

SPECIAL CONDITION OF CONTRACT

A. SCHEDULE OF RATE/QTY

Name of Work: OHE work in connection with proposed, (i) PF raising (PF-1, 2) of LNH, BUB, RSWT, MWR station; PF Extension at LNH, FPS station & FOB (6 mtr wide) at LNH, BUB, RSWT station, (ii) PF raising (PF-1, 2) of BDHL, BILA, PCMK, RNW, SFE, MNHA station & FOB (6 mtr wide) at BDHL station in RPC Section, (iii) PF raising (PF-1, 2) of RSH, CRWA, NUA, BWPL, BOTR, NRKE station; PF Extension at CRWA Station & FOB (6 mtr wide) at RSH station, (iv) PF raising (PF-1, 2) & FOB (6 mtr wide) at SRGH, NWH, DOB station; PF extension at JJN Station in SIKR-LHU Section of Jaipur Division.

SN	Item Description	Unit	Qty.	Unit Rate	Cost (in Rs.)
1.	Preparation of design and drawing for Overhead Equipment and verification and modification in plan Inspection by : Consignee Inspection Charges : None	TKM	3.00	20296.91	60890.73
2.	Supply of danger / caution boards Supply of caution boards, unwired turnout boards, engine stop boards, sigma boards etc. and other all similar type of boards. Inspection by : Consignee Inspection Charges : None	Nos.	80.00	1842.70	147416.00
3.	Erection of danger / caution boards Supply of caution boards, unwired turnout boards, engine stop boards, sigma boards etc. and other all similar type of boards. Inspection by : Consignee Inspection Charges : None	Nos.	80.00	206.35	16508.00
4.	Supply of Retro Reflective number plates Inspection by : Consignee Inspection Charges : None	Nos.	25.00	1410.36	35259.00
5.	Erection of Retro Reflective number plates Inspection by : Consignee Inspection Charges : None	Nos.	25.00	75.03	1875.75
6.	Concrete for foundation and plinth in all type of soil incl. hard soil and rock Inspection by : Consignee Inspection Charges : None	CUM	343.00	8395.43	2879632.49
7.	Supply of rolled or fabricated and galvanized steel for traction mast, TTC, Portals (boom & uprights), AT masts, feeder mast, super-masts, bridge masts, steel gantries, supporting structures, Drop arm, SPS etc Inspection by : RITES Inspection Charges : Borne by Railway	MT	54.00	135155.59	7298401.86
8.	Erection, testing & commissioning of rolled or fabricated and galvanized steel for traction mast, TTC, Portals (boom & uprights), AT masts, feeder mast, super-masts, bridge masts, steel gantries, supporting structures, Drop arm, SPS etc Inspection by : Consignee Inspection Charges : None	MT	54.00	10449.38	564266.52
9.	Supply of material for complete Guy rod assembly as per latest RDSO drg., spec & explanatory notes	Nos.	15.00	11910.00	178650.00

	Inspection by: Consignee/RITES based on PO value. Inspection Charges: Borne by Railway for RITES & None for Consignee.				
10.	Erection, testing & commissioning of material for complete Guy rod assembly as per latest RDSO drg., spec & explanatory notes Inspection by : Consignee Inspection Charges : None	Nos.	15.00	1758.49	26377.35
11.	Supply of material for complete Single bracket assembly including ST, BT Insulators as per latest RDSO drg., spec & explanatory notes Inspection by: Consignee/RITES based on PO value. Inspection Charges: Borne by Railway for RITES & None for Consignee.	Nos.	54.00	32440.85	1751805.90
12.	Erection, testing & commissioning of material for complete Single bracket assembly including ST, BT Insulators as per latest RDSO drg., spec & explanatory notes Inspection by : Consignee Inspection Charges : None	Nos.	54.00	2424.64	130930.56
13.	Supply of material of Structure bonds as per latest RDSO drg., spec & explanatory notes Inspection by: Consignee/RITES based on PO value. Inspection Charges: Borne by Railway for RITES & None for Consignee.	Nos.	268.00	1052.44	282053.92
14.	Erection, testing & commissioning of material of Structure bonds as per latest RDSO drg., spec & explanatory notes Inspection by : Consignee Inspection Charges : None	Nos.	268.00	358.22	96002.96
15.	Supply of material for single earth electrode as per latest RDSO drg., spec, explanatory notes & earthing -bonding code. Inspection by: Consignee/RITES based on PO value. Inspection Charges: Borne by Railway for RITES & None for Consignee.	Nos.	12.00	3709.02	44508.24
16.	Erection, testing & commissioning of material for single earth electrode as per latest RDSO drg., spec, explanatory notes & earthing -bonding code. Inspection by : Consignee Inspection Charges : None	Nos.	12.00	1694.44	20333.28
17.	Supply of material for 50 mm x 6 mm MS Flat earth Bus as per latest RDSO drg., spec, explanatory notes & earthing -bonding code. Inspection by: Consignee/RITES based on PO value. Inspection Charges: Borne by Railway for RITES & None for Consignee.	Meter	600.00	249.67	149802.00
18.	Erection, testing & commissioning of material for 50 mm x 6 mm MS Flat earth Bus as per latest RDSO drg., spec, explanatory notes & earthing -bonding code. Inspection by : Consignee Inspection Charges : None	Meter	600.00	83.88	50328.00
19.	Supply of material for complete anti-creep with galvanized steel wire including cut-in	Nos.	14.00	49179.35	688510.90

	insulators and complete termination as per latest RDSO drg., spec & explanatory notes. Inspection by: Consignee/RITES based on PO value. Inspection Charges: Borne by Railway for RITES & None for Consignee.				
20.	Erection, testing & commissioning of material for complete anti-creep with galvanized steel wire including cut-in insulators and complete termination as per latest RDSO drg., spec & explanatory notes. Inspection by : Consignee Inspection Charges : None	Nos.	14.00	4093.62	57310.68
21.	Supply of material for New dropper and re-adjustment of dropper Inspection by: Consignee/RITES based on PO value. Inspection Charges: Borne by Railway for RITES & None for Consignee.	Span	44.00	3806.68	167493.92
22.	Erection, testing & commissioning of material for New dropper and re-adjustment of dropper Inspection by : Consignee Inspection Charges : None	Span	44.00	476.03	20945.32
23.	Provision (Supply, Erection, testing & commissioning of material) of False Catenary under FOB/ROB as per latest RDSO drg., spec & explanatory notes Inspection by: Consignee/RITES based on PO value. Inspection Charges: Borne by Railway for RITES & None for Consignee.	Nos.	24.00	32400.70	777616.80
24.	Supply of material complete for copper jumper wire from AT to OHE with all components as per latest RDSO drg., spec & explanatory notes Inspection by: Consignee/RITES based on PO value. Inspection Charges: Borne by Railway for RITES & None for Consignee.	Nos.	1.00	7176.30	7176.30
25.	Erection, testing & commissioning of material complete for copper jumper wire from AT to OHE with all components as per latest RDSO drg., spec & explanatory notes Inspection by : Consignee Inspection Charges : None	Nos.	1.00	771.97	771.97
26.	Erection, testing & commissioning of material complete for solid core cut in insulator Inspection by : Consignee Inspection Charges : None	Nos.	2.00	972.31	1944.62
27.	Erection, testing & commissioning of material complete for suspension insulator Inspection by : Consignee Inspection Charges : None	Nos.	1.00	700.30	700.30
28.	Supply of material complete for 10kVA 25 kV/240V LT Supply Transformer as per RDSO Spec No - ETI/PSI/15 (08/03) or latest complete with accessories as per latest RDSO drg., spec & explanatory notes Inspection by: Consignee/RITES based on PO value. Inspection Charges: Borne by Railway for RITES & None for Consignee.	Nos.	1.00	96724.17	96724.17

29.	Erection, testing & commissioning of material complete for 10kVA 25 kV/240V LT Supply Transformer as per RDSO Spec No - ETI/PSI/15 (08/03) or latest complete with accessories as per latest RDSO drg., spec & explanatory notes Inspection by : Consignee Inspection Charges : None	Nos.	1.00	5184.24	5184.24
30.	Supply of material complete for 25 KV drop out fuse switch assembly as per RDSO Spec No - ETI/PSI/14(01/86) with A&C slip no. 01 or latest complete with fuse carrier & fuse element as per latest RDSO drg., spec & explanatory notes Inspection by: Consignee/RITES based on PO value. Inspection Charges: Borne by Railway for RITES & None for Consignee.	Nos.	1.00	27076.72	27076.72
31.	Erection, testing & commissioning of material complete for 25 KV drop out fuse switch assembly as per RDSO Spec No - ETI/PSI/14(01/86) with A&C slip no. 01 or latest complete with fuse carrier & fuse element as per latest RDSO drg., spec & explanatory notes Inspection by : Consignee Inspection Charges : None	Nos.	1.00	2380.58	2380.58
32.	Supply of Anti Climbing Device for auxiliary transformer (AT) as per latest RDSO drg., spec & explanatory notes Inspection by: Consignee/RITES based on PO value. Inspection Charges: Borne by Railway for RITES & None for Consignee.	Nos.	1.00	1466.45	1466.45
33.	Erection & commissioning of Anti Climbing Device for auxiliary transformer (AT) as per latest RDSO drg., spec & explanatory notes Inspection by : Consignee Inspection Charges : None	Nos.	1.00	552.84	552.84
34.	Dismantling of existing complete anti-creep assemblies with anti-creep wire, insulators, adjusters etc, and transportation to TRD depot. Inspection by : Consignee Inspection Charges : None	Nos.	14.00	2013.63	28190.82
35.	Dismantling of existing cantilever assembly Inspection by : Consignee Inspection Charges : None	Nos.	54.00	1512.56	81678.24
36.	Dismantling of guy rod with termination. Inspection by : Consignee Inspection Charges : None	Nos.	15.00	1331.46	19971.90
37.	Dismantling of Auxiliary transformer with DO fuse and other components (excluding AT mast) Inspection by : Consignee Inspection Charges : None	Nos.	1.00	5012.82	5012.82
38.	Dismantling of Portal, fabricated steel other than Mast/Upright Inspection by : Consignee Inspection Charges : None	MT	21.50	9365.48	201357.82
39.	Dismantling of Mast / Upright by gas cutting	Nos.	24.00	1274.38	30585.12

	Inspection by : Consignee Inspection Charges : None				
40.	Transportation charges for OHE material Inspection by : Consignee Inspection Charges : None	MT	27.00	7092.97	191510.19
41.	Breaking of Foundation Inspection by : Consignee Inspection Charges : None	Nos.	18.00	3195.17	57513.06
42.	Power Block Charges - As per Annexure-A	L.S.	1.00	1947660.84	1947660.84
COST OF SCHEDULE Work					18154379.18

Annexure-A

Power Block Charges

SN	Description	Unit	Quantity	Unit Rate (Erection)	Amount (Erection)
1.	Erection, testing & commissioning of rolled or fabricated and galvanized steel for traction mast, TTC, Portals (boom & uprights), AT masts, feeder mast, super-masts, bridge masts, steel gantries, supporting structures, Drop arm, SPS etc	MT	54.00	10449.38	564266.52
2.	Erection, testing & commissioning of material for complete Guy rod assembly as per latest RDSO drg., spec & explanatory notes	Nos.	15.00	1758.49	26377.35
3.	Erection, testing & commissioning of material for complete Single bracket assembly including ST, BT Insulators as per latest RDSO drg., spec & explanatory notes	Nos.	54.00	2424.64	130930.56
4.	Erection, testing & commissioning of material for complete anticreep with galvanized steel wire including cut-in insulators and complete termination as per latest RDSO drg., spec & explanatory notes.	Nos.	14.00	4093.62	57310.68
5.	Erection, testing & commissioning of material for New dropper and re-adjustment of dropper	Span	44.00	476.03	20945.32
6.	Provision (Supply, Erection, testing & commissioning of material) of False Catenary under FOB/ROB as per latest RDSO drg., spec & explanatory notes	Nos.	24.00	32400.70	777616.8
7.	Erection, testing & commissioning of material complete for copper jumper wire from AT to OHE with all components as per latest RDSO drg., spec & explanatory notes	Nos.	1.00	771.97	771.97
8.	Erection, testing & commissioning of material complete for solid core cut in insulator	Nos.	2.00	972.31	1944.62
9.	Erection, testing & commissioning of material complete for suspension insulator	Nos.	1.00	700.30	700.3
10.	Dismantling of existing complete anti-creep assemblies with anti-creep wire,	Nos.	14.00	2013.63	28190.82

	insulators, adjusters etc, and transportation to TRD depot.				
11.	Dismantling of existing cantilever assembly	Nos.	54.00	1512.56	81678.24
12.	Dismantling of guy rod with termination.	Nos.	15.00	1331.46	19971.9
13.	Dismantling of Auxiliary transformer with DO fuse and other components (excluding AT mast)	Nos.	1.00	5012.82	5012.82
14.	Dismantling of Portal, fabricated steel other than Mast/Upright	MT	21.50	9365.48	201357.82
15.	Dismantling of Mast / Upright by gas cutting	Nos.	24.00	1274.38	30585.12
Total Cost (in Rs.)					1947660.84

B. GENERAL TECHNICAL SPECIFICATIONS

Technical specification: - For the purpose of this work following are the specifications, terms/ conditions.

ITEM NO.	Detail Description of items in Schedule of Quantity and Rates
NS-1	<p>Preparation of design and drawing for Overhead Equipment and verification and modification in plan: The price shall cover cost of preparation of LOP, CSD, SED of new proposed work of open line section/station/yard. The price shall also include cost of retrace the existing approved sectioning and wiring diagram by incorporating the proposed lines (if any). Initially, contractor has to retrace existing sectioning and wiring diagram (Hard copy of the same shall be provide by Railway) and submit 02 set paper check prints (01 set for field verification & 01 set for division office checking). If any alteration/ correction as suggested from field unit as well from divisional office then contractor has to make changes and submit again for verification and approval. After approval the paper check prints, contractor has to prepare the same in tracing paper for signature and approval from concern field SSE/JE, office in-charge, divisional office and HQ/NWR office. If any correction/suggestion received from HQ/NWR in submitted proposed sectioning and wiring diagram then contractor has to make change and submit it again for approval. After approval the sectioning and wiring diagram, contractor has to provide 04 sets (01 set original tracing + 03 sets colour paper prints of original tracing) & 01 soft copy (Auto CAD) of approved sectioning and wiring diagram.to Divisional office.</p> <p>For execution of work contractor has to conduct survey of proposed work site and prepare in principal LOP, CSD & SED (For each location) and submit 01 set of paper check prints to concern field SSE/JE, officer in charge and divisional office for signature and approval. If any correction/suggestion received from field unit as well from divisional office, then contractor has to make changes and submit it again within one week for signature and approval. After approval of the same from divisional office, contractor has to provide 02 paper sets of approved in principal LOP, CSD & SED to divisional office.</p> <p>After completion of work, contractor has to prepare as erected LOP, CSD (as per DPR) & SED (as per DPR) and submit paper check prints (01 set) to concern field SSE/JE which will be signed and approved at divisional office.</p> <p>After approval of as-erected drawings of LOPs, CEDs and SEDs from division office, contractor to provide 04 Sets (01 set original tracing + 03 sets ammonia copy of original tracing or coloured print out) & 01 soft copy (AutoCAD) of all as-erected drawings of LOPs, CSDs, SEDs to divisional office.</p>
NS-2 & 3	<p>Supply and Erection of danger / caution boards Supply of caution boards, unwired turnout boards, engine stop boards, sigma boards etc. and other all similar type of boards: The price shall cover cost of supply and erection of various</p>

	<p>type of caution boards like un wire Turn out board, restricted clearance board, power block working limit board, Engine stop board, staff caution board, public caution board, PTFE DJ open and DJ close board, PTFE indication board (500 mtr, 250 mtr etc.) , PTFE Indication board for EMU/MEMU/Train-18 (500 mtr 250 mtr DJ Open, DJ close etc.) Coasting board, Danger Board (for FOB, ROB, Height Gauge, prohibited area board), Panto lower, raising board etc. The price shall also include transportation, man power used, Tools and T&P etc. cost for erection work of the same at various locations as desired by concern SSE/JE (TRD).</p>
NS- 4 & 5	<p>Supply and Erection of Retro Reflective number plates: The price shall cover cost of supply and erection of retro reflective number plate complete on OHE Mast/TTC Upright/ Portal structure as per RDSO drawing no. ETI/OHE/P/7503, ETI/OHE/P/3330, ETI/OHE/G/01702 or latest. Material of Number plate should comply RDSO specification no. ETI/OHE/33A (12/97) Rev.-7 or latest. The price shall also include cost of supply and erection of Number plate of isolator's, PSI equipment's etc. as per relevant RDSO drawing and specifications. Supplied material shall be inspected by RITES/consignee/concern (SSE/JE/TRD) before erection/installation work at site and should be procured from RDSO/CORE approved venders only (if available). The price shall also include cost of transportation of erection of various number plates at different sites/section of Jaipur Division.</p>
NS- 6	<p>Concrete for foundation and plinth in all type of soil incl. hard soil and rock: The price shall cover excavation, supply and handling of all materials and accessories, temporary arrangement for excavation in all type of soil (hard/ rocky/ normal/ black cotton), casting plain cement concrete including framework where ever necessary, temping of concrete, grouting of OHE structures and finishing the top of concrete foundation or anchor blocks as per approved designs, drawings, and guidelines. The price shall also include all connected temporary arrangements, back filling with earth and compacting the same to the required height and width as per drawings to ensure safety of foundation and removal of soil out of the railway boundary. The payable volume of the foundation shall be design one as shown in the approved drawings (CSD), if any changes found during the execution of work, then payment shall be done as per actual work done at site. The prices shall also cover the cost of diversion of masonry/earth drain wherever necessary for casting of foundation. OHE structures foundation shall be cast as prescribed in RDSO guidelines. Foundation casting shall be done in compliance of IS: 456:2000 or latest in each & every respect particularly material quantity, mixing, casting, curing, frame work etc. Material used i.e. cement, aggregate and water shall be confirming to relevant IS. Mixture for casting of foundation shall be M-10 and mixture for grouting and mugging M-15 shall be used. The graded coarse aggregate 40 mm nominal size table 2 of the latest version of IS: 383-1970 shall be used for casting of foundation. A coarse aggregate for grouting and mugging shall be 20 mm grade nominal size as table 2 of the latest version of IS: 383-1970 or latest shall be sued for grouting and mugging work. Note- (i). The price shall be same for any shape for size of concrete blocks. 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. (ii). The prices shall apply for concreting of all foundations for masts, gantries, portals, anchor blocks for guy rods, and fencing uprights. (iii). Cost of all concrete will be paid for only under this item and the prices of other item shall not include.</p>

	<p>(iv). For purposes of compilation 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>(v). Curing of foundation shall be done by contractor for around 28 days depending on weather conditions.</p> <p>(vi). No scroll will be supplied by Railway; contractor will use his scroll. The drawing of the scroll or physical scroll shall be shown to field SSE/JE before commencement of work at site.</p> <p>(vii). Contractor has to prepare standard cube of size 150x150x150 mm or as desired by testing laboratory, for every 50 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 456:2000 or latest. The test result of cube to be submitted to Railways. In case the quantity of concrete is less than 50 cum then at least one cube to be prepared and tested.</p> <p>(viii). All tests on the test cubes shall be carried out from approved institutes/labs and cost of test shall be borne by the contractor. Cube test report must be submitted to concern SSE/JE (TRD)</p> <p>(ix). Necessary details like, type, implantation, Chainage shall be supplied by contractor. Cement used shall confirm to IS : 12269-1987 or latest & grade 53(OPC).</p> <p>(x). The cement manufactured by any one of recognized brand i.e. Ultratech, Ambuja, JK Laxmi, Binani or equivalent useful for casting purpose shall be procured.</p> <p>(xi). Earth digging and soil excavation for foundation to be carried out very cautiously so that Electrical /Telecommunication /signaling underground cables do not get damaged. If any Electrical/Telecommunication /Signaling underground cable gets damaged during foundation work, then as per HQ/RB guidelines penalty amount of the same shall be borne by contractor.</p> <p>The price shall also cover excavation and all reinforced concrete work for foundations including supply of cement and steel for reinforcement and other materials including bending, binding, laying of the reinforcement, and shoring with necessary concrete casting including frame work for grouting and finishing the tops of foundation blocks. Price shall also include provision of special type of foundation, including TMT bars if required, as per site conditions.</p> <p>Note: Nominal reinforcement will be necessary in black cotton soil foundations for which no extra payment shall be made. The steel for nominal reinforcement will be supplied by the contractor.</p>
NS- 7 & 8	<p>Supply and Erection, Testing & commissioning of rolled or fabricated and galvanized steel for traction mast, TTC, Portals (boom & uprights), AT masts, feeder mast, super-masts, bridge masts, steel gantries, supporting structures, Drop arm, SPS etc. :</p> <p>The price shall cover cost of supply and erection of traction main masts of OHE comprising rolled, broad flanged beams, Bridge, feeder and AT Masts, fabricated steel (all type of Portal, TTC) with SPS for different type of masts, portals, DA, cut DA, isolator, Portal boom, DMA, AT Mast etc. for both conventional and high rise OHE etc. Payment of steel along with SPS will be made as per black steel weight of material as per RDSO/CORE latest approved drawings. The price shall cover cost of galvanization, supply & erection, alignment and setting before</p>

	<p>grouting of individual tractions masts for both conventional and high rise OHE. Galvanization thickness shall be as per Railway Specification No. ETI/OHE/13(4/84) with c.s. 4/90 or latest. The price shall cover cost of erection, alignment and setting before grouting of individual traction portal booms including High Rise OHE R-Special portal (14 nos.) and main masts whether rolled or fabricated including those for head span by using contractor’s crane arranged at his own cost and by Contractor’s own labour & tools required to carry out the work. The prices shall also include cost of supply and erection of galvanized bolts, nuts washers etc.</p> <p>The prices shall cover cost of erection, alignment and setting before grouting, wherever required, of portals, gantries, 2/3 tracks cantilever structures including tower steel work, drop arms, cut drop arms, dwarf masts or stub masts for anchoring, complete with anchor plates drilled and welded in position, multiple cantilever cross arm, chairs, adopters for bracket assemblies and all other small part steel (SPS) works the erection of which is carried out by the contractor.</p> <p>The black steel weight of steel with SPS as specified in RDSO/CORE drawing shall be considered for payment. There will be no addition for increased weight due to galvanizing or painting or reduction for holes or screw cut. Galvanization damaged during transportation/ carting to be provided with 2 coats of hot galvanization by contractor. The price shall also cover the transportation of the mast/portals to the nearest location for erection.</p> <p>The price shall also include cost of stenciling work on mast/portal/TTC locations as per RDSO/CAMTECH guidelines or as desired by concern SSE/JE (TRD).</p> <p>Crane of suitable capacity will be arranged by Contractor/Tenderer for Mast/portal upright/boom erection. In addition, if site is not feasible for crane operation (Certify by Consignee) then as per site feasibility, mast erection crane of suitable capacity will be arranged by railway as per requirement of site supervisor. A competent and experienced crane operator for the mast erection crane shall be arranged by the Contractor at his own cost.</p>		
NS-9 & 10	<p>Supply and Erection, testing & commissioning of material for complete Guy rod assembly as per latest RDSO drg., spec & explanatory notes: The price shall cover the cost of supply and erection of Guy Rod assembly based on Guiding RDSO's/CORE’s/CEE NWR/IS/BS specification with latest A&C slip. The price shall cover supply of a guy rod assembly of various lengths for traction masts, feeder line towards or supports complete with masts guy rod fittings, guy rod with adjustments and part/s be grouted in the anchor block for conventional and High-rise OHE both. The price shall not include the cost of supply of a dwarf or sub mast with anchor plates drilled and welded in position, where required, for anchorage and small parts steel work complete with bolts and nuts etc., if any for attaching the mast guy rod fittings to the mast /structure which shall be paid for separately under the relevant item. Price indicated against all other items shall be exclusive of the price of erection of guy rod, if any which will be paid for under this item.</p>		
	COMPONENTS REQUIREMENTS		
	Railway ID No.	Item Description	Qty/Unit
	3241	Mast Anchor Fitting for cliff type of structure	01 Nos.
3232/3242	Mast guy rod fitting with 4 sets of bolts of 20 mm dia of suitable length with nuts, Locknuts, washers for attachments to mast/S.P.S including appropriate fitting	01 Set	

	5001/ 5001-1/ 5001-3	Stud bolts for draft mast (850mm) (complete with nut lock nut & split pins)	02 Nos.
	---	Triangular attachment for Dwarf Mast	01 Nos.
	5002	Guy Rod Stirrup	01 Nos.
	5004 or 5005 or 5005-2 or 5006-2 or 5070-1 or 9070 or 9071	Guy rod with nut, washer, split pin	01 Set
	5007-1	Anchor 'V' bolt	01 Set
	5008	Anchor loop	01 Set
	5220-2	Guy rod double strap assembly.	(As Required)
	<p>Note: 1) In case the contractor desires to adopt a different design for guy rod assembly, same shall be indicated by him in the tender offer and the components required should be clearly listed under this item as deviation.</p> <p>2) Supply of guy rod assembly at anti creep, portals will also be paid for under this item.</p>		
NS-11 & 12	<p>Supply and Erection, testing & commissioning of material for complete Single bracket assembly including ST, BT Insulators as per latest RDSO drg., spec & explanatory notes : The price shall cover cost for Supply and Erection of single cantilever assembly complete with insulator for conventional/High Rise OHE and inside the tunnel in accordance to the RDSO's Drawing no. ETI/OHE/G/02106 sheet 1 to 3 or latest. However, the contractor is expected to check the existing arrangements and implantation of the respective locations. The price shall cover on a flat rate basis for supply of bracket assembly on a traction mast or Support on drop arm for both conventional and high rise OHE and shall include those on high/low level platform in the vicinity of turnouts, over bridges or overlaps and at all locations with reduced encumbrance/ terminating wires as per latest RDSO drawing. The price shall include the cost of supply and erection of all components including galvanized steel tube duly fabricated and Porcelain/Composite insulators 1050/1600 mm CD as desired by open line for polluted Zone (Id. 6000-1/6012,6030-1/6033) including bolts, nuts etc. if any. The price shall cover supply and erection of all components including registered arm dropper excluding small parts steel work if any. However, this does not include the anti-creep arrangement at masts/structures, however double suspension clamp wherever required is included in this item. The Joint testing of insulator (ST/BT/9T) with Hydraulic insulator testing machine to be done with Open line. Calibrated Insulator testing machine shall be arranged by Railways. All Components shall be complied Latest RDSO/CORE specification. Payment for supply of Top and Bottom attachment fitting required for cantilever erection at mast/TTC/portal structure shall be paid under NS-07.</p> <p>This price shall also include the cost of supply of any extra fittings required in the work for erection of single/double/triple/box cantilevers.</p>		
NS-13 & 14	<p>Supply and Erection, testing & commissioning of material of Structure bonds as per latest RDSO drg., spec & explanatory notes: The price shall cover supply and erection of all materials including mild steel flat (40 mm x 6 mm) required to provide a structure bond connecting at traction mast or structures to the nearest non-track – circuited rail, or earth electrode, including all fasteners at both ends. The Price shall cover cutting of slit at platform and repairing of platform after erection of bond as per latest RDSO drawing & specification. The price shall include shaping, drilling & one coat of red-oxide and one coat of black paint of the bond and erection of all materials including the bond. The price shall also include provision (Erection) of heat shrinkable PVC tube for structure bond under track circuit rail. The price shall also cover chamfering of the drilled holes for the bonds. The price shall also cover cleating of structure bond if laid in the platform area. The price shall also cover cost of drilling the hole in Rail for bond. Drilling work</p>		

	in Rail must be done in the presence of authorized TRD & Engg department representative to avoid any Rail damage incidence. The price shall also cover cost of remove existing structure bond connected between Rail and mast/upright and handover it to the concern SSE/JE (TRD) depot.
NS-15 & 16	Supply and Erection, testing & commissioning of material for single earth electrode as per latest RDSO drg., spec, explanatory notes & earthing -bonding code : The price shall cover supply and erection of an earth electrode assembly as per RDSO drawing no. ETI/PSI/222-1 (For PSI equipment's, AT) or latest and ETI/OHE/P/7021 mod 'A' (For OHE Equipment's) or latest with all accessories & fasteners. The price also covers the provision of a protective concrete box with removable cover. In case of platform the price shall also cover the digging the surface level and erect electrode below ground level and cover the surface with suitable cover with handle. The price shall cover cost of testing and commissioning of an earth electrode confirming to IS 3043, IS 1239 or RDSO Specification with latest amendment. The price also covers cost for manual excavation of earth for providing earth station, cost for wooden charcoal, salt to found earth resistance within limits and erection of protective concrete box and RCC cover. The price also cover cost of marking the earth resistance measurement details (Earth pit number, earth resistance value etc.) on earth pit cover box with yellow and black pain or as desired by concern SSE/JE (TRD).
NS-17 & 18	Supply and Erection, testing & commissioning of material for 50 mm x 6 mm MS Flat earth Bus as per latest RDSO drg., spec, explanatory notes & earthing -bonding code : The price shall cover erection of 50 x 6 mm MS flat earth bus including all material required for fixing of earth bus for earthing of Interrupters, Structures, LA & PT, Structure, Main earth bus to rail & Main earth circuit with components i.e. Nut, Bolt and washers as required at site. The prices shall cover the erection of earth bus either buried at the depth 300mm below ground level painted with two coats of red oxide zinc chromate primer and two finishing coats of bitumen or fixed on wooden gutties on wall. It shall include connecting the earth bus to earth electrodes and to various floor on walls mounted equipment's or structures to be earthed and also connections to non-track circuited rails where ever required. The connections of earth strip to various equipment structures shall be made with GI bolt and nuts and spring washers / lock nut as per RDSO specification.
NS-19 & 20	Supply and Erection, testing & commissioning of material for complete anti-creep with galvanized steel wire including cut-in insulators and complete termination as per latest RDSO drg., spec & explanatory notes : The price shall cover cost of supply and erection of all materials for anti-creep including adjusters, galvanized steel wire, mast anchor fittings at its terminations on either side on structure, ending clamps and fittings, including 9 Ton porcelain insulator assembly and small parts steel work, if any. In case the anti-creep extends beyond one span on either side of anti-creep center payment for extra length shall be paid additionally at the rate of 20% of the rate for item no.25&26 for each extra span.
NS-21 & 22	Supply and Erection, testing & commissioning of material for New dropper & re-adjustment of dropper: The price shall cover the supply and erection, adjusting the droppers (For Modification work) for the transferred OHE span with contact and catenary dropper clips.
NS-23	Provision (Supply, Erection, testing & commissioning of material) of False Catenary under FOB/ROB as per latest RDSO drg., spec & explanatory notes: The price shall cover cost of provision of false catenary under FOB/ROB structure by cutting of catenary wires and provision of contact wire by ending clamp, continuity jumper also provided. For this only contact wire will be provide by Railway. Rest items which are used for subjected work shall be arrange by contractor.

NS-24 & 25	Supply, Erection, testing & commissioning of material complete for copper jumper wire from AT to OHE with all components as per latest RDSO drg., spec & explanatory notes : The price shall cover cost of supply and erection of small copper jumper wire (50 sqmm.) along with relevant PG and other components requires for connection from AT to OHE.
NS-26	Erection, testing & commissioning of material complete for solid core cut in insulator: The price shall cover cost of erection of 09-Ton cut-in- solid core insulator on a flat rate basis with 09 ton insulator, contact/catenary ending cone, LS wire ending cone, etc. in a head span, cross span or in-span wire or an overhead equipment conductor.
NS-27	Supply, Erection, testing & commissioning of material complete for suspension insulator : The price shall cover cost of erection of 9 ton suspension insulator assembly for suspension of an all-aluminum 25 KV feeder (single or double SPIDER), 130 sq. mm or 65sq.mm overhead equipment conductor or 19/2.79 mm all aluminum catenary or any other similar type of suspension. The price shall cover erection of all components, including the 9-ton insulator assembly but excluding small parts steel work, with bolts and nuts etc. if any.
NS-28 & 29	Supply, Erection, testing & commissioning of material complete for 10kVA, 25 kV/240V LT Supply Transformer complete with accessories: The price shall cover cost of Supply, Erection, and commissioning of complete 10kVA 25KV/240V Oil filled Auxiliary Transformers Confirming to RDSO Spec. No: ETI/PSI/15(08/2003) or latest.
NS-30 & 31	Supply, Erection, Testing & commissioning of material complete for 25 KV drop out fuse switch assembly as per RDSO Spec No - ETI/PSI/14(01/86) with A&C slip no. 01 or latest complete with fuse carrier & fuse element as per latest RDSO drg., spec & explanatory notes : The price shall cover cost of supply and erection of 25 KV drop out fuse switch assembly for 10/25 KVA capacity auxiliary transformers complete with all mounting accessories, terminal connectors as required and 25 KV solid core/pedestal insulators confirming to RDSO Spec. No: ETI/PSI/14(1/86) Rev-1 or latest & RDSO drawing no. ETI/PSI/032 or latest.
NS-32 & 33	Supply, Erection & commissioning of Anti Climbing Device for auxiliary transformer (AT) as per latest RDSO drg., spec & explanatory notes : The price shall cover cost of supply and erection of an anti-climbing device consisting of steel fixtures and galvanized barbed wire mounted on AT structure as per RDSO drawings no. ETI/PSI/037 Or latest, The price shall also include painting of the fixtures with two coats of red oxide zinc chromate primer and finished with two coats of Aluminum paint as per IS: 2339.
NS-34	Dismantling of existing complete anti-creep assemblies with anti-creep wire, insulators, adjusters etc, and transportation to TRD depot: The price shall cover dismantling of anti-creep wire with all the associated fittings, insulators, adjusters etc. (as desired by site supervisor) and transportation of released material from site to TRD depot (if required).
NS-35	Dismantling of existing cantilever assembly: The price shall cover dismantling of all parts of cantilever and small parts of steel work associated with cantilever assembly and shall be handed over by the Contractor to the concerned SSE/TRD depot at concerned place. Transportation of Dismantled equipment will be paid under relevant item.
NS-36	Dismantling of Guy rod with termination : The price shall cover cost of dismantle the Guy rod with termination, Anchor fitting, Guy rod fittings, double strap, strip & Anchor V bolt etc. and same will be handed over to concerned SSE/TRD at concerned Depot or as desired by SSE/TRD. Transportation of Dismantled equipment will be paid under relevant item.
NS-37	Dismantling of Auxiliary transformer with DO fuse and other components (excluding AT mast) : The price shall cover cost for dismantle of Auxiliary

	transformer including DO fuse assembly, Jumper wire, PG clamps, LT fuse box, anti-climbing device, Earth connection etc.
NS-38	Dismantling of Portal, fabricated steel other than Mast/Upright: The price shall cover cost of dismantling the portal boom, TTC boom, and other small part steel and handing over to the concern SSE/JE at TRD depot or as desired by concern SSE/JE. The price shall exclude the transportation charges and the same will be paid against relevant item. Crane will be arranged by Contractor at his own cost for dismantle work. The price shall also cover cost of cutting the portal/TTC booms in suitable size pieces for scraping the material. (i.e. 2.0M to 3.0M or as accepted by railway scrap depot), according to the requirement of concern SSE/TRD.
NS-39	Dismantling of Mast / Upright by gas cutting: The price shall cover the cost of dismantling of OHE mast/DMA/TTC Upright/portal upright by gas cutting. The dismantled equipment shall be handed over by the Contractor to the concern SSE/JE (TRD) at concerned TRD depot or nominated place decide by consignee. Transportation of dismantled equipment will be paid under relevant item.
NS-40	Transportation charges for OHE material: The price shall cover cost of transportation of only railway supplied material by contractor's own tools and labors and vehicles from nominated places as specified by the railway representative/consignee to the work site or any other places. The price shall also cover transportation of Railway released material from site by contractor's own tools and labors and vehicles from site to concerned SSE/TRD depot at concerned place or any other nominated places as specified by the railway representative/consignee. Contractor will be responsible for safety of material against theft, loss and damage after issuing the material by Railways.
NS-41	Breaking of Foundation: The price shall cover cost for breaking of foundation of Mast, Portal, TTC, DMA etc. up to 0.8 M below rail level. The price also covers cost for removal of debris outside track.
NS-42	Power Block Charges: The price under this item covers extra charges erection rates of SOR for erection of equipment in the vicinity of energized overhead equipment and feeders or erection of equipment with joints equipment already energized or on energized equipment which calls for a power block (shut off of traction power). The price payable under this item shall be as per annexure- A attached in Tender document. The extra erection rate under this item will not be payable, if power block is given for a total duration of a 4 hour or more in a day. Where the prices under this item are applicable, the Contractor shall finalize the quantities of various items of work to be done under a power block, jointly with the Purchaser's Engineer prior to taking the work in hand.

- 1.0 Scope of Work: **OHE work in connection with proposed, (i) PF raising (PF-1, 2) of LNH, BUB, RSWT, MWR station; PF Extension at LNH, FPS station & FOB (6 mtr wide) at LNH, BUB, RSWT station, (ii) PF raising (PF-1, 2) of BDHL, BILA, PCMK, RNW, SFE, MNHA station & FOB (6 mtr wide) at BDHL station in RPC Section, (iii) PF raising (PF-1, 2) of RSH, CRWA, NUA, BWPL, BOTR, NRKE station; PF Extension at CRWA Station & FOB (6 mtr wide) at RSH station, (iv) PF raising (PF-1, 2) & FOB (6 mtr wide) at SRGH, NWH, DOB station; PF extension at JJN Station in SIKR-LHU Section of Jaipur Division.**
- 1.1 The work shall be carried out in accordance with the approved standard of electric traction works over Indian Railways.
- 1.2 After completion of Electrical work the contractor will undertake the Civil Engg. Work to repatch the wall/floor plaster and fill up the recesses etc. occurred during execution of work.
- 1.3 Released material: Old released material will be returned to concern SSE/JE TRD.

- 1.4 Where there is any conflict between the Tender document on one hand and GCC of works- 2022 on the other hand, the latter shall prevail.

2.0 Additional Specification

- 2.1 The work shall be carried out strictly as per applicable rules & regulations, manuals and applicable code of practices.
- 2.2 If any minor alterations are found necessary the contractor will do the same within the quoted rates.
- 2.3 The work shall be carried out in best workmanlike manner and any defect in the work of changes in the design etc. as pointed out by Inspecting authority shall be carried out by the contractor within quoted rates.
- 2.4 Proper shutdown of OHE supply if required to be approved from concern JE/SSE.
- 2.5 If required, the Tower wagon shall be provided free of cost by Railway to contractor during the power block works.
- 2.6 In case of any dispute regarding the lay out and any other technical matter, the decision of Sr. Divisional Electrical Engineer (TRD) Jaipur will be final and binding on the contractors.

3.1 Procurement and inspection of material

- 3.2 All material shall be procured from RDSO/CORE approved vendors wherever approved sources are available.
- 3.3 All the equipment, material, fittings etc, shall be subjected to inspection by RDSO/RITES/Railways. The inspection authority (RDSO/RITES/Railways) will be nominated by Sr. DEE (TRD), normally in accordance with Rly, Bd. letter no. 2000/RS(G)/379/2 dt. 06-09-2017 (pre-inspection of material by RITES/RDSO - Minimum value of Stores), however in the event of exigencies Railway reserves the right to change the inspecting authority from RITES/RDSO to consignee.
- 3.4 The contractor will seek nomination of inspecting authority & inspection site from Sr. DEE (TRD) duly submitting the details of order given to the concerned vendor
- 3.5 RITES/RDSO inspection charges shall be borne by Railway.
- 3.6 For the purpose of the inspection clause, the PO value shall be understood as the purchase order value of any individual sub-component of one kind, rather than the aggregate value of the complete assembled item under that NS.
- 3.7 Inspection of material may be done at manufacturer's premises/manufacturer's test facilities/Contractor's Depot/ work site as decided by Sr. DEE (TRD).
- 3.8 The contractor shall provide at his own cost all necessary assistance, T&P and bear the cost for carrying out testing of material at the nominated location as per requirement for consignee inspection.
- 3.9 Any sample, if necessary, may be sent by Railway's representative to manufacturer/test house for ascertaining originality/parameters as per specifications and cost of test shall be borne by the contractor.
- 3.10 Pre-commissioning tests if needed on various equipment may be carried out jointly by the contractor.

4.0 Progress and time of completion

- 4.1 Completion Test- On completion of installation, tests confirming the relevant specification, I.E. Rules, applicable code of practices and manuals shall be carried out.
- 5.0 If any damage is caused to the railway assets/properties during execution of schedule work, it shall be the responsibility of the contractor to repair/make good at his own cost to the entire satisfaction of the Electrical Engineer (TRD)/Supervisor In charge.
- 6.0 All the waste material shall have to be removed on the same day after execution of work, by the contractor.
- 7.0 All the rejected material should be removed from the site immediately by the contractor.
- 8.0 Bad workman ship pointed out by the Sr. Divisional Electrical Engineer (TRD) or his representative shall be rectified by the contractor at his own cost.
- 9.0 The contractor shall sign the site order.
- 10.0 Inspection After completion of work, the same shall be inspected by the Sr. Divisional Electrical Engineer (TRD), or his representative for the quality, and completion of the work.
- 11.0 The work will commence immediately after receipt of the detail acceptance letter and the currency of the contract is **12 months** from the date of issue of the advance acceptance letter.

C. OTHER TECHNICAL CONDITIONS

1.0 Tools and Plants

During the period of erecting, testing and commissioning the contractor shall make his arrangement for necessary tools and plants required for transportation, handling, erecting, testing and commissioning of various equipment at site of work covered under the contract.

2.0 Standard Specification

Wherever a reference to any specification appears in this Tender Document, the same shall be taken as a reference to the latest version of the said specification.

3.0 Other Conditions

- a. GST/Sales tax octroi, Royalty, Toll Tax or any other taxes levied/leviable by the central or State Govt. Local Bodies shall be borne by the contractor. No such other taxes on contractor's labour or material will be paid by Railway. This should be kept in view while tendering.
- b. The quantities given in Schedule of Rate/Qty. are approximate and are subject to variation plus/minus as per variation clause mentioned in GCC applicable at the time of opening of tender.
- c. **The contractor should have a valid Electrical contractor license issued by Govt. and submit along with tender documents. If tenderer fails to submit a valid electrical contractor license, then offer from the tenderer will be summarily rejected.**

4.0 Deployment of Engineer for Execution of work

- (a) Contractor shall also employ following Qualified Engineers during execution of the allotted work:
 - (i). One Qualified Diploma Engineer to be depute when cost of work to be executed is Rs. between 50 lakh and 02 Cr.
 - (ii). One Qualified Graduate Engineer to be depute when cost of work to be executed is more than 02 Cr.
 - (iii). In case the contractor fails to provide the Qualified Diploma Engineer, as aforesaid in Para 3.0 (a) (i) above, then contractor shall be liable to pay liquidity damage of Rs. 25,000/- for each month or part thereof for the default period for the provisions.

- (iv). In case the contractor fails to provide the Qualified Graduate Engineer, as aforesaid in Para 3.0 (a) (ii) above, then contractor shall be liable to pay liquidity damage of Rs. 40,000/- for each month or part thereof for the default period for the provisions

5.0 MINIMUM ELIGIBILITY CRITERIA

All Technical and Financial Criteria shall be governed by GCC of works 2022)

- a. Definition of similar nature of work: Definition of Similar Nature of Work for subjected work are as under :
- “Execution of any 25 KV or 2x25 KV OHE work.”**
(Authority no. PCEE/HQ/NWR office letter no. NWR-HQ0ELCT(TR)/22/2020 Part-(1) dated 10.02.2023)

6.0 Warranty

- I. Items for which the warranty offered by manufacturer is more than one year, contractor will submit the warranty card of the item duly filled in all respect to consignee.
- II. The contractor shall warranty that all materials & equipment's to be supplied and installed as per this tender shall be free from defects and faults in design, material, workmanship and manufacture and shall be of the highest quality and consistent with the established and generally accepted standard for materials of the type ordered and in full conformity with the contract specifications.
- III. The contractor shall give warranty / provide maintenance for satisfactory working of all the equipment's & installations erected & commissioned by him in this tender, for a period of **ONE YEAR** from the date of commissioning.
- IV. During the period of Warranty, the contractor shall keep available experienced engineer & technician and necessary equipment to attend to any defective installation. The Contractor shall bear the cost of all modifications, additions or substitutions that may be considered necessary due to faulty material, decision regarding this shall rest with the Sr. DEE/TRD/JP.
- V. During the period of Warranty, the contractor shall be liable for the replacement of any equipment & any parts which may be found defective, whether such equipment be of his own manufactured or those of his sub-contractor, whether defect arising from faulty design, material, workmanship or negligence in any manner on the part of the Contractor, at his (Contractor's) own expenses. In case of defect of similar type detected in contractor's equipment & components during the warranty period, the contractor shall replace complete lot of the items irrespective of the fact that whether all such items have failed or not. The Contractor shall bear the cost of repair carried out on his behalf by the Purchaser at site due to urgent requirement. In such a case, the Contractor shall be informed in advance of the repair proposed to be carried out by the Purchaser.
- VI. If it becomes necessary for the contractor to replace or renew any defective portion/s of the system under this clause, the provisions of this clause shall apply to the portion of equipment/component/system so replaced for further period of 12 months from the date of such replacement or renewal or until the end of the warranty period whichever may be later. If any defect is not remedied within reasonable time, the Railway may proceed to do the work at contractor's risk and expense, but without prejudice to any other rights, which the Railway may have against the contractor in respect of such defects
- VII. The repaired or renewed part shall be delivered and erected on site free of charge to the purchaser.
- VIII. The Railway shall have right for acceptance, rejection of materials at site if the same are not in accordance with the specifications.
- IX. The terms and conditions of this contract shall also be governed with G.C.C. of Railways.
- X. Security Deposit will be released to the tenderer after completion of warranty period of 1 year.

7.0 Payment Term

- 7.1 70% against supply of material on receipt & acceptance of material by Railway.
- 7.2 90% of erection rates and balance 20% of supplied material erected after successful erection of supplied materials.
- 7.3 Balance 10 % of supply and erection of material and 30% of material supplied and retained by Railway but not erected in this contract, after successful completion of work.

Sr. Divisional Electrical Engineer/Traction Distribution & GSU /Jaipur