

**Price Bid Format: S&T Works, Section: Jhanshi (Birlanagar to Etawah)**

Tender Enquiry No.: TOATX00054

**Vol. II**

**Price Bid Format**

**Schedule of Quantities & Rates**

**Abstract of Cost**

**Name of Work:**Signalling & Telecommunication (S&T) Modification Works in Stations in Section "Birlanagar-Etawah", Jhansi Division (Gr. 239) 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	Description	Unit	Qty	Rate (In Rs.)	Total Amount (In Rs.)	Weightage (%)	Remarks
A	B	C	D	E	F	G	H
1	Supply	1	Set	Bidders not to quote or write anything here	Bidders not to quote or write anything here	8.6739%	<a href="#">Refer Annexure-I</a>
2	Spares	1	Set			25.1308%	<a href="#">Refer Annexure-II</a>
3	Works & services - Part-A original Items	1	Set			46.7972%	<a href="#">Refer Annexure_III</a>
4	Works & services - Part-A Additional Items	1	Set			19.3981%	<a href="#">Refer Annexure-IV</a>
	Total					100.0000%	
	Total (in Rs.) in Figures						
	Total (in Rs.), in Words						

**Note:**

1	Bidders should quote only the Total Amount both in figures & words in the specified place. They should not fill/quote/write anything in col. (E ) & (F ) of Abstract sheet as well as Annexures - I to II . These rates & amount will be derived from the Total amount quoted and weightage factor assigned against respective items indicated in col. G.
2	Evaluation Shall be based on total amount quoted by bidder.
3	The rate and amount are inclusive of all applicable taxes, except for the GST. For details of taxes, clause no. 8.0 of SCC for Supplies, Vol. IB1 & clause no. 13.0 of the SCC for Works, Vol. IB respectively will be applicable.
4	Details of BOQ items shall be read in conjunction with the corresponding specifications, drawings and other tender terms. BOQ for supplies shall be governed by SCC for Supplies, Vol. 1B1 & GCC for Supplies, Vol. 1C1 & corresponding applicable clause of TCC.. BOQ for Works shall be governed by SCC for Works Vol. 1B & GCC for Works, Vol. 1C & corresponding applicable clause of TCC.

**Annexure-I**  
**Price Bid Format:Supply Items for S&T Station Works- Jhansi (Birlanagar to Etawah)**

Sl. No.	BOQ Sl. No.	Material Code	Item Description ((To be read in conjunction with respective technical specification contained in TCC Vol. IA, GCC for Supplies, Vol 1C1 & SCC for Supplies, Vol 1B1 will be applicable)	Unit	Quantity	Rate(in Rs.)	Amount(in Rs.)	% Weightage
A	A1	A2	B	C	D	E	F	G
		<b>SUPPLY</b>						
2	28	PY9756357711	Supply of Point machine	No's	2	Bidders not to quote or write anything here	Bidders not to quote or write anything here	4.1966%
5	48	PY9756357746	Supply of managed Expendable 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.	No's	8			59.9921%
7	63	PY9756357770	Supply of Rotary key transmitter	No's	4			0.8872%
8	70	PY9756357789	Supply of NMS (Network Management System) for divisional Head Quarter	No's	1			14.7043%
9	74	PY9756357797	Supply of 64 KBPS Modem	No's	12			20.2198%
			<b>Total (Exclusive of Taxes)</b>					100.0000%

Annexure-II								
Price Bid Format:Spare Items for S&T Station Works- Jhansi (Birlanagar to Etawah)								
Sl. No.	BOQ Sl. No.	Material Code	Item Description (To be read in conjunction with respective technical specification contained in TCC Vol. IA, GCC for Supplies, Vol 1C1 & SCC for Supplies, Vol 1B1 will be applicable)	Unit	Quantity	Rate(in Rs.)	Amount(in Rs.)	% Weightage
A	A1	A2	B	C	D	E	F	G
		<b>SPARES</b>						
10	75	PY9756357002	Supply of DC-DC Convertor 24-32V, 5A	No's	3	Bidders not to quote or write anything here	Bidders not to quote or write anything here	0.4757%
11	76	PY9756357010	Supply of DC-DC Convertor 24-40V, 10A	No's	1			0.1746%
13	78	PY9756357037	Supply of DC-DC Convertor 24-32V, 1A	No's	1			0.1509%
14	79	PY9756357045	Supply of DC-DC Convertor 100-150V, 1A	No's	1			0.1746%
15	80	PY9756357053	Supply of LED (Route/'C' On Signal)	NO's	2			0.5102%
16	81	PY9756357061	Supply of LED (RED)	NO's	2			0.2913%
17	82	PY9756357070	Supply of LED (YELLOW)	NO's	2			0.2913%
18	83	PY9756357088	Supply of LED (GREEN)	NO's	2			0.2913%
19	84	PY9756357096	Supply of B Type Choke	No's	22			0.5241%
20	85	PY9756357100	Supply of Filter unit	No's	2			0.6410%
21	86	PY9756357118	Supply of Wire insulator	NO's	4			0.0301%
22	87	PY9756357126	Supply of TX / RX set for Block Instrument	Set	6			3.8909%
23	88	PY9756357134	Supply of Earth Pipe	NO's	10			0.2439%
24	89	PY9756357142	Supply of Maintainers/Office furniture of Godrej make or similar – 14 Set (each set consist of (i) Executive revolving bearing series low back-floating chair with normal arms cushioned chair- 01 No. (ii) Executive Table size 72x36x30 or higher with 3 drawers one side lockers cabinet on other side -01 No. (iii) Visitor chair seat & back cushion with high density foam with plastic PVC handle capsule type painted back -03 No.)	NO's	14			7.0290%
25	90	PY9756357150	Supply of Tools Kit for maintenance	NO's	20			18.6215%
26	91	PY9756357169	Supply of Cable insulation tester (Megger 500 V DC)	NO's	7			1.0502%
27	92	PY9756357177	Supply of Cable Fault Locator to localize the faults of underground cables.	NO's	3			8.7583%
28	93	PY9756357185	Supply of Cable Tracer kit comprising of cable avoidance tool CAT 33 XD, SGV digital signal generator, signal CLAMP, accessories , carry bag.	NO's	3			7.3081%
29	94	PY9756357193	Supply of Digital Earth clamp meter model DECT-2 MOTWANI or similar display 4 digit large LCD, Long Jaw 85x32 mm phai, range 0.01 ohm to 1000 ohms, resolution 0.001 ohm, over range (OL ohms) as well as low range (L 0.01 OHMS) indication, low battery indication.	No's	2			0.2388%

Annexure-II Price Bid Format:Spare Items for S&T Station Works- Jhansi (Birlanagar to Etawah)								
Sl. No.	BOQ Sl. No.	Material Code	Item Description (To be read in conjunction with respective technical specification contained in TCC Vol. IA, GCC for Supplies, Vol 1C1 & SCC for Supplies, Vol 1B1 will be applicable)	Unit	Quantity	Rate(in Rs.)	Amount(in Rs.)	% Weightage
A	A1	A2	B	C	D	E	F	G
30	95	PY9856357209	Supply of Rubber Hand gloves suitable for 1500 volts ISI marked tested certified to IS:4770-1968-91 as per IS:13774-1993	Pairs	50			0.5749%
31	96	PY9756357215	Supply of 110V AC LED ECR	NO's	5			0.2692%
32	97	PY9756357223	Supply of QTA2 9 ohm 4F.2B	NO's	19			0.8691%
33	98	PY9756357231	Supply of Key Lock Relay(KLCR)	No's	1			0.0541%
35	100	PY9756357258	Supply of QNA1 8F/8B Relay	No's	7			0.2175%
36	101	PY9756357266	Supply of QSPA1 Relay	No's	19			0.8513%
37	102	PY9756357274	Supply of QBAT Relay	NO's	1			0.0579%
38	103	PY9756357282	Supply of TF Charger 110V AC/1-4 Cell 80AH,10A	No's	19			1.2051%
39	104	PY9756357290	Supply of LM Secondary cell 80 AH	No's	18			0.4696%
40	105	PY9756357304	Supply of DC - DC Converter 24-32 V 5-Amps	No's	1			0.1509%
41	106	PY9756357258	Supply of QNA1 8F/8B Relay	No's	7			0.2175%
46	111	PY9756357339	Supply of 19C x 1.5 MM2 cable	KM's	1			2.9586%
47	112	PY9756357347	Supply of VF transformer (1120:1120 Isolation)	NO's	10			0.0974%
48	113	PY9756357355	Supply of VF transformer (1120:470 6 Quad Block Equipment)	NO's	25			0.2435%
49	114	PY9756357363	Supply of VF transformer (470:600 OFC to QUAD cable)	NO's	25			0.2435%
50	115	PY9756357371	Supply of VHF set (25 Watts)	NO's	6			2.6541%
51	116	PY9756357380	Supply of VHF set (5 watts)	NO's	6			1.9773%
52	117	PY9756357398	Supply of Emergency sockets with boxes and pins	NO's	10			0.3209%
53	118	PY9756357401	Supply of Portable emergency telephone - 4W/2W	NO's	10			0.3704%
54	119	PY9756357410	Supply of Thermo-shrinking jointing kit	NO's	30			1.9794%
55	120	PY9756357347	Supply of VF transformer (1120:1120 Isolation)	NO's	25			0.2435%
56	121	PY9756357355	Supply of VF transformer (1120:470 6 Quad Block Equipment)	NO's	25			0.2435%
57	122	PY9756357363	Supply of VF transformer (470:600 OFC to QUAD cable)	NO's	25			0.2435%
58	123	PY9756357371	Supply of VHF set (25 Watts)	NO's	1			0.4423%
59	124	PY9756357380	Supply of VHF set (5 watts)	NO's	5			1.6477%
60	125	PY9756357428	Supply of Leakage Clamp Meter	NO's	1			0.4150%
61	126	PY9756357436	Supply of PVC Switch board cable - 20 Pair	KM's	0.5			0.4959%
62	127	PY9856357209	Supply of Rubber Hand gloves suitable for 1500 volts ISI marked tested certified to IS:4770-1968-91 as per IS:13774-1993	Pairs	20	Bidders not to quote or write anything here	Bidders not to quote or write anything here	0.2299%

**Annexure-II**  
**Price Bid Format:Spare Items for S&T Station Works- Jhansi (Birlanagar to Etawah)**

Sl. No.	BOQ Sl. No.	Material Code	Item Description (To be read in conjunction with respective technical specification contained in TCC Vol. IA, GCC for Supplies, Vol 1C1 & SCC for Supplies, Vol 1B1 will be applicable)	Unit	Quantity	Rate(in Rs.)	Amount(in Rs.)	% Weightage
A	A1	A2	B	C	D	E	F	G
63	128	PY9756357193	Supply of Digital Earth clamp meter model DECT-2 MOTWANI or similar display 4 digit large LCD, Long Jaw85x32 mm phai ,range 0.01 ohm to 1000 ohms, resolution 0.001 ohm, over range (OL ohms) as well as low range (L 0.01 OHMS) indication, low battery indication	No's	2			0.2388%
64	129	PY9756357177	Supply of Cable Fault Locator to localize the faults of underground cables.	NO's	1			2.9194%
65	130	PY9756357185	Supply of Cable Tracer kit comprising of cable avoidance tool CAT 33 XD, SGV digital signal generator, signal CLAMP, accessories , carry bag	NO's	1			2.4360%
66	131	PY9756357444	Supply of Transmission Measuring set along with all accessories.	Set	2			0.5183%
67	132	PY9756357150	Supply of Tools Kit for maintenance with small size canvas bag with following items :- 1. Combination Plier 8", 2. Long Nose Plier (Round nose) 6" , 3. Wire Striper Plier 6" , 4. Screw Driver set ( 5 Piece) , 5. Hexa with frame 12" , 6. Double Open end D spanner set ( 6 to 32 mm ) , 7. Adjustable Spanner set 8" , 8. Ball pin Hammer (200 gm) , 9. Side Cutting Plier 6" , 10. Soldering iron (Solderon make or similar) 11. Torch cell LED (3 cell) (Eveready/ Geep or similar ) , 12. Auto Ranging Digital Multi-meter ( Mecco / Rishabh or similar ) 13. Krone Tool (Krone make or similar), All Tool Item 1 to 9 from Taparia /Gedor / Jhalani make or similar	NO's	8			10.6408%

Annexure-II								
Price Bid Format:Spare Items for S&T Station Works- Jhansi (Birlanagar to Etawah)								
Sl. No.	BOQ Sl. No.	Material Code	Item Description (To be read in conjunction with respective technical specification contained in TCC Vol. IA, GCC for Supplies, Vol 1C1 & SCC for Supplies, Vol 1B1 will be applicable)	Unit	Quantity	Rate(in Rs.)	Amount(in Rs.)	% Weightage
A	A1	A2	B	C	D	E	F	G
68	133	PY9756357452	Supply of Digital multi meter Fluke / Rishab make with latest model available in the market	NO's	2	Bidders not to quote or write anything here	Bidders not to quote or write anything here	0.0741%
69	134	PY9756357460	Supply of Cable insulation tester(Megger 500 V DC)	NO's	2			0.3000%
70	135	PY9756357479	Supply of Fiber optical cable with accessories	KM's	1			1.0867%
71	136	PY9756357487	Supply of HDPE duct with accessories	KM's	1			0.8167%
72	137	PY9756357495	Supply of Optical fiber Digital Equipment's (STM-1)	NO's	1			2.1582%
73	138	PY9756357509	Supply of Optical fiber Digital Equipment's (FC - PC Patch cord - 10 Mts Long)	NO's	5			0.1237%
74	139	PY9756357517	Supply of Digital multiplexer equipment's (PDH with accessories)	NO's	1			0.3951%
75	140	PY9756357525	Supply of Digital multiplexer equipment's (PD with accessories)	NO's	1			0.4263%
76	141	PY9756357533	Supply of Power supply of STM/PDH with accessories (SMPS Charger)	NO's	1			0.0609%
77	142	PY9756357541	Supply of Power supply of STM/PDH with accessories (Battery set of 48 V DC 120 AH (24 Cells of 2.0)	NO's	1			0.1121%
78	143	PY9756357550	Control office equipment with accessories - Way station	NO's	3			0.1717%
79	144	PY9756357568	Control office equipment with accessories - Head Quarter	NO's	1			0.2581%
80	145	PY9756357142	Supply of Maintainers furniture of Godrej make or similar and each set consist of (i) Executive revolving bearing series low back-floating chair with normal arms cushioned chair- 01 NO. (ii) Executive Table size 72x36x30 or higher with 3 drawers one side lockers cabinet on other side -01 No. (iii) Visitor chair seat & back cushion with high density foam with plastic PVC handle capsule type painted back -03 No.	Set	8			5.1642%
82	147	PY9756357584	Supply of Optical Power meter EXFO make Model FPM 302x or similar	NO's	1			0.4150%
83	148	PY9756357592	Supply of Optical power source EXFO make Model FLS 300-23BL or similar	NO's	1			0.4150%
84	149	PY9756357606	Supply of OTDR meter-EXFO make Model 710B or similar,	NO's	1			0.4150%
85	150	PY9756357614	Supply of Optical Fiber Splicing Machine EXFO make Model IFS10-INNO or similar.	NO's	1			0.4150%
			<b>Total (Exclusive of Taxes)</b>					<b>100.00%</b>

**Annexure-III**  
**Price Bid Format: Works & services Items for S&T Station Works- Jhansi (Birlanagar to Etawah)- Part-A original Items**

Sl. No.	BOQ Sl. No.	Item Description (To be read in conjunction with respective technical specification contained in TCC Vol. IA, GCC for Works Vol 1C & SCC for Works, Vol 1B will be applicable)	Unit	Quantity	Rate(in Rs.)	Amount(in Rs.)	% Weightage
A	A1	B	C	D	E	F	G
1	16	Supply and Fixing of RE Protective Screens on signals	NO's	30	Bidders not to quote or write anything here	Bidders not to quote or write anything here	1.3029%
2	27	Supply & Installation of Maintenance free earthing and bonding system as per RDSO. This includes following item:	NO's	44			8.7497%
2a	64	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	88			0.2236%
3	32	Lever Frame Insulation & Augmentation	No's	2			0.6877%
4a	49	Supply of FCPC To SCPC 10 meter long patch cords with 0 db adaptors	NO's	20			0.2657%
5	54	Supply and installation of 48V/200AH VRLA maintenance free battery	NO's	2			1.8452%
6	59	Supply of Electronic Gate Telephone System - Master Telephone.	NO's	10			0.6890%
7	60	Supply of Electronic Gate Telephone System - Slave Telephone.	NO's	10			0.6362%
8	61	Supply of Electronic Gate Telephone System - 24V DC power pack with MF battery-7AH for electronic LC gate Telephone or similar / advanced.	NO's	10			0.7346%
9	67	Supply and Installation of various boards like BSLB / GWB / STOP / Calling-ON boards etc.,	NO's	10			0.7185%
10	68	Supply, 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	4			1.3078%
11	69	Supply and installation testing and commission of 2 MB programmable primary digital drop insert multiplexer	NO's	4			3.3763%

**Annexure-III**  
**Price Bid Format: Works & services Items for S&T Station Works- Jhansi (Birlanagar to Etawah)- Part-A original Items**

Sl. No.	BOQ Sl. No.	Item Description (To be read in conjunction with respective technical specification contained in TCC Vol. IA, GCC for Works Vol 1C & SCC for Works, Vol 1B will be applicable)	Unit	Quantity	Rate(in Rs.)	Amount(in Rs.)	% Weightage
A	A1	B	C	D	E	F	G
12	71	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	Bidders not to quote or write anything here	Bidders not to quote or write anything here	0.4184%
13	72	Supply of Normal Earth Electrode for earthing of S&T installations	NO's	121			2.2193%
14	152	Modification / Alteration / shifting of existing Integrated power supply system (IPS) system	NO's	5			3.4751%
15	155	Installation, termination, wiring, testing and commissioning of point machine This includes following item:	Per Machine	2			0.1987%
16	157	Painting of MS Flat with one coating of red oxide as primary and two coats of anti-corrosive black. This includes following item:	Mtrs	450			0.0513%
16a	30	Supply of MS flat of size 40 x 6mm	Mtrs	450			0.5501%
17	159	Modification of existing Block instrument / token (or) token less instrument to suit 25KV AC traction RE.	Pairs	2			0.3029%
18	160	Shifting of S&T Location / Battery boxes ( Horizontal re-location)	Per Box	4			0.1520%
19	161	Installation of copper tape 3 x 25 mm This includes following item:	Mtrs	60			0.0754%
19a	31	Supply of copper tape 3 x 25 mm	Mtrs	60			0.2806%
20	162	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	30			0.0374%
20a	25	Supply of Junction Box	NO's	30			0.6599%
21	163	Carrying out alterations to the existing SM's control panel.	LS	2			0.1847%



**Annexure-III**  
**Price Bid Format: Works & services Items for S&T Station Works- Jhansi (Birlanagar to Etawah)- Part-A original Items**

Sl. No.	BOQ Sl. No.	Item Description (To be read in conjunction with respective technical specification contained in TCC Vol. IA, GCC for Works Vol 1C & SCC for Works, Vol 1B will be applicable)	Unit	Quantity	Rate(in Rs.)	Amount(in Rs.)	% Weightage
A	A1	B	C	D	E	F	G
22	165	Complete indoor work of installation wiring and commissioning for RE modification in existing PI / RRI stations / cabins including minor modifications to circuits for stations as per SIP <i>This includes following items:</i>	Per Station	6			3.4183%
22a	1	Supply of Relay (QN1)	NO's	24			0.5137%
22b	2	Supply of Relay (QNA1)	NO's	238			4.7279%
22c	3	Supply of Relay (QNA1K)	NO's	10			0.2286%
22d	4	Supply of Relay (QECX)	NO's	2			0.0544%
22e	5	Supply of QSPA1 Relay	No's	22			0.5293%
22f	6	Supply of Universal Lamp proving relays	NO's	2			0.0503%
22g	7	Supply of Timer Relay	NO's	2			0.0581%
22h	8	Supply of 110V AC LED ECR	No's	2			0.0578%
22i	9	Supply of Relay Flasher	NO's	2			0.0581%
22j	10	Supply of Relay (Other than above models)	NO's	10			0.2904%
22k	65	Supply of Beetel make Push Button telephone with CLI (Model-M51) or similar	NO's	2			0.0106%
22l	62	Supply of ARA Terminal block with links, 1 way, 60 mm made of PBT	NO's	1500			0.8525%
23	167	Erection & wiring of shunt signal <i>This includes following items:</i>	NO's	4			0.1117%
23a	14	Supply of Independent shunt signals complete with post, surface base, position light shunt signal unit, Anchor bolts, Universal lock with key etc.,	NO's	2	Bidders not to quote or write anything here	Bidders not to quote or write anything here	0.1057%
23b	15	Supply of Dependent type Position light shunt signal unit along with OFF set bracket, Universal lock with key etc.,	NO's	2			0.0714%
24	170	Design and drawings for complete indoor signaling work for RE modifications in existing stations as per SIP.	Per Station	6			5.4119%

**Annexure-III**  
**Price Bid Format: Works & services Items for S&T Station Works- Jhansi (Birlanagar to Etawah)- Part-A original Items**

Sl. No.	BOQ Sl. No.	Item Description (To be read in conjunction with respective technical specification contained in TCC Vol. IA, GCC for Works Vol 1C & SCC for Works, Vol 1B will be applicable)	Unit	Quantity	Rate(in Rs.)	Amount(in Rs.)	% Weightage
A	A1	B	C	D	E	F	G
25	172	Painting, Letter writing, Numbering of termination particulars over all Indoor & Outdoor Gears at Complete STATION including LC gate. This includes following item:	Per Station	6			1.5187%
25a	56	Supply of Various types of markers as :- P /C /G /A / IB markers	NO's	6			0.0286%
26	173	Fixing and wiring RKT / EKT for siding / LC Gate interlocking. This includes installation of magneto telephones at location, gate, SM's office etc. This includes following item:	NO's	4			0.0208%
27	174	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			0.0349%
27a	40	Supply of DTMF Base Head quarter Equipment (2/4 wire) with all accessories for control office.	NO's	2			0.2772%
27b	41	Supply of 4 Wire way station Equipment with DTMF	NO's	2			0.0615%
27c	42	Supply of Portable Emergency telephone 4 wire	NO's	6			0.1193%
27d	51	Supply of Power supply unit (PSU) for telecom installation at way side equipment	NO's	2			0.0654%
28	175	Installation of emergency socket box including socket on the rail post in the section and yard at every one km. distance. This includes following item:	NO's	5			0.0849%
28a	39	Supply of Emergency socket Box with socket six pins.	NO's	5			0.0862%
29	176	Initial charging of lead acid low maintenance batteries 48V, 200AH VRLA or any other batteries. This includes following item:	NO's	6			0.0580%

**Annexure-III**  
**Price Bid Format: Works & services Items for S&T Station Works- Jhansi (Birlanagar to Etawah)- Part-A original Items**

Sl. No.	BOQ Sl. No.	Item Description (To be read in conjunction with respective technical specification contained in TCC Vol. IA, GCC for Works Vol 1C & SCC for Works, Vol 1B will be applicable)	Unit	Quantity	Rate(in Rs.)	Amount(in Rs.)	% Weightage
A	A1	B	C	D	E	F	G
29a	53	Supply 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	6	Bidders not to quote or write anything here	Bidders not to quote or write anything here	2.9859%
30	177	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	30			0.4939%
30a	43	Supply of 10 pair CT box with KRONE terminal similar to WAGO/Phoenix make	NO's	30			0.6639%
30b	44	Supply of Switch board cable 10 pairX0.5mm for indoor wiring.	KM's	2			0.5600%
31	178	Fixing of 20 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	18			0.3853%
31a	45	Supply of 20 pair CT box with KRONE terminal similar to WAGO/PhoniX make	NO's	18			0.5424%
31b	46	Supply of Switch Board cable 20 pairX0.5mm for indoor wiring.	KM's	1			0.5326%
32	180	Modification of existing PA system to suit RE requirement	NO's	2			1.2084%
33	181	Excavation of trench 0.35m width 1.2m deep in all categories of soil such as black cotton / hard soil / murrum / 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	13.7			11.5572%
34	182	Laying of signaling / power / telecom / Quad / OFC cables of various sizes.	KM's	52.4			1.7841%

**Annexure-III**  
**Price Bid Format: Works & services Items for S&T Station Works- Jhansi (Birlanagar to Etawah)- Part-A original Items**

Sl. No.	BOQ Sl. No.	Item Description (To be read in conjunction with respective technical specification contained in TCC Vol. IA, GCC for Works Vol 1C & SCC for Works, Vol 1B will be applicable)	Unit	Quantity	Rate(in Rs.)	Amount(in Rs.)	% Weightage
A	A1	B	C	D	E	F	G
34a	35	Supply of PIJF Cable:10PAIR x 0.63MM	KM's	2	Bidders not to quote or write anything here	Bidders not to quote or write anything here	1.1031%
34b	36	Supply of PIJF Cable:20PAIR x 0.63MM	KM's	1			0.8263%
34c	37	Supply of PIJF Cable:50PAIR x 0.63MM	KM's	1			1.5550%
35	183	Excavation of P.H., 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. <del>This includes following items:</del>	Per Box	44			1.5724%
35a	23	Supply of Location box - Full case complete with E type lock, Hylam sheet, Universal lock with key.	NO's	28			3.6411%
35b	24	Supply of Location box - Half case complete with E type lock, Hylam sheet, Universal lock with key.	NO's	16			1.6785%
36	184	Excavation of cable trench of 1 m depth & 0.3m depth wide across the track crossing, road crossing, level crossing, platform & refilling	KM's	2.6			1.1027%
37	185	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	300			0.6915%
38	186	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	600			0.1383%
39	187	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size).	CUM	30			0.9394%
40	188	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	492			8.1005%

**Annexure-III**  
**Price Bid Format: Works & services Items for S&T Station Works- Jhansi (Birlanagar to Etawah)- Part-A original Items**

Sl. No.	BOQ Sl. No.	Item Description (To be read in conjunction with respective technical specification contained in TCC Vol. IA, GCC for Works Vol 1C & SCC for Works, Vol 1B will be applicable)	Unit	Quantity	Rate(in Rs.)	Amount(in Rs.)	% Weightage
A	A1	B	C	D	E	F	G
41	192	Installation of DC-DC convertors of all ratings as per site requirement, in the existing IPS system. This includes wiring/ alteration in the existing IPS as per site requirement. This includes following items:	NO's	12			0.3122%
41a	18	Supply of DC-DC Convertor 24-32V, 5A	No's	6			0.5109%
41b	19	Supply of DC-DC Convertor 24-40V, 10A	No's	1			0.0938%
41c	20	Supply of DC-DC Convertor 12-40V, 10A	No's	1			0.0852%
41d	21	Supply of DC-DC Convertor 24-32V, 1A	No's	1			0.0810%
41e	22	Supply of DC-DC Convertor 100-150V, 1A	No's	1	Bidders not to quote or write anything here	Bidders not to quote or write anything here	0.0938%
42	193	Perforation and Fixing of GI Pipes on girder bridge, RCC bridges, Drains, Culverts, Rocky places tunnels / deep cutting. This includes following items:	Mtrs	600			0.1990%
42a	47	Supply of GI pipe 100 mm dia class "B" ISI marked with accessories including bends	Mtrs	600			4.2824%
42b	66	Supply of Mild steel channel for trough/GI pipe fixing on grider bridge	Mtrs	120			0.6337%
43	194	Excavation of cable pit without damaging existing working cables, laying& insertion of new extra cables. This includes following item:	Per Box	39			0.2870%
43a	26	Supply of terminal block MS(ARA)	No's	100			0.0280%
44	195	Release of complete indoor and outdoor equipment from stations / IBH / LC gates and transportation of released material to the depot.	Per Station	6			3.2812%
		<b>Total(Excluding Taxes)</b>					100.0000%

**Annexure-IV**  
**Price Bid Format:Works & services Items for S&T Station Works- Jhansi (Birlanagar to Etawah)- Part-B Additional Items**

Sl. No.	BOQ Sl. No.	Item Description (To be read in conjunction with respective technical specification contained in TCC Vol. IA, GCC for Works Vol 1C & SCC for Works, Vol 1B will be applicable)	Unit	Quantity	Rate (in Rs.)	Amount(in Rs.)	% Weightage	Explanatory Notes
A	AI	B	C	D	E	F	G	H
65	N	Supply & installation of 9U 19" Wall mountable Rack	No	6	Bidders not to quote or write anything here	Bidders not to quote or write anything here	0.4577%	
66	N	Supply of MRO TEK make MAPLE 4C or better,1U, 19 " rack mountable device consisting of four E1 ports	No	6			8.5069%	
67	N	Installation of Maple 4C system with all other accessories at station/SP/SSP/TSS	No	6			0.8547%	
68	N	Supply and 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			1.8399%	
69	N	Supply and installation of control room Equipment with all accessories as per RDSO Spec.No.SPN/TC/66/2007 with amendment 2	No	2			2.9089%	
70	N	Supply and installation of control way station Equipment as per RDSO Spec.No. RDSO/SPN/TC/66/2007 with Amendment 2	No	6			4.2919%	
71	N	Supply and Installation of DWC pipe with one snap fit coupler and 'O' ring conforming to RDSO/SPN/204/2011 Ver. 1.1or 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	300			0.9193%	
72	N	Installation of Earth electrode & connecting to location box, signal unit, block instruments, lever frames, power equipments, cables, telecom equipments etc. through MS flat suitably connected on MS flats size 40 x 6 mm with complete contractor's material as per drg. This includes digging of pit in earth 3 M deep, casting of cement concrete enclosure. Soil treatment as per standard practice involving supply & pouring of salt & charcoal, connecting the equipment through earth lead wire & soldering and supply of cement. Wiring material & soldering material, etc. to be supplied by the contractor. Provision of earth connections to Location boxes and signals with MS flat shall be provided.The requisite GI bolts of Size M20X40 mm, M12X25 mm, MS flat of Size 40X6 mm are to be supplied by contractor as per requirement.The value of earth resistance must not exceed 10 ohms.	Nos	150			3.7196%	
73	N	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	100			10.6925%	
74	N	Provision of Bonding with GI Wire 4mm dia (8 SWG ) for track jumper & fish plate joints(S & T "Z" Bond) bonds.This wil 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	86			0.2100%	
75	N	Supply and installation of Rodding Run for TWS siding with EPD /Trestel 2 way	set	2			1.3594%	
76	N	Supply and installation of Insulator of Point rodding at function end and lever end as per specificationNo. <b>IRS S-40- 84</b> .	Nos	48			0.8648%	
78	N	Supply 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	68			0.8360%	
							0.0000%	
79	N	Supply and 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	240			0.7783%	
80	N	Supply & Erection of Cable Termination Rack Assembly complete with wall supports, scaffolding, 8 way/ ARA/ Modular terminal, 96 way tag-block and other necessary accessories etc. The work shall be done as per approved plan, extant practice on Rly. and the instructions of Railway Engineer at site.	Nos	6			3.4227%	

Annexure-IV Price Bid Format:Works & services Items for S&T Station Works- Jhansi (Birlanagar to Etawah)- Part-B Additional Items								
Sl. No.	BOQ Sl. No.	Item Description (To be read in conjunction with respective technical specification contained in TCC Vol. IA, GCC for Works Vol 1C & SCC for Works, Vol 1B will be applicable)	Unit	Quantity	Rate (in Rs.)	Amount(in Rs.)	% Weightage	Explanatory Notes
A	AI	B	C	D	E	F	G	H
81	N	Supply and erection of Relay rack (1 way rack) universal type as per drg.no.S&T/MFT/291 with scaffolding, POWDER COATING with stainless steel nuts and bolts for fixing the racks. Supporting angles, frame mounting triangle base with 'J' bolts and insulation of required numbers complete to suit QN1 / K-50 prewired tag blocks with suitable inner frames. Erection of relay rack shall be with scaffolding on MS bases and insulators with J bolts and nuts using cement are to be painted in 2 coats with enamel prints colour approved by site incharge.	Nos	6	Bidders not to quote or write anything here	Bidders not to quote or write anything here	3.4227%	
82	N	Supply and Installation of 230- 110V/1.5 KVA IPS Transfomer	nos	12			2.0849%	
83	N	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	6			2.2890%	
84	N	Provision for Supply of 3x0.7 and 16/0.2 multi strand flexible wire red, black and others (wiring material),	Mtrs	3000			0.8298%	
85	N	Supply of Multistrand flexible Cable Red, green yellow for signal wiring size 2.5 sq mm dia.	Mtrs	500			0.4769%	
86	N	Supply of Flexible Wire Copper multistrand, 25 Sq. mm, PVC insulated insulation thickness of 1.5 mm±0.15; Number of conductors:196 as per specification no: IRS:S 76/89 Amendt-3. For wiring of IPS and Battery in Red and Black Colour	nos	600			0.8583%	
87	N	Supply of Flexible Wire Copper multistrand, 16 Sq. mm, PVC insulated insulation thickness of 1.5 mm±0.15; Number of conductors:126 as per specification no: IRS:S 76/89 Amendt-3. For wiring from IPS to fuse/termination board in Red&Black colour for DC supply, Gray for AC supply and Green for earth wire	nos	300			0.3577%	
							0.0000%	
88	N	Fabrication, Supply and fixing of Signal cable marker as per drg. no. CORE/S&T/ALD/ SK/ 373/ 98	No	10			0.0382%	
89	N	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			0.0382%	
90	N	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)	KMs	6			5.1657%	
91	N	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			0.3017%	
							0.0000%	
92	N	Supply & installation of B Type Choke	No's	136			4.1970%	
93	N	Supply & installation of Filter unit	No's	12			4.9827%	
94	N	Supply & installation of Wire insulator	NO's	52			0.5064%	
95	N	Supply & installation of TF Charger 110V AC/1-4 Cell 80AH,10A	No's	68			5.5875%	
96	N	Supply & installation of LM Secondary cell 80 AH	No's	204			6.8949%	
97	N	Supply & installation of VF transformer (1120:470 ) 6 Quad for Block Equipment & EC sockets	NO's	93			1.1735%	
							0.0000%	
							0.0000%	

<p style="text-align: center;"><b>Annexure-IV</b>  <b>Price Bid Format:Works &amp; services Items for S&amp;T Station Works- Jhansi (Birlanagar to Etawah)- Part-B Additional Items</b></p>								
Sl. No.	BOQ Sl. No.	Item Description (To be read in conjunction with respective technical specification contained in TCC Vol. 1A, GCC for Works Vol 1C & SCC for Works, Vol 1B will be applicable)	Unit	Quantity	Rate (in Rs.)	Amount(in Rs.)	% Weightage	Explanatory Notes
A	AI	B	C	D	E	F	G	H
98	N	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	27.7	Bidders not to quote or write anything here	Bidders not to quote or write anything here	9.8199%	Contractor to place second class country made bricks on top of the laid cable in open trench for protecting the cable. For which there is no sand / any concreting is required in between bricks. Contractor to ensure the total laid cables with in a trench are completely covered by bricks by placing adjucent to each other. (The trenching and back filling, laying of cables, supply of cables, supply of Bricks etc., are covered in other line items)
99	N	Centering and shuttering including strutting, propping etc and removal of form for : Foundations, footings, bases of columns etc for mass concrete	Sqm	60			0.1687%	work shall be done as per DSR item 5.9.1
100	N	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	300			0.2472%	work shall be done as per DSR item 5.22.6
101	N	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	30			0.3176%	work shall be done as per DSR item 15.2.2
102	N	Demolishing R.C.C. work by mechanical means and stockpiling at designated locations and disposa of dismantled materials up to a lead of 1 kilometre, stacking serviceable and unserviceable material separately including cutting reinforcement bars.	cum	30			0.7504%	work shall be done as per DSR item 15.3
103	N	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	60			0.0325%	work shall be done as per DSR item 15.23.1
104	N	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	60			0.8703%	work shall be done as per DSR item 15.7.4
105	N	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	30			2.0097%	work shall be done as per DSR item 4.1.3
106	N	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	30			1.8228%	work shall be done as per DSR item 6.1.2
107	N	15mm cement plaster on the rough side of single or half brick wall of mix: 1:6 ( 1 cement : 6 fine sand)	Sqm	30			0.0867%	work shall be done as per DSR item 13.2.2
108	N	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	600			0.7834%	
109	N	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	600			0.8930%	
110	N	Making openings in existing brick wall or partition wall including making good the broken edges/surface with cement mortar 1:6 etc. complete.	CUM	30			0.4844%	
111	N	Supply and placing in position mild steel wire fabric of square mesh 25 mm size and wire diameter 2 mm for encasing of steel sections in concrete including cutting, bending, fixing etc. complete.	SQM	60			0.2114%	



**Annexure-IV**  
**Price Bid Format:Works & services Items for S&T Station Works- Jhansi (Birlanagar to Etawah)- Part-B Additional Items**

Sl. No.	BOQ Sl. No.	Item Description (To be read in conjunction with respective technical specification contained in TCC Vol. IA, GCC for Works Vol 1C & SCC for Works, Vol 1B will be applicable)	Unit	Quantity	Rate (in Rs.)	Amount(in Rs.)	% Weightage	Explanatory Notes
A	AI	B	C	D	E	F	G	H
112	N	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	60	Bidders not to quote or write anything here	Bidders not to quote or write anything here	0.5602%	
113	N	Testing OFC cable	KM's	3			0.0372%	Testing OFC Cable : This work includes carrying out the joint test with railway engineer & BHEL representatives. The work includes submission of OTDR readings etc for OFC cable laid. The contractor shall submit as makes 5 sets of cable route plans, jointing details, EMC details as per railway practice along with one set of AUTO CAD drawings in softcopy
114	N	Testing Quad cable	KM's	3			0.0372%	Testing Quad cable : This work includes carrying out the joint test with railway engineer & BHEL representatives. The work includes submission of measurement of loop resistance, Insulation test, EMC test etc for Quad cable laid . The contractor shall submit as makes 5 sets of cable route plans, jointing details, EMC details as per railway practice along with one set of AUTO CAD drawings in softcopy
		<b>Total (Excluding taxes)</b>					<b>100.0000%</b>	