

**PRICE BID FORMAT, Rev. 2, Dated 27.11.2020**  
**ABSTRACT OF COST**

**Name of Work: Signalling & Telecommunication (S&T) Modification Works in Stations in Section “Bhandai-Urimore”, Agra Division (Gr. 240) FOR RAILWAY ELECTRIFICATION PROJECT IN BHANDAI-UDI, BIRLANAGAR-ETAWAH AND SHIKOHABAD-FARRUKHABAD INCLUDING MAINPURI-ETAWAH, SECTION OF AGRA, JHANSI AND ALLAHABAD DIVISIONS OF NORTH CENTRAL RAILWAY UNDER RE PROJECT LUCKNOW, TOTAL RKM 386/440TKM**

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**Price Bid Format, Rev.2 Annexure-(I) Dated 27.11.20**  
**Works & Services Items for S&T station Works :scope of original LOA items- Agra (Bhandai-Urimore)**

**Name of Work:Signalling & Telecommunication (S&T) Modification Works in Stations in Section “Bhandai-Urimore”, Agra Division (Gr. 240) FOR RAILWAY ELECTRIFICATION PROJECT IN BHANDAI-UDI, BIRLANAGAR-ETAWAH AND SHIKOHABAD-FARRUKHABAD INCLUDING MAINPURI-ETAWAH, SECTION OF AGRA, JHANSI AND ALLAHABAD DIVISIONS OF NORTH CENTRAL RAILWAY UNDER RE PROJECT LUCKNOW, TOTAL RKM 386/440TKM**

Sl. No.	Item Description (To be read in conjunction with technical specification)	Unit	Quantity	Unit Rate (in Rs.)	Amount (in Rs.)	Weightage in %age of total amount
1	Supply and Fixing of RE Protective Screens on signals	NO's	9			0.6103000
2	Supply & Installation of Maintenance free earthing and bonding system as per RDSO. This includes following item:	NO's	12			3.7260000
3	Supply of galvanised Steel tape of size 6 x 50 mm as per IS 2629 of 1985 (Re-affirmed 2001) for interconnection between MF earth pits	Mtrs	24			0.0952000
4	Installation of 48V/200AH VRLA maintenance free battery	NO's	3			0.4322000
5	Supply of Electronic Gate Telephone System - 24V DC power pack with MF battery-7AH for electronic LC gate Telephone or similar / advanced.	NO's	2			0.2294000
6	Supply and Installation of various boards like BSLB / GWB / STOP / Calling-ON boards etc.,	NO's	3			0.3366000
7	Installation, testing and commissioning including earthing of 42U 19" covered racks for housing SDH and PD-MUX equipment's, DDF, FMS, MDF, using krone module etc.	NO's	3			0.1532000
8	Installation testing and commission of 2 MB programmable primary digital drop insert multiplexer	NO's	3			0.3954000

9	Supply & fixing of PVC channels of size 60x60 mm required by BHEL Engineer in charge. Railway by fixing / clamp to the wall for indoor wiring purposes& drawing of indoor cables.	Mtrs	400			0.6532000
10	Supply of Normal Earth pit with Electrode for earthing of S&T installations	NO's	45			1.2887000
11	Modification / Alteration / shifting of existing Integrated power supply system (IPS) system	NO's	4			4.3409000
12	Installation, Wiring, testing, Commissioning of Interlocked station (Electronic Interlocking). The S&T modification equipment's installed with in the station are needs to be integrated and functionally tested with each other in totality.	per Stn	3			17.9817000
13	Supply of Beetel make Push Button telephone with CLI (Model-M51) or similar	NO's	8			0.0661000
14	Installation, termination, wiring, testing and commissioning of point machine This includes following item:	Per Machine	2			0.3102000
15	Painting of MS Flat with one coating of red oxide as primary and two coats of anti-corrosive black. This includes following item:	Mtrs	400			0.0713000
16	Supply of MS flat of size 40 x 6mm	Mtrs	400			0.7635000
17	Shifting of S&T Location / Battery boxes ( Horizontal re-location)	Per Box	9			0.5341000
18	Installation of copper tape 3 x 25 mm This includes following item:	Mtrs	60			0.1177000
19	Supply of copper tape 3 x 25 mm	Mtrs	60			0.4381000

20	Excavation of square coil pit of size 1mtr X 1.5mtr and depth 1mtr for providing coil at joint locations / location box / points signals, culverts, bridges and at LC gates. This includes following items:	NO's	9			0.0175000
21	installation of Junction Box	NO's	6			0.0206000
22	Carrying out alterations to the existing SM's control panel.	LS	1			0.1442000
23	Erection & wiring of shunt signal post This includes following items:	NO's	2			0.0872000
24	Installation of Independent shunt signals complete with post, surface base, position light shunt signal unit, Anchor bolts, Universal lock with key etc.,	NO's	2			0.0165000
25	Supply of LED signal unit for junction type route indicator/ shunt/ calling-on.	NO's	6			0.4179000
26	Design and drawings for complete indoor signaling work for RE modifications in existing stations as per SIP.	Per Station	3			4.2251000
27	Painting, Letter writing, Numbering of termination particulars over all Indoor & Outdoor Gears at Complete STATION including LC gate. This includes following item:	Per Station	3			1.1857000
28	Supply of Various types of markers as :- P /C /G /A / IB markers	NO's	6			0.0447000
29	Installation and commissioning of 4 wire way station equipment's, power supply unit at SP / SSP / Station / TSS / AEN / PWI / SI offices/Residences. This includes following items:	NO's	2			0.0546000
30	Supply of Portable Emergency telephone 4 wire	NO's	8			0.2485000
31	Supply of Power supply unit (PSU) for telecom installation at way side equipment	NO's	4			0.2041000
32	Initial charging of lead acid low maintenance batteries 48V, 200AH VRLA or any other batteries. This includes following item:	NO's	4			0.0604000

33	Installation of SMPS battery chargers for telecom use 48V, 25 Amps in N+1 configuration using 3 modules of 25 Amps (FR/BC) suitable for 200 AH LM Batteries with lightning and surge protection with automatic switching between the modules.	NO's	3			0.2331000
34	Fixing of 10 pair CT box and termination of cable at the station/LC gates, TSS, PS, SSP, Quarters, Service buildings etc. This includes following items:	NO's	14			0.3599000
35	Testing & commissioning of Quad cable	KM's	1			0.0321000
36	Testing & commissioning of OFC cable	KM's	4			0.1285000
37	Modification of existing PA system to suit RE requirement	NO's	2			1.8869000
38	Excavation of trench 0.35m width 1.2m deep in all categories of soil such as black cotton / hard soil / murram / soft rock mixed with boulders etc., as per cable route plan. Filling the trench with earth to the level of surrounding ground after laying cables.	KM's	13			17.1236000
39	Laying of signaling / power / telecom / Quad / OFC cables of various sizes. This includes following items:	KM's	46			2.4455000
40	Excavation of PIT, casting of concrete foundation for Location Box-Single case, erection of location box, Lamp holder 2 pin with switch, wiring material, wiring, testing and commissioning. This includes following items:	Per Box	6			0.3348000
41	Installation of Location box - Full case complete with E type lock, Hylam sheet, Universal lock with key.	NO's	2			0.0406000
42	Installation of Location box - Half case complete with E type lock, Hylam sheet, Universal lock with key.	NO's	2			0.0328000
43	Excavation of cable trench of 1 m depth & 0.3m depth wide across the track crossing, road crossing, level crossing, platform & refilling	KM's	1.5			0.9934000

44	Digging of cable trench to a depth of not less than 30 cm and width 15 cm. In rocky terrain, concreting the trench with 150mm thick concrete in the ratio 1:2:4 and back filling with excavated soil.	Mtrs	150			0.5399000
45	Drawing of PVC sheathed cable in PVC conduit pipe/casing. PVC conduit pipe of 32 / 20 mm (External dia.), thickness 1.5 mm, medium density fit for electrical purposes	Mtrs	400			0.1440000
46	Track crossing by Horizontal boring method as advised by the engineer at site. Confirming to IS 139 heavy class in the Bore drilled with coupler between two pipes .All the joints of casing pipes should be tightened leak proof.	Mtrs	1000			25.7079000

47	Perforation and Fixing of GI Pipes on girder bridge, RCC bridges, Drains, Culverts, Rocky places tunnels / deep cutting. This includes following items:	Mtrs	560			0.2900000
48	Supply and installation of GI pipe 100 mm dia class "B" ISI marked with accessories including bends	Mtrs	560			6.2408000
49	Supply of Mild steel channel for trough/GI pipe fixing on grider bridge	Mtrs	187			1.5419000
50	Excavation of cable pit without damaging existing working cables, laying& insertion of new extra cables. This includes following item:	Per Box	8			0.0919000
51	Release of complete indoor and outdoor S&T equipment from stations / LC gates, and transportation of released material to the S&T depot by contractor.	Per Stn.	3			2.5617000
	<b>Total (Excluding taxes)</b>					<b>100.0001</b>

**Price Bid Format, Rev.2 Annexure-(II) Dated 27.11.20**  
**Works & Services Items for S&T station Works- Agra (Bhandai-Urimore)**

**Name of Work: Signalling & Telecommunication (S&T) Modification Works in Stations in Section “Bhandai-Urimore”, Agra Division (Gr. 240) FOR RAILWAY ELECTRIFICATION PROJECT IN BHANDAI-UDI, BIRLANAGAR-ETAWAH AND SHIKOHABAD-FARRUKHABAD INCLUDING MAINPURI-ETAWAH, SECTION OF AGRA, JHANSI AND ALLAHABAD DIVISIONS OF NORTH CENTRAL RAILWAY UNDER RE PROJECT LUCKNOW, TOTAL RKM 386/440TKM**

Item No.	Item Description (To be read in conjunction with technical specification)	Unit	Quantity	Unit Rate (in Rs.)	Amount (in Rs.)	Weightage in %age of total amount
52	Installation of Maple 4C system with all other accessories at station/SP/SSP/TSS	No	6			3.866300
53	Installation of rack mounted FMS fibre parts no.1U 24 Fs 24FP Raychem make including 24 Nos 0.2 db FC/PC Adaptors and 24 Nos 900 MICRON 1.5 meter FCPC pigtails with RDSO specification No.RDSO/SPN/TC- 037-2000 (ver3) or latest.	No	6			0.832400
54	Installation of control room Equipment with all accessories as per RDSO Spec.No.SPN/TC/66/2007 with amendment 2	No	2			1.315900
55	Installation of control way station Equipment as per RDSO Spec.No. RDSO/SPN/TC:/66/2007 with Amendment 2	No	3			0.970700
56	Supply and Installation of DWC pipe with one snap fit coupler and 'O' ring conforming to RDSO/SPN/204/2011 Ver. 1.1 or latest RDSO specification , Non-metallic, corrugated, multiwalled, normal duty, pliable, without protection against chemical attack and Non flame propagating in 6 meter length of size 120 mm outer dia& 102 mm inner dia.( Permitted tolerance in dia = +/- 2 mm).	Mtr	150			2.079300
57	Provision of new TLD boxes, termination of cable in TLD boxes and connection/bonding to track as per railway practice. (This also includes releasing the existing cable from existing TLD box and pipe, without causing any damage, removing the existing TLD box along with track connections wherever required and fixing new TLD box, passing the cable through GI pipe, fixing TLD box and re-terminating the cable along with drilling of holes wherever required) as per directions of engineer incharge. Bonding and jumper connections from TLD to track wherever required shall be done by the contractor(Supply of Channel Bond pins etc shall be supplied by contractor)(Supply of TLD boxes with stump, GI pipe, 2X2.5 Sq mm cable and wire rope are not included in this schedule).	Nos	5			2.418400
58	Supply and installation of Bonding with GI Wire 4mm dia (8 SWG ) for track jumper & fish plate joints(S & T "Z" Bond) bonds.This will include Drilling of 7.0/7.1/7.2 mm dia holes in rails ( 4nos. ) and provision of two jumpers for each bond, clipping of bonds etc with contractors own tools as per Instruction of Engineer at site.	Nos	80			0.883600
59	Supply of Ground connection for 143 mm throw IRS type machine complete (5 rods) as per drg no. (I) SA 8805 (II) RDSO/S/3273 (III) RDSO/S/3271 (IV) RDSO/S/3267 (V) RDSO/S/3269, switch extension bracket RDSO/S/3264 & drive lug S 8806. -	set	4			4.271200
60	Installation of Adjustable Track feed Resistance disc type 30 ohm as per RDSO Drg no. SA-20166 /M ( adv.) with latest amendments (with Phenolic moulded base).	No	90			0.500500



61	Installation of fuse Holder 20 Amp capacity to IRS Spec S 78/92(or IRS.S 78/Tentative) or latest./Fuse links 20 / Amp capacity to IRS Spec S 78/92 or latest.	Nos	60			0.088000
62	Installation of 230- 110V/1.5 KVA IPS Transfomer	nos	2			0.157200
63	Laying of indoor Signaling cable on ladder, dressing, and terminating the same on Old and New CT rack, wherever required, to patch the Old Outdoor Signaling cable in new installation.	per Stn	3			5.177200
64	Supply of Multistrand flexible Cable Red, green yellow for signal wiring size 2.5 sq mm dia.	Mtrs	500			2.157300
65	Fabrication, Supply and fixing of RCC cable marker is to be done as per drg. no. CORE/S&T/ALD/SK/ 600/ 2013 The lettering on the cable marker shall be "TELE"/ "OFC" as per the instruction of the incharge supervisor at site/Officer.	No	10			0.172700
66	Supply, placing and positioning width wise , of second- class country made Bricks above the screened earth after laying the cable. (placing of bricks @ eight to nine bricks to cater one meter length)	KM's	2			7.789000
67	Provision of precast RCC OFC Joint Chamber as per drawings OR Excavation for Jointing pit and provision of joint chamber of 1.2 mtr dia of 60 cm height with 2 piece cover on top and bottom cover with holes for drainage (reinforcement drawing will be as per technical specification) .This includes water cooling of chamber, backfilling and ramming of trench after laying and consolidated of soil as well as disposal of soil as per plan as advised by site engineer.	No	5			1.364600
68	Installation of B Type Choke	No's	151			2.107900
69	Installation of TF Charger 110V AC/1-4 Cell 80AH,10A	No's	93			3.456700
70	Installation of LM Secondary cell 80 AH	No's	279			4.265600
71	Supply & installation of VF transformer (1120:470 ) 6 Quad for Block Equipment & EC sockets	NO's	9			0.513700
72	Placing and positioning width wise , of second- class country made Bricks above the screened earth after laying the cable. (placing of bricks @ eight to nine bricks to cater one meter length)(cost of brick not included)	km	13			20.847100
73	Centering and shuttering including strutting, propping etc and removal of form for : Foundations, footings, bases of columns etc for mass concrete	Sqm	30			0.381400
74	Reinforcement for RCC work including straightening, cutting, bending, plancing in position and binding all complete Thermo-Mechanically Treated bars of grade Fe-500D or more.	Kg	150			0.559100
75	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge. Nominal concrete 1:4:8 or leaner mix (i/c equivalent design mix)	cum	15			0.718300
76	Demolishing R.C.C. work by mechanical means and stockpiling at designated locations and disposal of dismantled materials up to a lead of 1 kilometre, stacking serviceable and unserviceable material separately including cutting reinforcement bars.	cum	15			1.697100

77	Dismantling tile work in floors and roofs laid in cement mortar including stacking material within 50 metres lead. For thickness of tiles 10 mm to 25 mm	sqm	30			0.073500
78	Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge In cement mortar	cum	30			1.968400
79	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	cum	15			4.545400
80	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in: Cement mortar 1:6 (1 cement : 6 coarse sand)	cum	15			4.122800
81	15mm cement plaster on the rough side of single or half brick wall of mix: 1:6 ( 1 cement : 6 fine sand)	Sqm	15			0.196100
82	Chipping of concrete in reinforced concrete work, cutting pockets, making openings at all levels and according to shapes, disposal of waste materials upto a lead of 2 km as directed by engineer including equipment, safety precautions, making good the broken surface etc all complete as per specification, drawing, instructions of engineer in charge but excluding cutting of reinforcement .	CUDM	300			1.771900
83	Extra over and above the above mentioned item for cutting of reinforcement, all sizes and types including labour, equipment, return of cut reinforcement to store etc all complete as per specification, drawings and instructions of engineer in charge. Measurement shall be on the cross sectional area of reinforcement cut.	SQCM	300			2.019700
84	Making openings in existing brick wall or partition wall including making good the broken edges/surface with cement mortar 1:6 etc. complete.	CUM	15			1.095600
85	Supply and placing in position mild steel wire fabric of square mesh 25 mm size and wire diameter of 2 mm for encasing of steel sections in concrete including cutting, bending, fixing etc. complete.	SQM	30			0.478200
86	Filling existing brick wall/ partition wall opening at all level including making good the broken edges/surface with cement mortar 1:6, painting, finishing to match with existing finishing, scaffolding/supporting at all level, removal of debris upto a lead of 1 km including loading, unloading, transportation etc. all complete.	SQM	30			1.267000
87	Installation, Wiring, testing, Commissioining of Interlocked station (Panel / Mechanical). The S&T modifcaiton equipment's installed with in the station are needs to be integrated and functionally tested with each other in totality.	per Stn	1			6.217100

88	Installation of Rack type STM-1 ADM L 1.1 with STM-1 aggregate interface , 21 E1S and 4 Numbers of 10/100 Base-T Ethernet Port order wire, power supply unit, sub rack installation material and accessories manual etc.		5			7.653200
	<b>Total (Excluding taxes)</b>					<b>100.000100</b>