTITIES/RATES)

- 1 Items details in the Schedule of Quantity and rates shall be read in conjunction with explanatory note of schedule of tender for respective items.
- 2 All items of provision mentioned in SOR covers Design, Manufacture, Supply of materials, Erection, Testing and commissioning as required including small parts such as bolts, nuts, lock nuts, washers etc.
- 3 Basic Quantities and component of material required making up a unit of work for items mentioned in the explanatory notes are indicated for guidance purpose only. It is the sole responsibility of the contractor to supply the system as per design and therefore he shall work out the exact quantities of component required for completing the work and satisfactory operation of the system.
- 4 All the equipment and materials to be supplied by the Contractor against various schedule items should confirm to RDSO's / CORE's/CEE W.RLY's/I.S. specification and drawings. Material should be procured from sources approved by RDSO/CORE/CEE-W.Rly.Where such list is not available decision of the engineer in-charge is final and acceptable.
- 5 Contractor should note that all specifications as per the latest amendments to RDSO's/CORE/W.Rly./IS and other relevant standard specifications shall be applicable unless specified otherwise.
- 6 The Contractor shall arrange all necessary tools, equipment's, instruments and other facilities for execution liaison, checks and tests and commissioning as specified and decided by The engineer in-charge.
- 7 Testing and Commissioning: The successful tenderer shall demonstrate various efficiency and other related parameters as specified in the specification but not limited to during testing and commissioning validated with calculations and / or software as desired by the representative of the Electrical Engineer.

Section -2		SPECIFIC TO THE ITEMS OF SCHEDULE OF QUANTITY AND RATES	
Schedule	3	Tender No :	EL-TRD-TENDER-25-26-35R
Name of Work	OHE modification work and other allied work in connection with Ranoli - Bajwa connecting dead ends of both stations (CP:51-52)		

Item	DESCRIPTION
1	Supply of fabricated / rolled GI steel structures & SPS
Explanation	<p>The price shall include the supply of traction main masts of OHE comprising rolled, broad flanged beams, fabricated K series, B series, portal upright, boom pieces & associated fittings, D.A., extension chairs etc.</p> <p>In case, required size of channels are not available as per approved drawing, higher size of channels can be used with approval of Sr. DEE/TRD, Western Railway, Pratapnagar, Vadodara and payment as per actual black weight will be paid.</p> <p>Galvanization thickness shall be as per Railway specification No. ETI/OHE/13(4/84) with A & C slip No. 1-3 or latest with galvanization thickness of 1000 gram per sq. meter and steel will confirm IS-226-62 Gr. A (1984) latest and IS 808 1989 or its latest version for steel</p> <p>However in case the unit sectional weight of any member indicated in RDSO drawing is not in conformity with the unit sectional weight as per the latest IS specification the weight of the fabricated steel work shall be calculated on the basis of latest IS specification and the same will be considered for payment for the nonstandard fabricated steel work, the calculated weight to be considered for payment under this item shall be included in the relevant drawing based on latest IS sectional weight at the time of submitting the designs for approval of the Sr. DEE/TRD, Western Railway, Pratapnagar, Vadodara.</p> <p>There will be no addition for increased weight due to galvanizing or painting or reduction for holes or screw cut.</p> <p>The price shall also cover supply of galvanized small steel parts as well as fasteners, nuts and bolts etc. for different type of masts, portals, DA, isolator, boom etc. confirming to the relevant RDSO/CORE drawings. The material to be procured from the RDSO/CORE approved sources.</p>
2	Erection of fabricated / rolled GI steel structures & SPS
Explanation	<p>The price shall include erection, alignment and setting before grouting of traction main masts of OHE comprising rolled, broad flanged beams, fabricated K series, B series, portal upright, boom pieces & associated fittings, D.A., extension chairs etc.</p> <p>The price shall cover cost of fabrication, erection, alignment and setting before grouting of individual tractions masts/structure. The prices shall also include the cost of stenciling of location number, height of contact wire, implantation, R.L. etc. on masts/portal uprights in the manner as directed by supervisor incharge of railway.</p> <p>The price shall also include the straightening of masts/portal uprights etc. bent during transit and cutting of masts/portal uprights to suit the site condition.</p> <p>For standard fabrication of steel work or structures for which RDSO/CORE approved drawing are available, the black steel weight of steel work as specified in RDSO/CORE drawing, shall be considered for payment.</p> <p>Galvanization damaged during transportation/carting will be touchup with cold ZINC paints by tenderer.</p> <p>As erected OHE structure namely Mast, TTC, Portal which are newly erected, the SED/AED of such location are to be prepared in Auto Cad and submitted to this office in original tracing and five set hard copy</p> <p>The price shall also cover erection of galvanized small steel parts as well as fasteners, nuts and bolts etc for different type of masts, portals, DA, isolator, boom confirming to the relevant RDSO/CORE drawings. This activity is to be done under power block.</p>

3	Digging, casting, grouting of concrete foundation including supply of material.
Explanation	<p>The price shall include all works mentioned in all classes of soil except hard soil, concrete or, masonry/drains/walls and rock. The price shall also include the cost of digging, cement concrete & soil refilling. Cement so procured by the contractor shall be fresh OPC latest to IS codes. The cement manufactured by any one of recognized brand i.e. Ultratech, Gujarat Ambuja, JK Laxmi or Jaypee useful for casting purpose shall be procured.</p> <p>The price shall be same for any shape and size of concrete blocks for foundation, in calculating the individual volume of concrete, fraction of a cubic meter beyond the third decimal shall be rounded off to the next nearest third decimal.</p> <p>The price shall apply for concreting of all foundations for masts, gantries, portals, anchor blocks for guy rods and fencing uprights. For purposes of computation of volume of concrete, the volume of steel work embedded in the foundation block shall be ignored. For purposes of compilation of volume of concrete, the volume of concrete shall include the volume of sand and bitumen in sand core foundation. For purposes of compilation of volume of concrete, the volume of each muff for all masts shall be taken as 0.02 cum., except for masts with balance weights and for column of portal, each head span masts, 2 or 3 track cantilever masts and special fabricated masts for which the volume of muff shall be taken as 0.08 cum. irrespective of the size and shape of muff on a flat basis.</p> <p>Mixture for casting of concrete foundation will be 1:3: 6 and for grouting and mugging shall be 1: 2: 4 Grade of concrete of M-10 for foundation & M-15 for core for Moderate and all foundation concrete work will be done as per IS- 456-1978 or latest. Curing of foundation shall be done by contractor for 28 days. No scroll will be supplied by Railway; contractor will use his scroll. Contractor has to prepare standard cube of size 150x150x150 mm for every 25 cum of foundation cast & same is to be tested in the Govt. approved laboratory as per IS-516/1959 (or Latest) to obtain the result as per IS 456/1978. The test result of cube may be submitted to Railways in duplicate. In case the qty. of concrete is less than 25 cum then at least one cube to be prepared and tested. To make cubicle for OHE structure foundation, digging, earth excavation should be carried out very cautiously so that Electrical/Telecommunication/Signaling cable passing through underground enroute the rail periphery do not get damage.</p>
4	Supply of conventional cantilever assembly including 25kv LCP insulator
Explanation	<p>The price shall cover for supply of material of cantilever/bracket assembly (Conventional type) including ST and BT long creepage path porcelain insulators to be used to hold 25 kV Overhead equipment on traction mast or support on drop arm.</p> <p>The price shall cover supply of parts/components as per arrangement given in RDSO drawing No. ETI/OHE/G/02106 sheet 1 to 3 or latest.</p> <p>The price shall also include supply of all type of fasteners including that of mast top and bottom fittings and SS bolts for ST & BT insulators etc.</p> <p>The price shall include the cost of supply of all components including galvanized steel tube, ST and BT long creepage path porcelain insulator with the required fittings, fasteners etc as per approved plan.</p> <p>(Note: Forge type fittings shall be used instead of MCI wherever approved source(s) are available)</p>

5	Erection of conventional cantilever assembly including 25kv LCP insulator
Explanation	<p>1) The price shall also cover fabrication of the cantilever assembly in accordance to the RDSO's drawing no. ETI/OHE/G/02106 sheet 1 to 3 or latest.</p> <p>2) The price shall cover erection of cantilever/bracket assembly (Conventional type) including ST and BT long creepage path porcelain insulators and items mentioned in 4 to be used to hold 25 kV Overhead equipment on traction mast or support on drop arm.</p> <p>3) The price shall also cover erection of all components excluding small parts steel work like MCC channel, adaptors, clamping angle & backing angle etc. This activity is to be done under power block</p>
6	Supply of conventional type regulating equipment (2000kg)
Explanation	The price shall cover supply of counter weight assembly including 9 Tone adjuster with double strap assembly, and normal/antitheft guide tube assembly with bracket angle and fastener including supply of regulating equipment three-pulley type as per Rly Specification No. TI/SPC/OHE/ATD/0060 (08/2006) with A&C Slip .1 to 3 or latest and stainless steel wire rope as per Rly Specification No. TI/SPC/OHE/WR/1060(06/2006) with A & C No. 1& 2 or latest required for regulating equipment and small parts steel work, if any. The price shall also include to supply anti slipping angle (stiffener) Angle on Anchoring.
7	Erection of conventional type regulating equipment (2000kg)
Explanation	The price shall cover erection of items mentioned in 6 . The price shall also cover adjustment of entire regulating equipment assembly, including anti-falling device, adjust X, Y value and painting of maximum and minimum 'Y' value on the mast. The price shall also include erection of anti-climbing (stiffener) Angle on Anchoring. This activity is to be done under power block. The erection of Regulating Equipment which are in excess of supply will be supplied by Railway or dismantled Regulating Equipment will be used for erection.
8	Supply of material for Fixed Termination Anchor with insulator
Explanation	<p>The price shall include supply of Fix Termination Anchor arrangement and required nut and bolts for standard arrangement as per Drg. No. RE/33/G/01401 or latest including insulator.</p> <p>(Note: Forged type fittings shall be used instead of MCI, wherever approved source(s) are available)</p>
9	Erection of material for Fixed Termination Anchor with insulator
Explanation	The price shall include Erection of Fix Termination Anchor arrangement and required nut and bolts for standard arrangement as per Drg. No. RE/33/G/01401 or latest. The price shall also include erection of all the component included in item no 8. This activity is to be done under power block
10	Supply of guy rod assembly
Explanation	<p>The price shall cover supply of guy rod assembly of various lengths for traction masts complete with mast guy rod fittings, guy rod with adjustments and parts to be grouted etc in the anchor block including SPS as per latest RDSO drawing.</p> <p>The price shall not include the cost of supply and erection of dwarf masts.</p>
11	Erection of guy rod assembly
Explanation	The price shall cover erection of guy rod assembly of various lengths for traction masts complete with mast guy rod fittings, guy rod with adjustments and parts to be grouted etc in the anchor block including SPS as per latest RDSO drawing.
12	Supply of 9tonne/Cut in insulator

Explanation	The price shall include supply of porcelain long creepage path 9-Tone Insulator from approved supplier of CORE/RDSO of specifications No. TI/SPC/OHE/INS/0070(04/2007) or latest.
13	Erection of 9tonne/Cut in insulator
Explanation	The price shall cover erection of solid core 9 tonne insulator as mentioned in item no 12. This activity is to be done under power block.
14	Supply of suspension insulator including suspension clamp
Explanation	<p>The price shall cover supply of following items per set as per RDSO drawing no. TI/DRG/OHE/FEEDER/RDSO/00002/20/0 or any latest:-</p> <ol style="list-style-type: none"> 1.Suspension clamp- 01 no. 2.Suspension Insulator – 01no 3.18mm Single clevis Assembly-01 no. 4.Snap Headed pin Ø 20.60 mm Long with plane washer& split pin 4 X 40- 01 no. 5.Super Mast cross Arm ISA 65 X 65 X 6- 02 nos. 6.M16 Bolt 50/38 with Lock nut & plane washer- 12 nos. 7.Batten Plate (type-II)- 01 nos. 8.Suspension support- 01 no. 9.Any other required Bolts, Nuts, Fasteners etc <p>Apart from above any other component required to complete the work of feeder suspension assembly on mast, portal, TTC etc.</p>
15	Erection of suspension insulator including suspension clamp
Explanation	<p>The price shall cover erection of item at Schedule No.14 per set as per RDSO drawing no. TI/DRG/OHE/FEEDER/RDSO/00002/20/0 or any latest.</p> <p>Note: This activity is to be carried out under power block.</p>
16	Supply of 160 sq .mm copper jumper wire with PG clamp and related fittings
Explanation	This includes the price of supply of 160 sq mm stranded copper jumper wire (around 5.0 mtrs). as per RDSO spec. No. ETI/OHE/3(2/94) with A & C slip No. 1 or latest with fittings including parallel clamps 1030-3 and 1050-3 complete with fasteners etc.
17	Erection of copper jumper wire with PG clamp and related fittings
Explanation	This includes the price of erection of 160 sq mm stranded copper jumper wire with fittings including parallel clamps 1030-3 & 1050-3 complete with fasteners etc. This activity is to be done under power block
18	Supply of section insulator assembly conventional type complete with insulator and related component
Explanation	This includes the price of supply of all components of section insulator assembly including runners, cross beam as required for a standard section insulator assembly (serving both the over head equipment conductors) all terminal fittings for conductors and the section insulator assembly (section insulator RI No. 6110) as per latest RDSO specification including all required fittings. The price shall include supply of 9 Tonne insulator along with ending cone with required fittings.
19	Erection of section insulator assembly conventional type complete with insulator and related component
Explanation	This includes the price of erection of all components of section insulator assembly including runners, cross beam as required for a standard section insulator assembly (serving both the over head equipment conductors) all terminal fittings for conductors and the section insulator assembly as mentioned in Item No.18.Before erection at site, Insulators testing will be done as per SMI No.TI/MI/0042 (12/2008) Rev. 0 or latest. This activity is to be done under power block.

20	Supply of copper anticreep wire for conventional OHE with insulator.	
Explanation	The price shall cover supply of new copper anticreep wire (Catenary Wire 65 Sqmm) along with long creepage 9-tonne porcelain insulator with complete required termination arrangement & other fittings etc. to carry out above work.	
21	Erection of copper anticreep wire for conventional OHE with insulator	
Explanation	The price shall cover erection of new copper anticreep wire (Catenary Wire 65 Sqmm) along with long creepage 9-tonne porcelain insulator with complete required termination arrangement & other fittings etc. Before erection on lines each and every insulator shall be tested as per SMI No.TI/MI/0042 (12/2008) Rev. 0 or latest This activity is to be done under power block.	
22	Erection of conventional overhead equipment including supply of droppers, clip etc.	
Explanation	The price shall include erection of Overhead Equipment conventional type (contact, catenary, droppers) with adjustment of OHE as per plan and site requirement. The price shall also include supply of new dropper, clips other fittings etc to complete the whole OHE erection work. Contact and Catenary wire will be supplied by Railway. This activity is to be done under power block	
23	Supply of new droppers complete with clips etc. for the new span for modification and shifting of OHE to new structure/cantilever	
Explanation	The price shall cover for supply of new droppers of each span of conventional OHE, clips, other fittings etc and any other component required in shifting of OHE to new structure.	
24	Modification and shifting of OHE to new structure/cantilever, removal of old droppers, catenary and contact wire etc if any, erection of contact and catenary wire and erection of new droppers complete with clips etc for the new span	
Explanation	The price shall include for modification and shifting of OHE to new structure including removal of old droppers, from catenary, contact wire	
	For Main Line	OHE profile adjustment to make OHE fit for High Speed i.e. 2400kgf Tension
	The price shall cover fabrication and erection of copper dropper wire as per as per RDSO drawing no. TI/DRG/OHE/DROP/00001 TO 00007/18/0 or latest and as per site requirement. The price shall cover erection of Contact and Catenary wire dropper clip with all its necessary fittings & fasteners as per RDSO drawing suitable for High Speed 2400kgf OHE. This activity is to be done in power block The price shall cover changing of existing OHE pre-sag from 100mm (1.4mm/m) to 50mm (0.8mm/m). The price shall cover Reduction of Gradient of existing OHE from 3mm/m to 2mm/m & Relative gradient from 1.5mm/m to 1mm/m. At obligatory mast vertical gap between main line and turn out contact wire is to be maintained between 50 to 60mm. At 5m distance from obligatory mast, gap is to be maintained at 50mm. At 10m distance from obligatory mast, gap is to be maintained between 40mm to 50mm. From main line to loop line "take off" may be maintained in between 720 to 750mm, contact wire height to be adjusted/modified as per existing height. All these adjustments are required to be done in OHE of Main line and connected cross over and turnout to make High Speed 2400kgf OHE. This activity is to be done under power block. Contact and Catenary wire will be supplied by railways wherever required.	
	For other line	OHE profile adjustment as per conventional OHE profile i.e. 2000kgf Tension

	<p>The price shall include for modification and shifting of OHE to new structure including removal of old droppers, from catenary, contact wire.</p> <p>The price shall cover fabrication and erection of copper dropper wire and erection of Contact, Catenary (existing or new), clips, other fittings etc for the whole span suitable for conventional 2000kgf OHE. This activity is to be done under power block. Contact and Catenary wire will be supplied by railways wherever required</p>
25	Transfer of OHE from one mast/support to another with adjustment of droppers if any
Explanation	The price shall include for transfer of OHE from one mast/support to another with adjustment of droppers as per plan and site requirement. This activity is to be done under power block.
26	Splicing and extension of an anchored overhead equipment
Explanation	The price shall include dismantling of the existing terminated OHE from anchor and the same OHE is to be extended and terminated to the new structure by splicing the contact and catenary wire (as per plan and site condition). The price shall also include the supply of required related fittings to complete the work. This activity is to be done under power block
27	Supply of retro -reflective structure number plates
Explanation	The price shall include supply of Retro-reflective structure number plates confirming to RDSO's spec. No. ETI/OHE/33 A (12/97) ,Rev. 8(11/2012) or latest and drawing No. ETI/OHE/ P/7503 Rev. E or latest. The price also includes supply of nuts, bolts, clamps, nylon washers for fixing the number plates and clamps suitable for structures of the locations. The number plate background i.e. traffic blue colour will be non-reflective type with no boarders. Only the letters and figures will be retro-reflective type in deep yellow colour.
28	Erection of retro -reflective structure number plates
Explanation	The price shall include erection of Retro-reflective structure number plates. The price also includes erection of nuts, bolts, clamps, nylon washers for fixing the number plates and clamps suitable for structures of the locations. The list of locations where number plates are required to be provided will be given to successful tenderer at the time of acceptance of the order. All the existing structure number plates are to be first removed along-with fasteners, clamp etc. and at the same place new number plate along-with new fasteners, clamps etc. shall be provided or the plates will be provided at new locations as the case may be.
29	Supply of various types of traction bonds
Explanation	The price shall also cover supply of 40 x 6 mm GI flat with all nut, bolts, washer, lock nut and any other fasteners required for completing the bonding connection arrangement as per site bonding requirement. All the nut, bolts, washer, lock nut and any other fasteners required to be procured from RDSO/CORE approved supplier
30	Erection of various types of traction bonds
Explanation	The price shall include fabrication and erection of various types of traction bonds with fasteners. The bonds shall be made with GI flat size 40 x 6 mm and fabricated in accordance to the respective drawings for the type of bonds and erection of the same with 16 x 50 x 38 mm size GI fasteners at both ends and insulation sleeves to be provided wherever required, shaping of flats, drilling of holes size 17.5 mm (on rail & flats) and chamfering of holes. The price shall also cover removing of the existing bonds along with fasteners wherever replacement is involved.
31	Supply of earthing station

Explanation	The price shall include supply of material for pipe earthing, connecting bonds as per Drawing. No.ETI/OHE/P/7020 or latest with modification. The price shall also cover supply of 40 x 6 mm GI flat as well as all nut bolts necessary for earthing connection.
32	Erection of earthing station
Explanation	The price shall also include erection of material for pipe earthing, connecting bonds. The price also includes digging/excavation of Earth, treatment of earth electrode by charcoal & salt, bonding with supply, Fabrication (shaping) and providing of 40 x 6 mm GI flat for earthing connection with making holes & bolting (Galvanized fasteners/bolts) for earth connections between earthing station & structure (mast)/equipment and from earth pit to Rail. The price shall include earth pit duly white wash & painting of earth value on the same.
33	Supply of various types of caution boards
Explanation	The price shall include Supply of 25 KV caution board as per RDSO drawing. The price also includes supply of nuts, bolts, clamps, nylon washers for fixing the caution board and clamps suitable for structures of the locations.
34	Erection of various types of caution boards
Explanation	The price shall include erection of 25 KV caution board as per RDSO drawing. The price also includes erection of nuts, bolts, clamps, nylon washers for fixing the caution board and clamps suitable for structures of the locations
35	Survey, design and preparation of OHE layout plan and SED
Explanation	<p>The price shall include the survey at site in detail by taking complete measurement of the track and its turn out and cross over. Designing the OHE as per ACTM and preparation of OHE layout plan and SED for the purpose of erection of new/alteration of existing OHE. Both the copy of layout as well as SED has to be given to this office in five (5) sets. After completion of the work the entire OHE (new and existing) layout plan as well as SED should be prepared /corrected as erected at site. Both the layout as well as SED of each location should be handed over to this office in original tracing and five copies of ammonia print.</p> <p>The price shall also include preparation of layout plan as well as SED of complete OHE (existing and new) in Auto Cad. The soft copy of the same to be installed in two PC of this office.</p>
36	Preparation of station working rule diagram and working instruction
Explanation	<p>The price shall cover preparation of Station working rule diagram and preparation of station working instructions. The station working instructions and rule diagram to be got approved on a tracing paper and six sets of the instructions to be supplied in print.</p> <p>The price shall also cover preparation of Sectioning Diagram of Station as per design and printing approved by concerned SSE and erecting the same at suitable location in the station master room or at any location nominated by Railway engineer.</p>
37	Dismantling of feeder wire and reerection of feeder wire
Explanation	The price shall cover dismantling of Feeder wire provided for 2x25kv system with all fittings and fasteners. The dismantled item is to be re-erected at another location as per site plan . This activity is to be done under power block.
38	Breaking of RCC foundation
Explanation	The price shall include breaking of the existing RCC foundation in the premises of the work site. All the debris are to be removed and transported at proper place in consultation with the concerned supervisor incharge. The area after removal of debris should be filled with earth up to ground level.

39	Transportation of released material
Explanation	The price shall include transportation of released material released under various dismantling schedule from work site to Vishwamitri depot or Vadodara periphery for DS8 purpose. The price shall also include loading of material from work site and unloading at OHE depot at proper place as directed by Railway representative.
40	Dismantling of OHE wires – contact, catenary and droppers
Explanation	The price shall cover the dismantling of contact and catenary wire, droppers, jumpers & other fittings if any. The dismantled item is to be transported near Vadodara periphery for DS8 purpose at a suitable place as directed by Railway representative. This activity is to be done under power block. The cost of transportation of released material shall be covered under item :Transportation of released material .
41	Dismantling of section insulator assembly
Explanation	The price shall include dismantling of existing section insulator assembly complete with insulator from site. The dismantled section insulator assembly are to be transported near Vadodara periphery for DS8 purpose at a suitable place as directed by Railway representative. The price of transportation of released material is covered under item : Transportation of Released material. This activity is to be done under power block.
42	Dismantling of Cantilever assembly complete
Explanation	The price shall include dismantling of existing complete cantilever assembly erected on the infringe OHE structure. While dismantling, care should be taken so that no ST/BT insulator is broken as same are to be reused at new locations. The dismantled cantilever structures are to be transported near Vadodara periphery for DS8 purpose at a suitable place as directed by Railway representative. The price of transportation of released material is covered under item:Transportation of Released material. This activity is to be done under power block.
43	Dismantling of RE
Explanation	The price shall cover Dismantling of counter weight assembly including 9 Tonne adjuster with double strap assembly, and normal/antitheft guide tube assembly including regulating equipment three-pulley, and stainless-steel wire rope with small parts steel etc. The dismantled Regulating Equipment are to be transported for erection purpose if required at a suitable place and remaining dismantled Regulating Equipment are to be transported near Vadodara periphery for DS8 purpose as directed by Railway representative . The erection cost of re-erection of dismantled RE will be dealt in Item ; Erection of Regulating Equipment. The price of transportation of released material is covered under item no :Transportation of Released material. This activity is to be done under power block.
44	Dismantling of guy rod and termination
Explanation	The price shall include removal of existing guy rod assembly complete with related fittings. The dismantled Guy rod and termination are to be transported near Vadodara periphery for DS8 purpose at a suitable place as directed by Railway representative. The price of transportation of released material is covered under item: Transportation of Released material.
45	Dismantling of anti-creep complete
Explanation	The price shall include dismantling of existing anti creep arrangement complete with insulator from site. The dismantled anti-creep are to be transported near Vadodara periphery for DS8 purpose at a suitable place as directed by Railway representative. The price of transportation of released material is covered under item : Transportation of Released material. This activity is to be done under power block.

46	Dismantling of 25kv SP/DP isolator
Explanation	The price shall cover cost of dismantling of all type of parts of Single Pole Isolator/Double Pole Isolator completely including dismantling of all arrangements, mast fitting and other associated small parts steel work and the same shall be handed over to Railways. Bus – bar along with pedestal insulator provided on Portal/TTC boom is also to be removed safely without any damage and the same is to be used at new nearby location. The dismantled material are to be transported near Vadodara periphery for DS8 purpose at a suitable place as directed by Railway representative. The cost of transportation of released material shall be covered under item :Transportation of Released material.. This activity is to be carried out under power block.
47	Supply of 25kV Single Pole isolator with jumpering arrangement
Explanation	The price shall cover supply of 25 kV AC single pole isolator 1600 Amp capacity, as per latest RDSO specification complete with arcing horns, operating rods, operating rod guides, operating rod insulator, mounting base, integral locks & pad lock ,25kv solid core post insulator . The price shall also cover supply of number plate of approved design for each isolator. The price of supply of small parts steel work completes with bolts and nuts etc for support of isolator and operating rods on gantries/masts and insulator to support jumper and jumper connectors. The price shall cover supply of required length of Jumper wire, PG clamps and connectors etc.
48	Erection of 25kV Single Pole isolator
Explanation	The price shall cover erection of 25 kV AC single pole isolator 1600 Amp cap, complete with arcing horns, operating rods, operating rod guides, operating rod insulator, mounting base, integral locks & pad lock 25kv solid core insulator. The price shall also cover erection of number plate of approved design for each isolator. The price also includes erection of small parts steel work complete with bolts and nuts etc for support of isolator and operating rods on gantries/masts and insulator to support jumper and jumper connectors. The price shall cover erection of Jumpers (Required to connect the OHE of both ends with isolators), PG clamps and connectors etc. This activity is to be done under power block.
49	Dismantling of OHE mast structure by cutting
Explanation	The price shall include the dismantling of the abandoned masts to be cut by gas cutter and stacked such dismantled mast at suitable place near site. Cutting of the masts shall be undertaken in such a way that the masts is cut at the point below 10 cm from the ground level since the work of cutting of the masts is to be carried out in close vicinity of the running track. The work shall be done under power blocks and ensuring utmost safety precaution during the work shall be the complete responsibility of the contractor. The released mast to be cut again in three pieces. The cut piece of masts and released material shall be removed from the vicinity of the track to a safe site. The dismantled pieces of masts are to be transported near Vadodara periphery for DS8 purpose at a suitable place as directed by Railway representative. The price of transportation of released material is covered under item :Transportation of Released material.
50	Dismantling of TTC complete by cutting

Explanation	The price shall cover the dismantling of TTC boom and upright to be cut by gas cutting below 10 cm from the ground level. Since the work of cutting of the TTC upright is to be carried out in close vicinity of the running track, the work should be done under power blocks and ensuring at most safety precaution to be observed during the work, shall be the complete responsibility of the contractor. The released materials are to be transported near Vadodara periphery for DS8 purpose at a suitable place as directed by Railway representative. The price of transportation of released material is covered under item :Transportation of Released material.
51	Dismantling of Portal
Explanation	The price shall cover the dismantling of portal boom, both upright to be cut by gas cutting below 10 cm from the ground level. Since the work of cutting of the portal upright is to be carried out in close vicinity of the running track, the work should be done under power blocks and ensuring at most safety precaution to be observed during the work, shall be the complete responsibility of the contractor. The released material shall be removed from the vicinity of the track to a safe site. The dismantled portal structures are to be transported near Vadodara periphery for DS8 purpose at a suitable place as directed by Railway representative. The price of transportation of released material is covered under item :Transportation of Released material.
52	Erection of 130sq.mm copper large span wire
Explanation	This includes the price of erection of 130 sq mm stranded cadmium copper wire with fittings. This activity is to be done under power block.The large span wire will be supplied by Railway.
53	Supply of 18mm copper busbar with terminal connector
Explanation	The price shall cover supply of 18mm dia copper solid bus bar from RDSO/CORE approved supplier and the price shall also include supply of fittings , clamps and fasteners required for erection
54	Erection of 18mm copper busbar with terminal connector
Explanation	The price shall include erection of above item No.53 on TTC Booms or Portal Booms mounted with pedestal insulator. The price shall also include erection of all the fittings required in erection of copper bus bar. This activity is to be done under power block
55	Erection of 107sq mm contact wire
Explanation	The price shall cover erection of 107sq mm contact wire with all the fittings and profile arrangement.
56	Erection of Catenary Wire
Explanation	The price shall cover erection of 65 sq mm contact wire with all the fittings and profile arrangement.
57	Dismantling of DA/CL Chair
Explanation	The price shall include the removal of existing unsupported Drop Arm/CL Chair provided on unused Portal/TTC. The dismantled items are to be transported near Vadodara periphery for DS8 purpose at a suitable place as directed by Railway representative. This activity is to be done under power block. The price of transportation of released material is covered under item: Transportation of Released material.
58	Supply of 25 kV Double Pole isolator with jumpering arrangement

Explanation	The price shall cover supply of complete Double pole Isolator assembly type II including insulators, SPS, connectors, with Jumper ,bus bars and fasteners etc of Rated Current: 1600 Amp as per Specification No. TI/SPC/PSI/ISOLTR/0210 (July, 2021) with latest Correction slip. Tenderer shall also supply the Integral lock & pad lock with three keys to protect the opening by miscreants and keys shall be handed over to depot in-charges or his authorized representative.
59	Erection of 25 kV Double Pole isolator with jumpering arrangement
Explanation	The price shall cover erection of complete Double pole Isolator assembly type II including insulators, SPS, connectors, Jumpers. Also, the price shall cover erection of connectors, jumpers, PG clamps etc. shall be covered under this item Where DP isolator is required to be provided on Portal Upright with multiple tracks, bus-bar need to be provided.. This activity is to be carried out under power block.