

Status of work completed in station work for Gr239 and Gr241A

Sl.No.	Item Description	Unit	Total Qty	Completed work till 13.11.2022 (Q)
Annexure-I: Works and Services for S&T Station work.				
1	Supply and Fixing of RE Protective Screens on signals	NO's	17	14
2	Supply & Installation of Maintenance free earthing and bonding system as per RDSO.	NO's	64	44
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	875	495
4	Supply and Installation of Lever Frame Insulation & Augmentation	No's	1	
5	Supply of FCPC To SCPC 10 meter long patch cords with 0 db adaptors	NO's	27	15
6	Supply and installation of 48V/200AH VRLA maintenance free battery	NO's	13	13
7	Supply of Electronic Gate Telephone System - Master Telephone.	NO's	3	
8	Supply of Electronic Gate Telephone System - Slave Telephone.	NO's	6	6
9	Supply of Electronic Gate Telephone System - 24V DC power pack with MF battery-7AH for electronic LC gate Telephone or similar / advanced.	NO's	3	3
10	Supply and Installation of various boards like BSLB / GWB / STOP / Calling-ON boards etc.,	NO's	4	2
11	Supply, installation, including earthing of 42U 19" covered racks for housing SDH and PD-MUX equipment's, DDF, FMS, MDF, using krone module etc.	NO's	19	18
12	Supply and installation testing and commission of 2 MB programmable primary digital drop insert multiplexer	NO's	19.6	15
13	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	10	
14	Supply & Installation of conventional earth pit for earthing of S&T installations.	NO's	231	302
15	Modification / Alteration / shifting of existing Integrated power supply system (IPS) system	NO's	3	
16	Installation, termination, wiring, testing and commissioning of point machine	Per Machine	3	

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17	Painting of MS Flat with one coating of red oxide as primary and two coats of anti-corrosive black.	Mtrs	1741	725
17a	Supply of MS flat of size 40 x 6mm	Mtrs	1140	740
18	Modification of existing Block instrument / token (or) token less instrument to suit 25KV AC traction RE.	Pairs	0	
19	Shifting of S&T Location / Battery boxes (Horizontal re-location)	Per Box	24	22
20	Installation of copper tape 3 x 25 mm	Mtrs	570	155
21	Supply of copper tape 3 x 25 mm	Mtrs	550	705
22	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.	NO's	1	
23	Supply & Installation of Junction Box along with internal accessories and painting to mount different S&T equipments.	NO's	8	6
24	Carrying out alterations to the existing SM's control panel.	LS	0	
25	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	Per Station	1	
25a	Supply of Relay (QN1)	NO's	24	24
25b	Supply of Relay (QNA1)	NO's	238	238
25c	Supply of Relay (QNA1K)	NO's	0	
25d	Supply of Relay (QECX)	NO's	2	2
25e	Supply of QSPA1 Relay	No's	53	53
25f	Supply of Universal Lamp proving relays	NO's	2	2
25g	Supply of Timer Relay	NO's	0	
25h	Supply of 110V AC LED ECR	No's	9	9
25i	Supply of Relay Flasher	NO's	0	
25j	Supply of Relay (Other than above models)	NO's	0	
25k	Supply of Beetel make Push Button telephone with CLI (Model-M51) or similar	NO's	52	52
26	Supply and installation of ARA Terminal block with links, 6 way,	NO's	7111	3816
27	Erection & wiring of shunt signal post.	NO's	6	0
27a	Supply & Installation of Independent shunt signals complete with post, surface base, position light shunt signal unit, Anchor bolts, Universal lock with key etc.,	NO's	4	0
27b	Supply & Installation of Dependent type Position light shunt signal unit along with OFF set bracket, Universal lock with key etc.,	NO's	0	

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28	Design and drawings for complete indoor signaling work for RE modifications in existing stations as per SIP.	Per Station	9	6
29	Painting, Letter writing, Numbering or termination particulars over all Indoor & Outdoor Gears at Complete STATION including LC gate.	Per Station	5	3
29a	Supply of Various types of markers as :- P /C /G /A / IB markers	NO's	3	15
30	Fixing and wiring RKT / EKT for siding / LC Gate interlocking. This includes installation of magneto telephones at location, gate, SM's office etc.	NO's	0	
31	Installation and commissioning of 4 wire way station equipment's, power supply unit at SP / SSP / Station / TSS / AEN / PWI / SI offices/Residences.	NO's	0	
31a	Supply of DTMF Base Head quarter Equipment (2/4 wire) with all accessories for control office.	NO's	0	
31b	Supply of 4 Wire way station Equipment with DTMF	NO's	0	
31c	Supply of Portable Emergency telephone 4 wire	NO's	0	
31d	Supply of Power supply unit (PSU) for telecom installation at way side equipment	NO's	0	
32	Initial charging of lead acid low maintenance batteries 48V, 200AH VRLA or any other batteries.	NO's	34	181
32a	Supply & 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	13	13

Sl.No.	Item Description	Unit	Total Qty	Completed work till 13.11.2022 (Q)
33	Fixing of 10 pair CT box and termination of cable at the station/LC gates, TSS, PS, SSP, Quarters, Service buildings etc.	NO's	31	7
33a	Supply of 10 pair CT box with KRONE terminal similar to WAGO/Phoenix make	NO's	31	31
33b	Supply of Switch board cable 10 pairX0.5mm for indoor wiring.	KM's	3	3
34	Fixing of 20 pair CT box and termination of cable at the station/LC gates, TSS, PS, SSP, Quarters, Service buildings etc.	NO's	102	123
34a	Supply of 20 pair CT box with KRONE terminal similar to WAGO/PhoniX make	NO's	64	64
34b	Supply of Switch Board cable 20 pairX0.5mm for indoor wiring.	KM's	2.028	2
35	Modification of existing PA system to suit RE requirement	NO's	3	
36	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. Back filling the trench with earth to the level of surrounding ground after laying cables.	KM's	32.476	24.5
37	Laying of signaling / power / cables of various sizes.	KM's	122.16	94.1
37a	Supply of PIJF Cable:10PAIR x 0.63MM	KM's	4.512	5
37b	Supply of PIJF Cable:20PAIR x 0.63MM	KM's	3.553	3.6
37c	Supply of PIJF Cable:50PAIR x 0.63MM	KM's	0	
38	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.	Per Box	73	36
38a	Supply & installation of Location box (Full case) along with internal accessories and painting to mount different S&T equipments.	NO's	28	22
38b	Supply & installation of Location box (Half case) along with internal accessories and painting to mount different S&T equipments.	NO's	16	10
39	Excavation of cable trench of 1 m depth & 0.3m depth wide across the track crossing, platform & refilling	KM's	0.845	1
40	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	

Sl.No.	Item Description	Unit	Total Qty	Completed work till 13.11.2022 (Q)
41	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	818	895
42	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	1208	910
42a	Supply of DC-DC Convertor 24-32V, 5A	No's	10	10
42b	Supply of DC-DC Convertor 24-40V, 10A	No's	0	
42c	Supply of DC-DC Convertor 12-40V, 10A	No's	0	
42d	Supply of DC-DC Convertor 24-32V, 1A	No's	0	
42e	Supply of DC-DC Convertor 100-150V, 1A	No's	0	
43	Perforation and Fixing of GI Pipes on Drains, & LC Gates	Mtrs	460	384
43a	Supply of GI pipe 100 mm dia class "B" ISI marked with accessories including bends	Mtrs	598.63	599
43b	Supply of Mild steel channel for trough/GI pipe fixing on grider bridge	Mtrs	30	
44	Excavation of cable pit without damaging existing working cables, laying& insertion of new extra cables.	Per Box	3	
44a	Supply and installation of ARA Terminal blocks with links, 1 Way, made of PBT along with accessories	No's	177	27
45	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 Station	5	
Annexure-II: Works & Services S&T Station work.: New Items				
65	Supply & installation of 9U 19" Wall mountable Rack	No	0	
66	Supply of MRO TEK make MAPLE 4C or better, 1U, 19 " rack mountable device consisting of four E1 ports	No	0	
67	Installation of Maple 4C system with all other accessories at station/SP/SSP/TSS	No	0	
68	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	43	31
69	Supply and installation of control room Equipment with all accessories as per RDSO Spec.No.SPN/TC/66/2007 with amendment 2.	No	5.4	4

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70	Supply and installation of control way station Equipment as per RDSO Spec.No. RDSO/SPN/TC:/66/2007 with Amendment 2.	No	16	16
71	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	800	200
73	Supply and installation of new TLD box, GI pipe, 2X2.5 Sq mm cable and wire rope with accessories as per dwg no. RVNL/S&T/SG-017/2005, termination of cable in TLD boxes and connection/bonding to track as per railway practice.	Nos	22	
74	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	18	
75	Supply and installation of Rodding Run for TWS siding with EPD /Trestel 2 way	set	0	
76	Supply and installation of Insulator of Point rodding at function end and lever end as per specification No. IRS S-40- 84.	Nos	5	14
78	Supply and installation of Adjustable Track feed Resistance.	No	55	60
79	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	179	224
80	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, extent practice on Rly. and the instructions of Railway Engineer at site.	Nos	0	

Sl.No.	Item Description	Unit	Total Qty	Completed work till 13.11.2022 (Q)
81	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	0	
82	Supply and Installation of 230- 110V/1.5 KVA IPS Transformer	nos	0	
83	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	5	
84	Supply of 3x0.7 and 16/0.2 multi strand flexible wire red, black and others (wiring material),	Mtrs	29420	23420
85	Supply of Multistrand flexible Cable Red, green yellow for signal wiring size 2.5 sq mm dia.	Mtrs	1950	1000
86	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	Mtrs	0	
87	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	Mtrs	2334	2955
88	Supply and fixing of RCC Signal cable marker as per drg. no. SG/SWR/067.	No	500	
90	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	24.981	16.7

Sl.No.	Item Description	Unit	Total Qty	Completed work till 13.11.2022 (Q)
91	Supply and fixing of precast RCC Joint Chamber as per drawings OR Excavation for Jointing pit and preparing RCC 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. Filling of river sand complete in the jointing chamber.	No	0	
92	Supply & installation of 'B' type choke.	No's	252	252
93	Supply & installation of Filter unit from Railway approved vendors and their specification IRS S 68/89.	No's	4	4
94	Supply & installation of Wire insulator	NO's	96	96
95	Supply & installation of TF Charger.	No's	172	163
96	Supply & installation of LM Secondary cell 80 AH or equivalent.	No's	279	342
97	Supply & installation of VF transformer (1120:470) 6 Quad for Block Equipment & EC sockets	NO's	87	87
98	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	0	
99	Centering and shuttering including strutting, propping etc and removal of form for : Foundations, footings, bases of columns etc for mass concrete	Sqm	0	
100	Reinforcement for RCC work including straightening, cutting, bending, placing in position and binding all complete Thermo-Mechanically Treated bars of grade Fe-500D or more.	Kg	0	
101	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	0	
102	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	1	1
103	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	2	

Sl.No.	Item Description	Unit	Total Qty	Completed work till 13.11.2022 (Q)
104	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	2	
105	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	2	
106	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	2	
107	15mm cement plaster on the rough side of single or half brick wall of mix: 1:6 (1 cement : 6 fine sand)	Sqm	2	

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108	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	2	
109	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	2	
110	Making openings in existing brick wall or partition wall including making good the broken edges/surface with cement mortar 1:6 etc. complete.	CUM	2	
111	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	2	
112	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	2	
113	Testing of OFC cable including supply of joint protection and splicing activity.	KM's	1.5	
114	Testing Quad cable	KM's	1.5	
Annexure-III: Additional Items added in amedment no.1 dated:30.04.2021				
1	Installation, termination, wiring, testing and commissioning of interlocked section (Electronic Interlocking). The S&T modification equipment installed within the station are needs to be integrated and functionally tested with each other in totality.	Per Station	2	
2	Supply of Relay QBAT (Revised to QBCA1)	Nos	20	
3	Supply of Relay QTA2	Nos	39	7
4	Installtion of DC-DC Convertors	Nos	10	
5	Supply of Ground Connection for 143mm throw IRS type machine complete (5Rods)	Set	3	

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6	Installation of Rack Type STM-1 ADM unit with STM-1 aggregate interface, 21 E1s and 4 nos. of 10/100 base-T Ethernet port order wire, power supply unit, sub rack installation material and necessary material etc.	No's	20	13
7	Supply and Installation of cable termination pannel fitted with 6 nos. of 32 way U link feed pannel along U links complete and mounting arrangement	No's	2	
8	Supply and Installation of Test room equipment with 19" Rack mounting 48 V DC operated directly interface with OFC 4wire circuit as per RDSO specification no. RDSO/SPN/TC/66/2007 with ammendment-2, including latest amendment.	No's	4	3
9	Installation of 12 U Rack	No's	24	24
10	Supply and Installation of 3- way amplifier as per RDSO specification No. RDSO/SPN/TC/66/ 2007 with amendment -2 including latest amendment	No's	2.7	3
11	Supply and Installation of Emergency Control Room Equipment as per specification No.TRS-TC-61/93	No's	2	
12	Installation and Commissioning of NMS along with other S&T equipment at Head Quarter	No's	2	
13	Ring Earthing	No's	1	
Annexure-IV: Additional Items added in amedment no.2 dated:28.08.2021				
NSHD-1	Under Ground moulng / boring / drilling via horizontal direction for Trenchless cables laying through canals, rivers, culvers, bridges, RUB's, ROB's, road crossings, along the length of track at difficult locations (where normal trench is not possible) etc.,	meter	6398	6398
Annexure-V: Additional Items added in amedment no.3 dated: 08.06.2022				
NS-14	Installation of 40x 6 mm MS Flat for Earthing of existing LBs & Signal Posts by replacing existing GI wire and connecting to existing Earth Pipe.	meter	478	379.37
NS-15	Supply and Installation of RCC Enclosure for Earth Pit	Nos	140	371
NS-16	Supply and Installation of RCC Enclosure cover for Earth Pit	Nos	150	374
NS-17	Installation of Conventional earth pit including earth connection to S&T installation by suitable means(Ms flat/copper wire) as required. (Earth pipe supplied by BHEL)	Nos	80	
NS-18	Wiring in existing Full Location Boxes	Nos	46	4
NS-19	Wiring in existing Half Location Boxes	Nos	22	9

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NS-20	Supply of all consumables, charging, wiring and in new Full Location Boxes	Nos	44	22
NS-21	Supply of all consumables, charging, wiring and in new Half Location Boxes	Nos	23	10
NS-22	Supply and installation of ladder in OFC hut	meter	30	23
NS-23	Installation along with stand for Telephone [Telephone will be a separate line item].	Nos	38	6
NS-24	Communication modem minimum speed: 64 Kbps	Nos	12	12
NS-25	25 mm PVC Pipe	meter	70	
NS-26	40 mm PVC Pipe	meter	30	
NS-27	100 mm PVC Pipe	meter	30	
NS-28	40 mm GI Pipe	meter	80	30
NS-29	25mm Flexible conduit Pipe	meter	70	280
NS-30	Insulator for Earthing	Nos	90	80
NS-31	50x6 mm copper strip for BUS BAR	meter	45	
NS-32	25x6 mm copper strip for BUS BAR	meter	60	

Sl.No.	Item Description	Unit	Total Qty	Completed work till 13.11.2022 (Q)
NS-33	63 Amp MCB	Nos	3	7
NS-34	16 Amp MCB	Nos	3	48
NS-35	Change over panel	Nos	2	
NS-36	18 mm Cu wire	meter	450	
NS-37	Supply and installation of WAGO/Phoenix Terminals	Nos	150	2199
NS-38	Extra Splicing, supply of OFC Joint enclosure and Termination of OFC Cable (by other party)	Nos	8	28
NS-39	Supply of wires, insulator, paint and consumables for Relay room wiring	Nos	2	4
NS-40	10 Amp switch	Nos	2	