

**HOWRAH DIVISION-GATI SHAKTI/EASTERN RLY  
TENDER DOCUMENT**

Tender No: GSU-DCSTE\_2\_23-24

Closing Date/Time: 09/05/2023 15:00

DRM/HWH acting for and on behalf of The President of India invites E-Tenders against Tender No **GSU-DCSTE\_2\_23-24** Closing Date/Time 09/05/2023 15:00 Hrs. Bidders will be able to submit their original/revised bids upto closing date and time only. Manual offers are not allowed against this tender, and any such manual offer received shall be ignored.

**1. NIT HEADER**

<b>Name of Work</b>	Replacement of Panel Interlocking stations to Electronic Interlocking in connection with the Linking of SER to ER at MSAE Station of HWH Division. Under CPM/GSU/HWH		
<b>Bidding type</b>	Normal Tender		
<b>Tender Type</b>	Open	<b>Bidding System</b>	Two Packet System
<b>Tender Closing Date Time</b>	09/05/2023 15:00	<b>Date Time Of Uploading Tender</b>	14/04/2023 19:07
<b>Pre-Bid Conference Required</b>	No	<b>Pre-Bid Conference Date Time</b>	Not Applicable
<b>Advertised Value</b>	197882581.99	<b>Tendering Section</b>	GSU/HWH
<b>Bidding Style</b>	Single Rate for Each Schedule	<b>Bidding Unit</b>	
<b>Earnest Money (Rs.)</b>	1139400.00	<b>Validity of Offer ( Days)</b>	60
<b>Tender Doc. Cost (Rs.)</b>	0.00	<b>Period of Completion</b>	6 Months
<b>Contract Type</b>	Works	<b>Contract Category</b>	Expenditure
<b>Bidding Start Date</b>	25/04/2023	<b>Are Joint Venture (JV) firms allowed to bid</b>	Yes
<b>Ranking Order For Bids</b>	Lowest to Highest	<b>Expenditure Type</b>	Capital (Works)

**2. SCHEDULE**

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
<b>Schedule A-(SOR Items for S&amp;T work)</b>							165146180.59	Above/ Below/Par
	001	502.00	Each	78973.44	39644666.88	AT Par	39644666.88	

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001	<p><b>Description:-</b> Design, manufacture and supply of Electronic Interlocking (EI) system complete with architecture of EI i.e. Distributed or Centralised as per the requirement of Zonal Railway, as per RDSO specification No.(RDSO/SPN/ 192/2019 Ver. 2 or Latest) or (RDSO/SPN/203/2011 Ver. 1 for Big Yard having more than 200 Routes or latest) or as per approval of PCSTE for specification to be adopted and from RDSO approved source only and as per special conditions of contract mainly consisting of Microprocessor Equipments, Interface Equipments, EI vendor specific Interfacing Relays, In-built event Logger, In-built Power Supply Equipments, Racks (Relay Rack/EI Rack/CT Rack-including screw less disconnect terminals make WAGO/PHOENIX/SIMILAR), Indoor cables, Wires, Fuses , Fixtures, Mounting arrangements along with all accessories required to make complete EI system functional. Design of indoor EI system should be compatible as per outdoor interlocking requirement based on Signal Interlocking Plan &amp; Selection Table of station/yard and will be done by OEM after following all the guidelines/ directives issued by RDSO from time to time as per RE requirements , hot standby with Dual VDU [two nos. of industrial grade high resolution VDUs (Note: Size of VDU to be provided shall be based on the no. of routes, (i)For less than 100 Routes-55" LED based VDU with 4K resolution suitable for 24x7 application,(ii)For more than 100 routes and less than 200 Routes-65" LED based VDU with 4K resolution suitable for 24x7 application,(iii)For more than 200 routes-Larger size of LED based VDU with 4K resolution suitable for 24x7 application or array of LED panel with minimum/zero bezel or video wall with redundant controller in hot standby configuration, as specified by purchaser is to be provided) conforming to SIL-II certification for operator console at central location, Maintenance Terminals (Size of VDU should be same as for operator VDU as indicated in (i) &amp;(ii), however for (iii) purchaser will specify) along with color laser printer at central &amp; goomties locations, housing for EI Equipments and Relay Racks, Fixture, mounting arrangements and accessories necessary to make the EI system functional, Tentative SIP is enclosed for station. This provision of hot-standby arrangement must have the supply, installation and commissioning of associated cards for the above arrangement such as communication card, synchronization card and-(a) Supply of documents /manuals for EI system as per RDSO Specn. No. RDSO/SPN/192/2019 Ver.2 or latest. (b) Supply &amp; provision of protective devices like surge and lightning protection devices compatible to RE standards as recommended by OEM / RDSO. Inspection: RDSO. (c)Design, preparation &amp; supply of drawings in computer print copies and original tracing in AUTO CAD FORMAT for Electronic Interlocking at each station. After completion of the work, the completion drawings incorporating completion details are to be supplied as per Technical Specifications given in tender document. The technical specifications are as per ANNEXURE-O 10100 of SOR.Design to be made by qualified engineer conversant with signalling work alongwith endorsement. Note: - before submission to railway, selection table must be authenticated by OEM. (d)Supply of Instruments and Tool Kits required for Trouble Shooting and repair of hardware and software for EI system should be supplied for stations as recommended by OEM .(HERE EACH MEANS PER FUNCTIONAL VITAL BIT)FOR MORE DESCRIPTION REFER SOR's ITEM No.-10100 &amp; 10102 For Station with routes More than 50.</p>						
002	002	1.00	Station	648703.52	648703.52	AT Par	648703.52
<p><b>Description:-</b> Installation, wiring, testing (FAT &amp; SAT) and commissioning of EI System with 'Hot Standby' architecture as supplied above item-100101/2/3. It includes transportation of material from consignee's depot to the site, erection and grouting of EI Relay Racks, fixing and wiring of all the interfacing relays (Vital &amp; Non-Vital) , installation and wiring of Microprocessor equipments, interface equipments, power supply equipments and all other associated accessories to make complete EI system to be functional. Note: (i) Technical Requirements are attached with tender document (ii) Contractor has to arrange simulator/ simulation testing panel for testing and commissioning by Selection Table and Square Sheet for each Signalling function.(iii) Installation, wiring, testing and commissioning of EI system will be done by OEM after following all the guidelines/ directives issued by RDSO from time to time.(PER STATION)</p>							
003	003	1.00	Numbers	90229.41	90229.41	AT Par	90229.41
<p><b>Description:-</b> Supply of portable work station to run along with EI configuration tools, data input, simulation and functional testing, diagnostics and trouble shooting and commissioning of EI System. It also includes supply of Laser Printer (Only branded). The minimum configuration of workstation should be Intel i5 with 8 GB RAM,500 GB HDD and 15 inches LED display of standard make such as Dell/ HP/Lenovo or Equivalent with required softwares as mentioned above and compatible ports to connect with EI. Detailed Technical Specifications should be attached with the tender document by Tendering authority. Inspection: Consignee.</p>							
004	004	1.00	Station	225175.15	225175.15	AT Par	225175.15
<p><b>Description:-</b> Maintenance supervision of Electronics Interlocking equipment for one years from the date of expiry of free maintenance period as per conditions of contract, as per the details given in special condition of contract agreement, as per the latest guidelines of PCSTE, and provision mentioned in Signal Engineering Manual. All the records are to be maintained as per latest circulars prevailing in the Division. During maintenance at least two expert personnel from the firm should be available at the station round the clock. NOTE-This item will be operated separately and will not restrict closure of contract. Separate bank guarantee will be submitted for this schedule item if require.(PER STATION)</p>							
005	005	20.00	Day	1236.34	24726.80	AT Par	24726.80
<p><b>Description:-</b> Training of Railway Personnel by OEM for installation, Commissioning, Testing, troubleshooting &amp; making changes in application data and logics by railway officials to suit yard modification done at later stage including documentation. (Hard copies of training material/ course modules to be given to each participant). (MAN/DAY)</p>							
006	006	1.00	Numbers	319572.79	319572.79	AT Par	319572.79

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006	<b>Description:-</b> Supply, Installation, wiring, testing and commissioning of embedded fan less PC with VDU for control terminal/ maintenance terminal as per RDSO spec. No. RDSO/SPN/192/2019 Ver. 2 or latest .Note: (i) Technical requirements & size of VDU shall be mentioned in the tender document.						
	007	1.00	Numbers	135852.40	135852.40	AT Par	135852.40
007	<b>Description:-</b> Supply & Installation of 230 V AC / 3 KVA UPS (in hot stand by) system, with isolation transformer at input, SMF battery, battery rack and accessories, capable to provide back-up for 3 hrs. as per RDSO SPEC. NO. RDSO / PE / SPEC / PS 0023 -2001 (REV - 1, AMD - 3) OR LATEST of Make-Su-KAM/ Luminous /Microtek or other reputed brand, battery make: - Exide / Standard / Amaron / Amara Raja or similar for the backup of VDUs of EI. Note: - Manufacturing date of ups & battery set should be of older than 6 months at the time of supply to railway stores.UPS to be covered under (3) years warranty of manufacturer.						
	008	3.00	Set	23869.58	71608.74	AT Par	71608.74
008	<b>Description:-</b> Supply of maintainer's furniture of godrej make or superior and each set consist of(i) executive revolving bearing series low back-floating chair with normal arms cushioned chair-01 Nos. (ii) Executive table size 1650x900x728 mm with 3 drawers one side locker- 01 no.(iii) visitor chair seat & back cushion with high density foam with plastic pvc handle capsule type painted back-03 nos.						
	009	1.00	Per SIP	29139.58	29139.58	AT Par	29139.58
009	<b>Description:-</b> Designing and Plotting of Signalling Interlocking Plan(SIP) in AUTOCAD. Two copies of prints with soft copy will be submitted to Railway for checking. If alterations are suggested /proposed by Railways then again two copies of prints will be submitted for advance approval after carrying out all the alterations as suggested/proposed by the Railways. Tracings will be submitted for all the diagrams mentioned above for the purpose of approval by Railway prior to commissioning of station.						
	010	1.00	Station	61019.85	61019.85	AT Par	61019.85
010	<b>Description:-</b> Design of circuits in connection with preparation of wiring diagrams as per approved Signalling Plan and submission of indoor as well as outdoor completion documents for alteration work. It includes Route Section Plan (RSP), Selection Table (ST), Locking Table (LT) and Control Panel Diagram (CPD). Two copies of prints with soft copy will be submitted to Railway for checking. If alterations are suggested/proposed by Railways, then again two copies of prints will be submitted for advance approval after carrying out all the alterations as suggested/proposed by the Railways. Tracings will be submitted for all the diagrams mentioned above for the purpose of approval by Railway prior to commissioning of station. All drawings will be prepared in CAD. The wiring diagrams will consist relay rack analysis, relay contact analysis, fuse details. Tag block analysis etc. A separate CD/Pen drive will be submitted to Railway for each station along with original tracings. It also includes preparation and supply of laminated one set of all completion plans including circuit diagrams and indoor as well as outdoor completion documents on standard 75- micron polyester film for station in Auto CAD. 6 (Six) sets photo copies will be submitted for each of the documents mentioned below: Cable Route Plan, Cable Core Chart, Location details plan for all the locations, Cable termination details, Signalling Plan, SWR Diagram, Wiring Diagrams, Selection Table, Locking Table, Contact Analysis, Fuse and Tag Block Analysis of Relay Rack and CT Rack, Control Cum Indication Panel, Power Panel Diagram, Track Circuit Plan, Rack Erection Plan and Junction Box details etc. Note: Total cost of design and completion documents for a station/yard will be calculated on basis of total possible movements/routes as per Selection Table (ST).(PER STATION)						
	011	1.00	Numbers	112080.89	112080.89	AT Par	112080.89
011	<b>Description:-</b> Supply and installation of housing cabinet of suitable dimensions to house VDU control terminal along with CPU, one set of input device (keyboard and mouse etc.), monitor and power supply arrangement. The detailed drawing of the cabinet along with placement of various equipments inside the cabinet shall be submitted by the tenderer and got approved by the Railway before supply. Technical requirement are attached herewith. Inspection: Consignee						
	012	5.00	Numbers	2862.11	14310.55	AT Par	14310.55
012	<b>Description:-</b> Supply of Office Chair make Godrej CH-7B or similar of reputed brand. Inspection: Consignee						
	013	4.00	Numbers	7975.99	31903.96	AT Par	31903.96
013	<b>Description:-</b> Supply of Office Revolving Chair Godrej Make Model No.9U02R Bravo or Similar of reputed brand. Inspection: Consignee						
	014	4.00	Numbers	13067.13	52268.52	AT Par	52268.52
014	<b>Description:-</b> Supply of Office table with laminated top with three drawers on left hand side and one locker on the right hand side. Olive brown with duplicate keys. Make: Godrej Model T-9 (136.5 cmX68cmX 75cm) or Similar of reputed brand. Inspection: Consignee						
	015	4.00	Numbers	16896.24	67584.96	AT Par	67584.96
015	<b>Description:-</b> Supply of Steel Plain Almira with 4 adjustable slaves Size: 1980mm height, 915 mm width and 485 mm depth. Make: Godrej Storewel Plain Large or Similar of reputed brand. Inspection: Consignee						
	016	2.00	Numbers	35887.81	71775.62	AT Par	71775.62
016	<b>Description:-</b> Supply of Panel cum Block Instrument table complete as per approved drawing. It includes any modification to it if required by Engineer-in-charge at site. Inspection: Consignee						
	017	6.00	Numbers	230100.00	1380600.00	AT Par	1380600.00

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017			<b>Description:-</b> Supply of Gallant make Modular Power Supply Arrangement for VDU (42" - 85") and Industrial PC (Embedded PC) with Input and Output Redundancy Arrangement and Hot Pluggable Modules. Consisting of: Input O-Ring Diode Module with Potential Free-1 No contacts (PFC) for two 110VDC Sources from IPS and Single 110VDC bus. 2.Isolated Inverters (Master/Slave) -2 Nos. Input: 110VDC, Output: 120VAC/220VAC 500VA. 3. Isolated DC-DC Converters-2 Nos. Input:110VDC, Output:24VDC/10A.4.3U SS Rack with back Panel Mother Board/ Front Panel Power Connectors Inverter Auto Change Over Switch and all required over Switch and all required protection circuits. SS Rack Dimension:- 1.3U Height for main Rack (132. Smm ± 10%), 2.1U height for Mounting (44.4mm ±10%)				
018	018	3.00	Numbers	484693.30	1454079.90	AT Par	1454079.90
	<b>Description:-</b> Supply of Micro Processor based Data Logger System with 1024 digital and 32 analog inputs with DOT Matrix Printer,80 COL as per RDSO Spec. No. IRS (S) 99/2006 with Amdt. 3.0 or latest. It includes supply of all the items required for complete indoor relay room wiring from data logger to relay rack tag blocks, drawing/extension of power supply up to Data Logger. It includes relay room door lock checking arrangement, commercial power supply monitoring arrangement & monitoring of DG sets, ELD, IPS, UFSBI, BI, interlinking and networking of Data logger. It also includes supply of leased line MODEM and other interfacing cards, if required for networking of Data logger. This also includes supply of one no. composite computer and printer table (Godrej work station table or similar) for keeping processor module workstation and one number Godrej operator chair Model PCH7001 or similar. Note: (1) Total numbers of relays and other signalling functions/ gears required to be wired as per list circulated vide RDSO Letter No.STS/E/Data logger dtd.12.09. 2011 or latest guidelines of Railway Board/ RDSO/ Zonal Railway. (2) Exceptional reports are to be generated by a computer connected to datalogger at the station and at a central location in Control Room. Datalogger software should be able to generate exceptional reports for maintenance, safety and operations as per latest guidelines of Railway Board/RDSO/ Zonal Railway. Datalogger to be installed at Site by OEM. Manufacturing date of datalogger/ RTU and printer should be of current year at the time of supply. Inspection: RDSO for Datalogger. Inspection: Consignee for Printer & other items.						
019	019	3.00	Numbers	33605.31	100815.93	AT Par	100815.93
	<b>Description:-</b> Supply of 24V power supply with Charger as per RDSO Spec. No. IRS-S-93/ 96B with Amdt.1 or latest with battery backup of 80AH capacity for data logger. Material to be procured from RDSO's approved source only. Inspection: -By RDSO.						
020	020	3.00	Set	25596.90	76790.70	AT Par	76790.70
	<b>Description:-</b> "Supply of Dual Leased Modem internal card to fit in central processing unit rack for networking of data logger system of other stations. Each set shall comprise of one pair of modem and shall have data compatibility 1TUV 21, V2, V22 BITS, V23V23A, B V25 BITS, V32, V32 BITS V42, V42 BITS, suitable to work in either ofc media or microwave or quad cable. Inspection: By Consignee."						
021	021	3.00	Numbers	28391.68	85175.04	AT Par	85175.04
	<b>Description:-</b> Installation, wiring, testing & commissioning of Micro Processor based Data Logger System with 1024 digital and 32 analog inputs as per RDSO Spec. No. IRS (S) 99/2006 or latest It cover complete indoor relay room wiring from data logger to relay rack tag blocks, drawing/extension of power supply up to Data Logger. It includes relay room door lock checking arrangement, commercial power supply monitoring arrangement & DG sets, ELD, IPS, UFSBI, BI interlinking and networking of Data logger. All material required for wiring, networking, power supply monitoring, door-locking arrangement etc. will be supplied by contractor. Note: Total numbers of relays and other signalling functions/gears required to be wired as per list circulated vide RDSO Letter No.STS/E/Data logger dtd.12.09.20 11 or latest guidelines of Railway Board/ RDSO/ Zonal Railway. Networking of data logger includes extraction of data report from Control room. Exceptional reports are to be generated by a computer connected to datalogger at the station and at a central location in Control Room. Datalogger software should be able to generate exceptional reports for maintenance, safety and operations as per latest guidelines of Railway Board/ RDSO/ Zonal Railway. Datalogger to be installed at Site by OEM. For networking, required communication channel (Quad/ OFC cable) will be arranged /provided by Rly in SM/ASM's room or in OFC/AUTO/ EI Huts and it will be extended by contractor up to location of data logger by using CAT-5/6 telecom cable with proper casing and capping. The contractor will supply all the material like CAT-5/6 telecom cable, casing & capping, nuts, bolts etc. The final commissioning will be done after filling up of Pre- Commissioning checklist (circulated by RDSO) with the OEM representative. Datalogger to be validated and commissioned before simulation test and put in network, validation statement should be jointly signed by railway engineer (open line), railway engineer (construction) & OEM'S engineer before simulation test with name, designation and date. Payment for this item will be released only after submission of duly signed pre-commissioning checklist of data logger in standard RDSO format, joint signature of validation statement. OEM'S engineer will also impart training to rly staff at site for proper functioning /working and applications of data logger. Inspection: Consignee.						
022	022	30.00	Numbers	1625.99	48779.70	AT Par	48779.70
	<b>Description:-</b> "Relay fail safe electronic time delay device with fixed timing (0 -120) seconds and conforming to RDSO Specn. No.IRS: 5-61/2000 with Amnd.2 and IRS: S-34 & S-23 with Amdt. up to date or latest mounted on Q-series relay base & covered complete with connectors, retaining clip etc. The interlocking code for this unit shall be ""AFGKY"". Inspection authority:- RDSO"						
	023	30.00	Numbers	2164.31	64929.30	AT Par	64929.30

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023	<b>Description:-</b> "Relay fail safe electronic time delay device with fixed timing (0 @45<41@ seconds and conforming to RDSO Specn. No.IRS: S-6 1/2000 with Amnd.1 or latest mounted on Q-series relay base & covered complete with connectors, retaining clip etc. The interlocking code for this unit shall be ""AFHKY"". Inspection authority:- RDSO"						
024	024	40.00	Numbers	8577.18	343087.20	AT Par	343087.20
024	<b>Description:-</b> "Fail safe electronic flasher device as per RDSO Specn. No.RDSO/SPN/173/ 2002 Amdt.2 or latest. Inspection authority:- RDSO"						
025	025	100.00	Numbers	3685.53	368553.00	AT Par	368553.00
025	<b>Description:-</b> Q-Series Neutral Line Relay (QN1 Type), 12F/4B, 24V DC complete with plug board (base plate), connectors and retaining clips etc and conforming to BRS- 930 and RDSO Specn.No.IRS: S-34 & S-23 with Amdt. upto date or latest. The interlocking code for this unit shall be"ABCDE". Inspection authority:- RDSO						
026	026	100.00	Numbers	3791.34	379134.00	AT Par	379134.00
026	<b>Description:-</b> Q-Series Neutral Line Relay (QN1 Type), 8F/8B, 24V DC complete with plug board (base plate), connectors and retaining clips etc and conforming to BRS- 930 and RDSO Specn.No. IRS: S-34 & S-23 with Amdt. upto date as applicable or latest. The interlocking code for this unit shall be "ABCDF". Inspection authority:- RDSO						
027	027	100.00	Numbers	3938.00	393800.00	AT Par	393800.00
027	<b>Description:-</b> Q-Series Twin Neutral Line Relay (QNN1 Type), 6F/2B, 24V DC complete with plug board (base plate), connectors and retaining clips etc. and conforming to BRS-960 and RDSO Specn.No. IRS: 5-34 & S-23 or latest. The interlocking code for this unit shall be "ACDEK". Inspection authority:- RDSO						
028	028	100.00	Numbers	3938.25	393825.00	AT Par	393825.00
028	<b>Description:-</b> Q-Series Twin Neutral Line Relay (QNN1 Type), 4F/4B, 24V DC complete with plug board (base plate), connectors and retaining clips etc. and conforming to BRS-960 and RDSO Specn. No.IRS: S-34 & S-23 or latest. The interlocking code for this unit shall be "ACE HJ". Inspection authority:- RDSO						
029	029	30.00	Numbers	5801.67	174050.10	AT Par	174050.10
029	<b>Description:-</b> Q-Series Magnetically Latched Neutral Line Relay (QL1 Type), 11F/4B, 24V DC complete with plug board (base plate), connectors and retaining clips and conforming to BRS-935A and RDSO Specn.No. IRS: 5-34 & S-23with Amdt. upto date as applicable or latest. The interlocking code for this unit shall be "ABDEG". Inspection authority:- RDSO						
030	030	30.00	Numbers	5426.82	162804.60	AT Par	162804.60
030	<b>Description:-</b> Q-Series Magnetically Latched Neutral Line Relay (QL1 Type), 8F/6B, 24V DC complete with plug board (base plate), connectors and retaining clips and conforming to BRS-935A and RDSO Specn.No. IRS: 5-34 & S-23 or latest. The interlocking code for this unit shall be "ABCEG". Inspection authority:- RDSO						
031	031	100.00	Numbers	3865.48	386548.00	AT Par	386548.00
031	<b>Description:-</b> Q-Series Neutral Line Relay (Style QN1K), 1000 Ohm, 6F/6B,24V DC complete with plug board(base plate) , connectors and retaining clips etc. and conforming to BRS:930 & RDSO letter no STs/E/Relays/ UEA/ PI dated 30.05.97 Annexure I and RDSO Specn.No. IRS:S-34 & 5- 23 or latest .The interlocking code for this unit shall be "BDEKX". Inspection authority:- RDSO						
032	032	60.00	Numbers	4983.53	299011.80	AT Par	299011.80
032	<b>Description:-</b> Q-Series LED ECR (Universal Type i.e. QECX- 61), 4F/4B complete with plug board (base plate), connectors, retaining clips etc and conforming to BRS:94 1A STS/E/RELAYS/AC LIT LED SIGNAL/09-2002, Amdt. -1 and RDSO Specn.No.IRS: S-34 & S-23 with Amdt. upto date as applicable or latest. The interlocking code for this unit shall be "ABDHK".Inspection authority:- RDSO						
033	033	20.00	Kg	182.00	3640.00	AT Par	3640.00
033	<b>Description:-</b> "Sealing wire used for sealing of signalling relays & equipments. Inspection authority:- Consignee"						
034	034	10.00	Numbers	1093.26	10932.60	AT Par	10932.60
034	<b>Description:-</b> Supply of seal plier as per sample got approved from site engineer incharge. Inspection: Consignee						
035	035	500.00	Numbers	405.36	202680.00	AT Par	202680.00
035	<b>Description:-</b> Fixing of Q series relay base plate/metal to metal relay mini group and major group base plate, laying, bunching, lacing, dressing & packeting of 60/40 core PVC indoor cable/flexible wire and termination of 60/40 core cable/flexible wire on tag block/base plate & base plates & soldering. This includes fuse wiring, bus bar looping etc. required for keeping installation ready for circuit wiring work & panel throughing work. The work shall be done as per approved plan, extant practice on ER & the instruction of Rly. Engineer a t site. Inspection authority:- Consignee						
036	036	50.00	Numbers	4808.41	240420.50	AT Par	240420.50
036	<b>Description:-</b> "DC neutral line relay QNA1K , AC immune, DC neutral line 24V, 6F/6B contacts, complete with plug board, retaining clip and connectors. Conforming to BRS:931A & RDSO letter no STs/E/Relays/UEA/PI dated 30.05.97Annexure II and IRS:534 & IRS:523 or latest. The interlocking code for this unit shall be ""CDEKY"".Inspection authority:- RDSO"						
037	037	20.00	Numbers	3901.08	78021.60	AT Par	78021.60

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037								<b>Description:-</b> "Q-Series Line Relay (QNA1 Type),AC immunized, 8F/8B, 24 V DC along with plug board (base plate), connectors, retaining clips etc and conforming to BRS-931A and RDSO Specn. No.IRS: S@45"44@ S-23 and S-60 or latest. The interlocking code for this unit shall be ""ABDGH"". Inspection authority:- RDSO"
	038	20.00	Numbers	3918.75	78375.00	AT Par	78375.00	
038								<b>Description:-</b> "Q-Series Line Relay (QNA1 Type), AC immunized, 12F/4B, 24 V DC along with plug board (base plate), connectors, retaining clips etc and conforming to BRS-931A and RDSO Specn.No.IRS: 5@45"44@ S-23 and 5-60 with amdt. upto date as applicable or latest. The interlocking code for this unit shall be ""ABDFH"". Inspection authority:- RDSO"
	039	20.00	Numbers	7080.00	141600.00	AT Par	141600.00	
039								<b>Description:-</b> Contactor Unit (QBCA 1 Type), 24 V DC, 2F(HD)/ 4B or 2F(HD)2F-4B complete with plug board (base plate), connectors, retaining clips etc and conforming to BRS- 943 and RDSO Specn.No.IRS: 5-34 & S-23 with amdt. upto date as applicable or latest. The interlocking code for this unit shall be "BCEJK" o r "DEHJX". Inspection authority:- RDSO
	040	30.00	Numbers	5085.00	152550.00	AT Par	152550.00	
040								<b>Description:-</b> Q-Series Twin Neutral Line Relay(QNNA 1 Type), 4F/4B, 24V DC complete with plug board(base plate), connectors and retaining clips etc and conforming to BRS-960 and RDSO Specn.No.IRS: 5-34 & S-23 or latest. The interlocking code for this unit shall be "ACDHJ".Inspection authority: - RDSO
	041	1.00	Each	2758352.07	2758352.07	AT Par	2758352.07	
041								<b>Description:-</b> Modification /Alteration in existing EI (Electronic Interlocking) as per latest RDSO guidelines /TAN. It includes: Design and modification in existing Interface and Interlocking circuits and logic of EI system including modification in the VDU (Video Display Unit)/ LCP (Local Control panel)/ CCIP (Control cum Indication Panel), Maintenance terminal (MPC), Data Logger, Relay rack wiring. The complete work should comply with the latest RDSO specifications and guidelines and as per approved SIP and circuit diagrams. All the material (Interface cards/re1ays/wiring material/ connectors /fuses/communication devices etc.) shall be provided by the contractor. The work also includes the supply of modified Selection table, Interface Circuits, VDU/LCP/CCIP diagram etc. to suit the modified SIP. It also includes the carrying out of FAT, SAT (as applicable) jointly with Railways and satisfactory commissioning. All plans/drawings /circuits etc. should be prepared on AUTOCAD, softcopy to be supplied on Pen Drive and 06 sets of hard copies also to be supplied. Alteration involving modification from 11 up to 20 routes. (HERE EACH MEANS PER ALTERATION)
	042	18.00	Kilometre	5309.68	95574.24	AT Par	95574.24	
042								<b>Description:-</b> "Supply of PVC insulated multi strand, single core copper conductor of size 16/0.2 mm (0.5sqmm) as per IS 694:2010 and RDSO Specn. No. IRS: 5-76/89 (Amnd-3) or latest. Each coil should be of 100/200/500 meters length. Colour of the wire which is required will be specified by the Engineer incharge. Inspection: (i) RDSO/ RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board."
	043	10.00	Kilometre	14907.97	149079.70	AT Par	149079.70	
043								<b>Description:-</b> "8upp1y of PVC insulated multi strand, single core copper conductor of size 3/0.75 mm as per IS 694:20 10 and RDSO Specn. No.IRS: S- 76/89 (Amnd-3) or latest. Each coil should be of 100/200/500 meters length. Colour of the wire which is required will be specified by the Engineer incharge. Inspection: (i) RDSO/RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board."
	044	1000.00	Metre	37.77	37770.00	AT Par	37770.00	
044								<b>Description:-</b> "Supply of 1 x 6 Sq.mm. (Red/Black/Green multi strand copper power wire as per IS:694:20 10 or latest, 84 conductor each dia 0.30mm +/- 0.01 with insulation thickness of 0.8 mm and nominal conductor resistance of 3.3 ohms/km and test parameters as per RDSO Specn. No.IRS:5-76/89(Amnd.3) or latest.Colour of the wire which is required will be specified by the Engineer incharge. Inspection: (i) RDSO/RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board."
	045	900.00	Metre	120.63	108567.00	AT Par	108567.00	
045								<b>Description:-</b> "Supply of 1 x 10 Sq.mm. {Red/Black/Green} multi strand copper power wire as per IS:694:20 10 or latest, 140 conductor each dia 0.30mm +/- 0.01 with insulation thickness of 1.0 mm and nominal conductor resistance of 1.91 ohms/km and test parameters as per RDSO Specn.No.IRS:S-76/89(Amnd.3) or latest.Colour of the wire which is required will be specified by the Engineer incharge. Inspection: (i) RDSO/ RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board."
	046	700.00	Metre	126.94	88858.00	AT Par	88858.00	
046								<b>Description:-</b> "8upp1y of 1 x 16 8q.mm. {Red/Black/Green} multi strand copper power wire as per IS:694:20 10 or latest, 126 conductor each dia 0.40mm +/- 0.01 with insulation thickness of 1.0 mm and nominal conductor resistance of 1.21 ohms/ km and test parameters as per RDSO Specn. No.IRS: S-76/89(Amnd.3) or latest. Colour of the wire which is required will be specified by the Engineer incharge. Inspection: (i) RDSO/RITES if value of item in work more than 5 lakhs(ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board."

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047	047	800.00	Metre	161.25	129000.00	AT Par	129000.00
	<b>Description:-</b> "Supply of 1 a 25 Sq.mm. {Red/B1aek} multi strand copper power wire as per IS:694: 2010 or latest, 196 conductor each dia 0.40mm +/- 0.01 with insulation thickness of 1.2 mm and nominal conductor resistance of 0.78 ohms/km and test parameters as per RDSO Specn. No.IRS:S-76/89(Amnd.3) or latest.Colour of the wire which is required will be specified by the Engineer incharge. Inspection: (i) RDSO/ RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board."						
048	048	50000.00	Per Joint	13.00	650000.00	AT Par	650000.00
	<b>Description:-</b> Circuit wiring/jumpering as per circuit diagrams in the relay racks/IDF rack tag blocks. This includes preparation of Jumper sheets by wire man duly checked by firm's site supervisor & wire to wire testing as per circuit diagram. Any wrong jumper done by wireman will not be paid & correction shall be done free of cost. Jumper wires will be supplied & issued by Railways. Good quality solder resin core to be supplied by contractor for soldering of Jumper wires. Soldering of jumper wires to be done after completion of testing by Railways. This item is to be used for only Alterations in any EI/PI/RRI.Inspection: Consignee(PER JOINT MEANS PER JUMPER)						
049	049	8.00	Numbers	25233.15	201865.20	AT Par	201865.20
	<b>Description:-</b> Installation and wiring of relay rack as per DRG.NO.S&T/C-20/2001 with modification vide CSTE/ER'S LETTER NO.SG.42/9, DT.15/3/2016. Supply and fixing of fuses with base, diodes; resistances; condensers, terminal strips / tag blocks, bus bars & other equipment's required for the approved system design complete with scaffolding materials & required hardware & erection materials to accommodate 100 relays (station wise quantity to be specified by the tenderer). PVC wire as per RDSO SPEC.IRS-5-76/89, AMD-2 or latest (for wiring of relay rack) shall be supplied by the contractor, duly inspected by RDSO. This includes supply of relay rack to accommodate 100 relays complete with fittings as per DRG.NO.S&T/C-20/2001. Note: - this includes status of relay to be indicated through led indication at the top of relay rack and in this connection all the required materials to be supplied by the contractor. Rack to be fixed on rubber pad. Supply. Inspection: (i) RITES if value of item in work more than 5 lakhs. (ii)Consignee if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board.						
050	050	8.00	Numbers	82051.63	656413.04	AT Par	656413.04
	<b>Description:-</b> Installation and wiring of relay rack as per DRG.NO.S&T/C-20/2001 with modification vide CSTE/ER'S LETTER NO.SG.42/9, DT.15/3/2016. Supply and fixing of fuses with base, diodes; resistances; condensers, terminal strips / tag blocks, bus bars & other equipment's required for the approved system design complete with scaffolding materials & required hardware & erection materials to accommodate 100 relays (station wise quantity to be specified by the tenderer). PVC wire as per RDSO SPEC.IRS-5-76/89, AMD-2 or latest (for wiring of relay rack) shall be supplied by the contractor, duly inspected by RDSO. This includes supply of relay rack to accommodate 100 relays complete with fittings as per DRG.NO.S&T/C-20/2001. Note: - this includes status of relay to be indicated through led indication at the top of relay rack and in this connection all the required materials to be supplied by the contractor. Rack to be fixed on rubber pad.Execution.						
051	051	5.00	Numbers	44393.96	221969.80	AT Par	221969.80
	<b>Description:-</b> Installation of cable termination rack with scaffolding materials ladder for supporting outdoor cable; wire guide complete with other necessary hardware as per requirements of rly. & erection materials. Wires to be procured from RDSO's approved firm only. This includes supply of cable termination rack as per DRG.NO. S&T/C-17/2001 OR latest with screw less disconnect type connectors (Wago/ Phoenix/Similar) , scaffolding materials, ladder for supporting outdoor cable, wire guide, NDT fuse complete with other necessary hardware as per requirements of railway & erection materials. Supply. Inspection: (i) RITES if value of item in work more than 5 lakhs. (ii)Consignee if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board.						
052	052	5.00	Numbers	5721.90	28609.50	AT Par	28609.50
	<b>Description:-</b> Installation of cable termination rack with scaffolding materials ladder for supporting outdoor cable; wire guide complete with other necessary hardware as per requirements of rly. & erection materials. Wires to be procured from RDSO's approved firm only. This includes supply of cable termination rack as per DRG.NO. S&T/C-17/2001 OR latest with screw less disconnect type connectors (Wago/ Phoenix/Similar) , scaffolding materials, ladder for supporting outdoor cable, wire guide, NDT fuse complete with other necessary hardware as per requirements of railway & erection materials.Execution.						
053	053	800.00	Numbers	64.85	51880.00	AT Par	51880.00
	<b>Description:-</b> Supply of PBT ARA terminal as per IRS SPECN.NO. IRS: S-75-2006(REV-2) OR LATEST. Material to be procured from RDSO's approved fire only. Inspection: RDSO. 1 WAY,DRG NO.23741A, ALT-4.						
054	054	300.00	Numbers	374.86	112458.00	AT Par	112458.00
	<b>Description:-</b> Supply of PBT ARA terminal as per IRS SPECN.NO. IRS: S-75-2006(REV-2) OR LATEST. Material to be procured from RDSO's approved firm only. Inspection: RDSO.6 WAY, DRG.NO. 23756,ALT-3.						
055	055	200.00	Numbers	49.50	9900.00	AT Par	9900.00
	<b>Description:-</b> "8upply of indicating type fuse inserts with holder (material will be supplied only from approved vendors of RDSO) as per IRS S:78/92 or Latest. Inspection: Consignee"0.6 A						
056	056	100.00	Numbers	66.88	6688.00	AT Par	6688.00

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				<b>Description:-</b> "8supply of indicating type fuse inserts with holder (material will be supplied only from approved vendors of RDSO) as per IRS S:78/92 or Latest. Inspection: Consignee"1.6 A			
057	100.00	Numbers	21.01	2101.00	AT Par	2101.00	
			<b>Description:-</b> 8supply of indicating type fuse inserts without holder (material will be supplied only from approved vendors of RDSO) as per IRS S:78/92 or Latest. Inspection: Consignee 0.6 A				
058	100.00	Numbers	18.92	1892.00	AT Par	1892.00	
			<b>Description:-</b> 8supply of indicating type fuse inserts without holder (material will be supplied only from approved vendors of RDSO) as per IRS S:78/92 or Latest. Inspection: Consignee 1.6A				
059	40.00	Numbers	1469.21	58768.40	AT Par	58768.40	
			<b>Description:-</b> "Supply of Tag block 200 way/160 way with PVC covers as per (IRS: S-77/ 2006 (Rev.1) or latest & Drg.no.SA-2475 1 & 52. Requirement of each type shall be specified by Engineer-in- charge. NOTE: In case ABB type relays proposed to be used with 100-way block then Two 100-way Tag Block will be considered as one 200 way Tag Block. Inspection: (i) RDSO/ RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board."				
060	40.00	Numbers	1450.07	58002.80	AT Par	58002.80	
			<b>Description:-</b> "Supply of Tag block 96/100 /120 with PVC Cover - as per requirement as per (IRS :5- 77/2006 (Rev.1) or latest & Drg.no.SA-24753 .Requirement of each type shall be specified by Engineer-in-charge. Inspection: (i) RDSO/ RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board."				
061	10.00	Kilometre	153131.81	1531318.10	AT Par	1531318.10	
			<b>Description:-</b> "Supply of PVC insulated Railway Signalling multi-core Indoor Cable 60 core (0.6mm dia) conforming to IRS:76/89(Amd3) or latest. Inspection: (i) RDSO/ RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board."				
062	10.00	Kilometre	103491.68	1034916.80	AT Par	1034916.80	
			<b>Description:-</b> "Supply of PVC insulated Railway Signalling multi-core Indoor Cable 40 core (0.6 mm dia) conforming to IRS:76/89(Amd3) or latest. Inspection: (i) RDSO/RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board."				
063	10000.00	Per Conductor	8.78	878000.00	AT Par	878000.00	
			<b>Description:-</b> Termination of Outdoor Cables (Main Cables / tail cables) at both ends in location boxes, cable termination rack in relay room, station building, generator room etc. The item includes dressing of cables and wires with dressing threads as per standard practice. All material required for this item will be supplied by contractor. The outdoor cable shall be terminated in Relay Room, DG Room, ASM Room etc under supervision and instructions issued by Engr. incharge of the work. Inspection: Consignee				
064	10000.00	Numbers	56.73	567300.00	AT Par	567300.00	
			<b>Description:-</b> "Supply of Disconnect Terminal Block, Screw less type, as per RDSO Spec. No. RDSO/SPN/189/2004(Modular Terminal Blocks, Fuse Terminal Blocks &Miniature fuse link of international standard for Railway signalling) With latest amendments. Inspection: (i) RDSO/RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board." Supply of Disconnect Terminal Block, Screw less type, 4-wire front entry (Two in-put & Two out-put) The colour will be decided by Engineer - in - Charge. (Preferably In Blue, Red & Grey Colors in the ratio of 1:2:3)				
065	10000.00	Numbers	10.63	106300.00	AT Par	106300.00	
			<b>Description:-</b> "Supply of Disconnect Terminal Block, Screw less type, as per RDSO Spec. No. RDSO/SPN/189/2004(Modular Terminal Blocks, Fuse Terminal Blocks &Miniature fuse link of international standard for Railway signalling) With latest amendments. Inspection: (i) RDSO/RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board."Supply of End plate 2.5mm/0.091 in thick as per site requirement.				
066	10000.00	Numbers	10.63	106300.00	AT Par	106300.00	
			<b>Description:-</b> "Supply of Disconnect Terminal Block, Screw less type, as per RDSO Spec. No. RDSO/SPN/189/2004(Modular Terminal Blocks, Fuse Terminal Blocks &Miniature fuse link of international standard for Railway signalling) With latest amendments. Inspection: (i) RDSO/RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board."Supply of End Stopper 10mm/0.0394 in width as per site requirement.				
067	2000.00	Metre	111.09	222180.00	AT Par	222180.00	

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067	<b>Description:-</b> "Supply of Disconnect Terminal Block, Screw less type, as per RDSO Spec. No. RDSO/SPN/189/2004(Modular Terminal Blocks, Fuse Terminal Blocks & Miniature fuse link of international standard for Railway signalling) With latest amendments. Inspection: (i) RDSO/RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board." Supply of Carrier Rails for above 35mm x 7.5mm, 1mm/0.039 in thickness un-slotted type as per site requirement.						
068	068	5000.00	Numbers	16.54	82700.00	AT Par	82700.00
068	<b>Description:-</b> "Supply of Disconnect Terminal Block, Screw less type, as per RDSO Spec. No. RDSO/SPN/189/2004(Modular Terminal Blocks, Fuse Terminal Blocks & Miniature fuse link of international standard for Railway signalling) With latest amendments. Inspection: (i) RDSO/RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board." Supply of Markers strip.						
069	069	2000.00	Numbers	56.07	112140.00	AT Par	112140.00
069	<b>Description:-</b> "Supply of Disconnect Terminal Block, Screw less type, as per RDSO Spec. No. RDSO/SPN/189/2004(Modular Terminal Blocks, Fuse Terminal Blocks & Miniature fuse link of international standard for Railway signalling) With latest amendments. Inspection: (i) RDSO/RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board." Supply of Disconnect Terminal Block, screw less type, 2-wire front entry (One in-put & One out-put) The colour will be decided by Engineer - in - Charge. (Preferably In Blue, Red & Grey Colors in the ratio of 1:2:3)						
070	070	10000.00	Numbers	2.08	20800.00	AT Par	20800.00
070	<b>Description:-</b> "Supply of Disconnect Terminal Block, Screw less type, as per RDSO Spec. No. RDSO/SPN/189/2004(Modular Terminal Blocks, Fuse Terminal Blocks & Miniature fuse link of international standard for Railway signalling) With latest amendments. Inspection: (i) RDSO/RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board." Supply of shooting link (jumper) (part no - 283- 402 or similar) , suitable for 0.2 to 16 sqmm terminal block 283-901 or similar.						
071	071	1.00	Each Module	27787.82	27787.82	AT Par	27787.82
071	<b>Description:-</b> "Supply of Fuse auto changeover system for use in Railway Signalling System as per RDSO/SPN/209/2012 Ver.2.0 with latest amendments. One Automatic Changeover Unit comprise 32 nos. of external Non Deteriorating Type or 'G' type fuses from 0.6 Amp to 4 Amp capacities which are in signalling circuits. System shall have 8 cards with monitoring arrangement of 4 fuses in one card. Inspection:(i) RDSO/ RITES: if value of item in work more than 5 lakhs (ii) Consignee: subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs or as per extant policy."(HERE EACH MODULE MEANS PER MODULE)						
072	072	1.00	Each Module	39336.67	39336.67	AT Par	39336.67
072	<b>Description:-</b> "Supply of Fuse auto changeover system for use in Railway Signalling System as per RDSO/SPN/209/2012 Ver.2.0 with latest amendments or latest. One Automatic changeover Unit comprise 24 nos. of external Non Deteriorating Type or 'G' type fuses from 4 Amp to 10 Amp capacities which are in signalling circuits. System shall have 6 cards with monitoring arrangement of 4 fuses in one card. Inspection: (i) RDSO/RITES: if value of item in work more than 5 lakhs (ii) Consignee: subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs or as per extant policy."(here each module means per module)						
073	073	2.00	Each Module	9832.61	19665.22	AT Par	19665.22
073	<b>Description:-</b> "Installation wiring testing and commissioning of Fuse change over system (FACS). This includes provision of common Buzzer & indication at ASM Room & ESM Duty Room and painting of fuse details. This also includes fabrication of frame for installation of FACS at Station/ LC gate where installation of relay racks not feasible. Inspection: Consignee"(here each module means per module)						
074	074	100.00	Per Relay	279.92	27992.00	AT Par	27992.00
074	<b>Description:-</b> Carrying out relay alteration to the existing relay wiring at relay rack/location box as per the approved circuit diagram. These work includes the releasing of existing unused wires and wiring the relays using 16/0.2 mm copper wire as per RDSO Spec. Wire to be procured from RDSO's approved source and inspection: by RITES [for value of material above Rs. 5.0 lakhs.]. Inspection by consignee [for value of material below than Rs 5.0 lakh]. Note: - wire to be procured from RDSO's approved source only. All required material like wire, soldering material, paint etc. To be supplied by the contractor for execution of the work.						
075	075	1.00	Station	136150.89	136150.89	AT Par	136150.89

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075	<p><b>Description:-</b> Inter connection wiring with ladder arrangement from control panel to IPS to relay rack, battery &amp; CTR. This includes interconnection, wiring with ladder arrangement between relay racks, CTRS, control cum indication panel and relay rack tag blocks for data logger. This also includes termination of cables / wires on all the above and dressing, bunching etc. As required at site. 16 sq. mm. cable to be used between IPS &amp; it's battery duly soldered with good quality lugs in duplicate. From relay rack to panel wire should be of 40/60 core multicore cable of 1 sq.mm., 0.5mm dia., 16/0.2 mm for relays, 3/0.75 mm for MCBS and 10 sq.mm for power wiring. Indoor cable will be 60 x 1 mm /40 x 1 mm as per IRS-S-76/89, amd-2 or latest for interconnection. Supply of wires / cables by the contractor, shall be procured from RDSO's approved firm only &amp; to be duly inspected. Note:1) necessary 40/60 multicore, 16/0.2 mm, 3.0.75 mm, 10 sq.mm cables required for wiring to be supplied by the contractor. 2)to suite load requirement necessary re- arrangement of DC-DC converters by OEM of IPS. Up to 6 Lines Station(HERE PER STATION)</p>						
076	076	3.00	Numbers	1170785.62	3512356.86	AT Par	3512356.86
	<p><b>Description:-</b> Supply, Installation and Commissioning of SMPS based Integrated power supply (IPS) system as per RDSO Spec. No. RDSO/ SPN/165/2012 (Ver.3. 0) with latest amendment if any and also as per Sketch No. SDO/IPS/ SMPS/4L RE-002 or Latest along with 200AH Low maintenance lead acid cell as per E. Rly. Practice. (Item shall be procured through Store) Inspection: RDSO</p>						
077	077	3.00	Numbers	111508.86	334526.58	AT Par	334526.58
	<p><b>Description:-</b> Supply of active lightning arrestor of class A for building protection as per standard NFC 17-102. It shall work on early streamer emission principle and shall be made of stainless steel with a T of 60 micro second. The dimension of the device shall be 590 mm x 120 mm or more. The provision shall be there to test this device if necessary by an external tester. A non- resettable type counter shall also be supplied to count number of lightening occurrences along with required copper tape for connecting the device with earth pit. Inspection: Consignee</p>						
078	078	3.00	Job	7422.92	22268.76	AT Par	22268.76
	<p><b>Description:-</b> Supply and erection of a mast / high mast suitable for ESE technology based lightning protection installation, mechanically robust good corrosion and fire resistance, 5 mtr. (including 2 mtr FRP) long GI/MS painted along with guying kit foundation and other accessories required for installation of mast. Supply material inspection by consignee.(HERE JOB MEANS PER JOB)</p>						
079	079	150.00	Metre	1381.91	207286.50	AT Par	207286.50
	<p><b>Description:-</b> Supply and laying of 70 sq.mm PVC insulated flexible tinned electrolytic copper down conductor placed in a metallic / PVC protective covering wherever exposed to human intervention including saddles and all accessories as required. Supply material inspection by consignee.</p>						
080	080	3.00	Job	46387.60	139162.80	AT Par	139162.80
	<p><b>Description:-</b> Supply &amp; fixing of equipotential earth bonding unit between electrical &amp; equipment Earthing in a explosion proof IP68 enclosure with inspection chamber for equipotential bonding during a surge. Supply material inspection by consignee.(HERE JOB MEANS PER JOB)</p>						
081	081	150.00	Metre	1425.70	213855.00	AT Par	213855.00
	<p><b>Description:-</b> Supply &amp; laying of 25x3 mm pure electrolytic copper tape through suitable CLASS-'B' GI pipe for loop Earthing and bonding as per site requirement. Supply material inspection by consignee.</p>						
082	082	3.00	Set	18887.44	56662.32	AT Par	56662.32
	<p><b>Description:-</b> Installation of class A device on the top of the building: the device shall be installed at a height of about of about 3 mtrs. From the roof of the building using a GI mast. The device shall be connected to earth pit using the copper tape of 25 mm x 2 mm or better. This copper tape shall be run firmly along the side of the mast with help of spacers. It shall also be ensured that this down conductor shall not touch the building throughout. The down conductor should be connected to earth electrode using exothermic welding or better. A counter shall be installed at a appropriate place to count number of occurrences.</p>						
083	083	20.00	Numbers	24804.06	496081.20	AT Par	496081.20
	<p><b>Description:-</b> Supply and installation of lightning and surge protection device both Class 'B' &amp; Class 'C' between line and neutral and neutral &amp; earth of approved type. Inspection: by RITES [for value of material above Rs.5.0 lakhs.]. Inspection by consignee [for value of material below than Rs 5.0 lakh]</p>						
084	084	27.00	Numbers	4397.12	118722.24	AT Par	118722.24
	<p><b>Description:-</b> Supply of Point JB fitted with 18 nos. 1-way terminal block conforming to IRS-S-75/91 (AMD-2) OR LATEST, DRG. NO. SA-2374 1A with 3 no. of 40 mm bore G I PIPE 600 mm long as per DRG. NO. SGW/MGS/PT4/91 fixed on hylum sheet with U channel (75x40x1500) mm for fixing ARA terminal to be procured from RDSO approved sources. Inspection- Consignee.</p>						
	085	27.00	Numbers	7092.00	191484.00	AT Par	191484.00

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085	<b>Description:-</b> "Supply of Ground Connection [BG] Threaded Type for IRS type Point Machine, as per CWM/Signal Workshop /Howrah /E. Rly. drawing number, S1. No., Description of Drawing & CWM/SW /HWH's Drawing No. mentioned below: - 1. Detector Rod (Far End) - BS/29/721 with ALT-1 Detector Rod (Near End)- BS/29/722 with ALT-1. 2. Lock Rod (Far End) - BS/29/723 with ALT-1, Lock Rod (Near End) BS/29/724 with ALT-1. 3. Switch Extension Bracket - BS/29/725 with ALT-1. 4. Drive Rod - BS/29/726 with ALT- 1 Drive Lug- BS/29/726 A with ALT-1. 5. Sleeve- BS/29/726 B with ALT-1. 6. Lug- BS/29/726 C with ALT-1. 7. Pin- BS/29/726 D with ALT-1. 8. Sketch showing the Layout arrangement- BS/29/727 with ALT-1. Amdt. and alt. up to date if any. Inspection: by RITES [for value of material above Rs. 5.0 lakhs. Inspection by Consignee for value of material below than Rs 5.0 lakh]" Turn Out						
086	086	27.00	Numbers	117972.62	3185260.74	AT Par	3185260.74
	<b>Description:-</b> Supply of Electric Point machine IRS type 220 mm throw, high thrust (AC immunity 160V AC), non trailable to operate on 110V, DC complete with Lock and Detector slides, Cable Termination Box and clamp lock 60 Kg. conforming to IRS: S 24/2002 & Assy. Drg. No. RDSO-S /11000 & For Motor IRS: S 37/82. (items to be procured through stores)Inspection: RDSO						
087	087	27.00	Numbers	11322.22	305699.94	AT Par	305699.94
	<b>Description:-</b> "Installation of electric point machines on MS plate fixed on wooden/ concrete sleepers complete with fixing of junction boxes, ground connections including smithy works involved, insulation of MS plate on which the point machine is to be fixed from the gauge tie plate involving riveting/welding of angle cleats, installation of point JB, termination adjustment for operation of points by crank handle, painting and lettering as required including wiring, testing and commissioning. Note: MS plate/flat/angle /angle cleats, paints, bolts & nuts and washers of sizes as required for fixing the point machine shall be supplied by the contractor except point machine."						
088	088	30.00	Set	1235.92	37077.60	AT Par	37077.60
	<b>Description:-</b> "Point insulation Complete set as per RDSO/ SPN/168/2005 for 1.Switch bracket 'D' bracket insulation for IRS point machine - One set comprises of (a)Side plate LH to Drg. No.S-3266 - 1 No. (b)Side plate RH to Drg.No.S-3265 - 1 No. (c)Insulating bush to Drg.No.S-3199 - 4 Nos. (d) Insulating washer to Drg.No.S-8640 - 4 Nos., 2. Split-Stretcher bar 2.1 Insulation for Leading stretcher bars(BG) each set comprising of (a) Insulating plate for leading insulated stretcher bars BG as per RDSO Drg.No.T-10384 - 2 Nos. (b) Insulating bushing for leading insulated stretcher bars for BG as per RDSO Drg.No.T-10535- 4 Nos. (c) Insulating Washer for insulated stretcher bar BG as per RDSO drg.No.T-10371 - 6 Nos. 2.2 Insulation for following stretcher bars BG. Each set comprising of: (a) Insulating side plate for insulated stretcher bars BG as per RDSO Drg.No.T-10367 - 3 No. (b) Insulating bushing for insulated stretcher bars BG as per RDSO Drg.No..T-10368 - 6 Nos. (c)Insulating washer for insulated stretcher bars BG as per RDSO Drg.No.T10371 - 12 Nos & 3. Gauge tie plates (52 Kg/60Kg as per site requirement) Insulation for (BG) complete with insulating bush and washer each set comprising of: (a) Insulating plate for insulated tie plate BG as per RDSO Drg.No.T-10372-1 No. (b) Insulating bushing for insulated stretcher bar BG as per RDSO Drg.No.T10368 - 3 Nos. (c) Insulating Washer for insulated stretcher bar BG to IRS 40/84 as per RDSO drg.No.T-10371 - 6 Nos. Inspection: (i) RDSO/ RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board."						
089	089	40.00	Set	378.26	15130.40	AT Par	15130.40
	<b>Description:-</b> "Gauge Tie plate insulation as per RDSO/ SPN/168/2005 as per RDSO drg. No: T- 10372Alt2, T- 10368, T- 10371A1t2, T-15083/88/Alt2 & T-11690/Alt2 and as per RDSO/ SPN/168/2005 with latest amendments as applicable. Gauge tie plates (52 Kg/60Kg as per site requirement) Insulation for (BG) complete with insulating bush and washer each set comprising of: (a) Insulating plate for insulated tie plate BG as per RDSO Drg.No.T- 10372-1 No. (b) Insulating bushing for insulated stretcher bar BG as per RDSO Drg.No.T10368 - 3 Nos. (c) Insulating Washer for insulated stretcher bar BG to IRS 40/84 as per RDSO drg.No.T-10371 - 6 Nos. Inspection: (i) RDSO/RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board."						
090	090	27.00	Set	7810.21	210875.67	AT Par	210875.67
	<b>Description:-</b> Dismantling of existing point fittings, drilling of holes in stock rail/tongue rail/ gauge tie plate, re arrangement and refixing of existing electrical detector and installation of IRS 24/2002 with latest Amdt. point machine on MS plate fixed on wooden/concrete sleepers complete with fixing of point JB ground connections including smithy job for welding & termination & wiring of point machine, adjustment and testing as per technical specification and dismantling of all new fittings excluding point machine and marking with paint for future and transportation up to railway's store						
091	091	14.00	Numbers	7366.71	103133.94	AT Par	103133.94
	<b>Description:-</b> "Installation, wiring and testing of electrical key transmitter for crank handle arrangement, siding control as per yard diagram, approved circuit diagram. Installation portion shall include supply of necessary angles, wooden shelf, nuts & bolts as required for the work. The ward no. Of key shall be advised by the site engineer. This includes supply of electrical key transmitter with key for crank handle interlocking arrangement siding control as per yard diagram, approved circuit diagram and specn.no. IRS-S- 21/01(LATEST) AND IRS-S-23(LATEST),DRG.NO.SA- 22601 (ADV)ALT. 2. [key combination will be intimated by site engineer]" Supply. Inspection : RDSO.						
092	092	14.00	Numbers	6816.23	95427.22	AT Par	95427.22

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092	<b>Description:-</b> "Installation, wiring and testing of electrical key transmitter for crank handle arrangement, siding control as per yard diagram, approved circuit diagram. Installation portion shall include supply of necessary angles, wooden shelf, nuts & bolts as required for the work. The ward no. Of key shall be advised by the site engineer. This includes supply of electrical key transmitter with key for crank handle interlocking arrangement siding control as per yard diagram, approved circuit diagram and specn.no. IRS-S- 21/01(LATEST) AND IRS-S-23(LATEST),DRG.NO.SA- 22601 (ADV)ALT. 2. [key combination will be intimated by site engineer]" Execution.						
093	093	79.00	Each	514645.11	40656963.69	AT Par	40656963.69
093	<b>Description:-</b> Supply, Transportation, Installation, Testing and Commissioning of Multi Section Digital Axle Counter (MSDAC) for mentioned detection Point by the purchaser & Track Section as per SIP uploaded with the tender, complete with all accessories, cable required with each track device & Card viz., Axle Detectors, Track Side Electronics/ DAC field units, Central Evaluator (Central Evaluator unit should be housed in a pre-fabricated Rack to be supplied along with the system), Reset unit, Relay unit, Event logger & Diagnostic terminals etc. required for different Detection Points & Track Sections as per RDSO Specification No. RDSO/SPN/176/2013, Ver.3 or latest as per Annexure-070801(A, B & C.)(HERE EACH MEANS PER DP)						
094	094	79.00	Each	8009.66	632763.14	AT Par	632763.14
094	<b>Description:-</b> "Installation testing and commissioning of detection points as above as per RDSO specification no. RDSO/SPN/176/2013 (ver-3) or latest. This include installation, wiring, testing and commissioning of complete MSDAC system which includes track circuit electronics and its all accessories (track electronics unit, central evaluator and its accessories /interface device, if any. All the tools and plants for installation has to be arranged by the contractor. Wiring from cable termination rack to the central evaluator, installation of earth electrode (if required will be supplied by Railway), installation and wiring the reset box and wiring the power supply to the central evaluator including the supply of 2 core shielded cable for required size copper conductor as per IRS-5-76/89 OR IS:694/1977(or latest) as applicable with other accessories. Note- i: - all execution /installation materials as required to be supplied by the contractor. Note- ii: - (i) installation, testing and commissioning of MSDAC to be done by OEM'S engineer. (ii) pre- commissioning checklist issued by RDSO for MSDAC will be prepared by OEM's engineer and to be signed jointly with rly site engineer incharge (iii) payment for this item will be released only after submission of duly signed pre- commissioning checklist of MSDAC in standard RDSO format. (iv) OEM'S engineer will also impart training to rly staff at site for proper functioning /working and applications of MSDAC. Inspection: Consignee"(HERE EACH MEANS PER DP)						
095	095	5.00	Set	814832.48	4074162.40	AT Par	4074162.40
095	<b>Description:-</b> "Supply, Installation testing & commissioning of High Availability Single Section digital axle counters (HASSDAC) with Dual sensor system as per RDSO/SPN/177/2012 version 3 or latest. This includes the supply of High frequency web mounting type Tx coil/Rx coil, VR/PR Box duly wired, Vital relays, PR Relays, Clamp with detector plates & hardware, Dual display reset box with auto resetting facility, Surge voltage protection devices and filter card to be mounted on din rail etc. as per OEM for complete installation & testing & commissioning of (HASSDAC) system NOTE: One set of HASSDAC system will include equipment required to monitor One Up line or One Dn line of a full Block Section between two stations. This include fixing of device, relays, wiring, lacing /dressing, cable termination with lug eyelet, drilling holes in rails, Installation of track devices and make it functional along with existing UFSBI/block instrument. Material required other then supply item of HASSDAC shall be arranged by contactor to make it functional. Inspection: Consignee Inspection: RDSO"						
096	096	1.00	Pair	1010058.80	1010058.80	AT Par	1010058.80
096	<b>Description:-</b> Supply of Block Panel BPAC (Block Proving with digital axle counter) using UFSBI as per specification IRS: S-105/2012Ver.0 with latest amendment for single line operation. NOTE: One set will include equipments required for one complete Single Line Block Section except DAC. This includes Relay, Relay Base, Retaining clip & connectors to be supplied by the contractor along with the UFSBI. Inspection: RDSO						
097	097	1.00	Pair	36230.44	36230.44	AT Par	36230.44
097	<b>Description:-</b> "Supply of Automatic Media changeover system of Modem working on redundant channel for data transmission on OFC/Quad/ microwave radio, for seamless operation of UFSBI over multiple media. Inspection: Consignee."						
098	098	1.00	Pair	60428.29	60428.29	AT Par	60428.29
098	<b>Description:-</b> "Supply of Modem for UFSBI for use with secondary media OFC/Quad. The modem shall be complete with existing system as per RDSO/SPN/147/2005 with amendment -1 or latest. Inspection: Consignee."						
099	099	1.00	Pair	19934.88	19934.88	AT Par	19934.88
099	<b>Description:-</b> Installation and commissioning of modem & media change over as above. Note: all required materials for execution to be supplied by the contractor.						
100	100	1.00	Pair	55980.22	55980.22	AT Par	55980.22
100	<b>Description:-</b> Installation, Testing & commissioning of Block proving by Axle Counter (BPAC) including UFSBI equipment as per standard practice & directive of engineer in charge and as per OEM guidelines. Inspection: Consignee.						
	101	1.00	Station	246608.59	246608.59	AT Par	246608.59

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101									<b>Description:-</b> Earthing of EI equipment, relay rack and power equipment etc. to be done along with the supply of all requisite materials, Earthing shall be in the form of Ring Earth conforming to RDSO spec RDSO/SPN/197 Ver.1.0 or Latest (with a minimum 10 maintenance free earth electrodes) and as per CSTE/ER/Kolkata's technical circular No.92, using copper rings with earth resistance less than 1 ohm. The earthing shall be maintenance free. The ring earth shall be connected to copper flat of size 25x3 mm in the relay room and IPS room. The copper flat fixed on the wall to the entire breadth of Relay room and IPS room as an earth bus bar and all earth connections shall be taken from it. A, B, C & D class protection shall be provided for all EI equipment Inpection: Consignee
102	102	40.00	Numbers	8809.99	352399.60	AT Par	352399.60		<b>Description:-</b> "Supply of LED eignal lamps for Main colour light Signal, 110V AC retrofittable in existing CLS housing and compatible with AC LED ECR as per RDSO Specn. No.RDSO/SPN/ 199/2010(Rev.1) or latest.{items to be procured through Storee} Inspection: RDSO" RED Aspect
103	103	45.00	Numbers	8814.07	396633.15	AT Par	396633.15		<b>Description:-</b> "Supply of LED eignal lamps for Main colour light Signal, 110V AC retrofittable in existing CLS housing and compatible with AC LED ECR as per RDSO Specn. No.RDSO/SPN/ 199/2010(Rev.1) or latest.{items to be procured through Storee} Inspection: RDSO" YELLOW Aspect
104	104	25.00	Numbers	9918.90	247972.50	AT Par	247972.50		<b>Description:-</b> "Supply of LED eignal lamps for Main colour light Signal, 110V AC retrofittable in existing CLS housing and compatible with AC LED ECR as per RDSO Specn. No.RDSO/SPN/ 199/2010(Rev.1) or latest.{items to be procured through Storee} Inspection: RDSO" GREEN Aspect
105	105	80.00	Numbers	5863.12	469049.60	AT Par	469049.60		<b>Description:-</b> "Supply of various LED signals {Subsidiary Signal}, 110V AC retrofittable in existing CLS housing and compatible with AC LED ECR as per RDSO Specn. No.RDSO /SPN/153/2011 (Rev.4.1) or latest.{items to be procured through stores) Inspection: RDSO" LED for Route Aspect
106	106	50.00	Numbers	6044.87	302243.50	AT Par	302243.50		<b>Description:-</b> "Supply of various LED signals {Subsidiary Signal}, 110V AC retrofittable in existing CLS housing and compatible with AC LED ECR as per RDSO Specn. No.RDSO /SPN/153/2011 (Rev.4.1) or latest.{items to be procured through stores) Inspection: RDSO" LED for Shunt Signal Aspect
107	107	6.00	Numbers	7161.95	42971.70	AT Par	42971.70		<b>Description:-</b> "Supply of various LED signals {Subsidiary Signal}, 110V AC retrofittable in existing CLS housing and compatible with AC LED ECR as per RDSO Specn. No.RDSO /SPN/153/2011 (Rev.4.1) or latest.{items to be procured through stores) Inspection: RDSO" LED for Calling ON 8igna1 Aspect
108	108	38.00	Numbers	15379.66	584427.08	AT Par	584427.08		<b>Description:-</b> "Supply of colour light signal post 5.6 mtr and ladder 5.5 mtr with bases for ladder & post as per RDSO SPEC. NO. IRS:S-6-81 (or latest) and DRG. NO. SA-23156 (ADV), ALT-1 (OR LATEST). CLS base as per DRG. NO. S-2011/M (OR LATEST). Note: - this includes signal post, base, ladder, ladder base, platform, rail guard & blanking off. Materials to be procured only from RDSO approved list of firms for manufacture & supply of mechanical signalling items. Inspection: (i)RDSO/RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board."
109	109	20.00	Numbers	18521.15	370423.00	AT Par	370423.00		<b>Description:-</b> "Installation, erection and wiring of CLS unit (including post, base, ladder etc.), LED unit including paying out of tail cable from location box and Earthing of CLS [LED type]. This includes supply of CLS unit 2 aspect complete without lenses, lamps and signal transformer as per DRG.NO.SA 23001/A/ M/ADV.ALT-8 AND AS PER SPEC.NO.IRS/5-26/64. All drawings should be as per latest. Material to be procured from RDSO's approved firm only. Note: - signal unit should be compatible to 'LED' type. Note: - installation, erection & wiring of signalling unit includes led signal lightening unit including current regulator. this also includes protection of unit from rain water." "Supply. Inspection: (i)RDSO/RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board."
110	110	20.00	Numbers	1906.25	38125.00	AT Par	38125.00		<b>Description:-</b> "Installation, erection and wiring of CLS unit (including post, base, ladder etc.), LED unit including paying out of tail cable from location box and Earthing of CLS [LED type]. This includes supply of CLS unit 2 aspect complete without lenses, lamps and signal transformer as per DRG.NO.SA 23001/A/ M/ADV.ALT-8 AND AS PER SPEC.NO.IRS/5-26/64. All drawings should be as per latest. Material to be procured from RDSO's approved firm only. Note: - signal unit should be compatible to 'LED' type. Note: - installation, erection & wiring of signalling unit includes led signal lightening unit including current regulator. this also includes protection of unit from rain water."Execution
111	111	5.00	Numbers	24379.25	121896.25	AT Par	121896.25		

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111								<b>Description:-</b> "Installation, erection and wiring of CLS unit(including post, base, ladder etc.),LED unit including paying out of tail cable from location box and Earthing of CLS [LED type]. This includes supply of CLS unit 4 aspect complete without lenses, lamps and signal transformer as per DRG.NO.SA 23001/A/ M/ADV.ALT-8 AND AS PER SPEC.NO.IRS/5-26/64. All drawings should be as per latest. Material to be procured from RDSO's approved firm only. Note :- signal unit should be compatible to 'LED' type. Note :- installation , erection & wiring of signalling unit includes led signal lightening unit including current regulator .this also includes protection of unit from rain water." "Supply. Inspection: (i)RDSO/RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board."
112	112	5.00	Numbers	2956.14	14780.70	AT Par	14780.70	<b>Description:-</b> "Installation, erection and wiring of CLS unit(including post, base, ladder etc.),LED unit including paying out of tail cable from location box and Earthing of CLS [LED type]. This includes supply of CLS unit 4 aspect complete without lenses, lamps and signal transformer as per DRG.NO.SA 23001/A/ M/ADV.ALT-8 AND AS PER SPEC.NO.IRS/5-26/64. All drawings should be as per latest. Material to be procured from RDSO's approved firm only. Note :- signal unit should be compatible to 'LED' type. Note :- installation , erection & wiring of signalling unit includes led signal lightening unit including current regulator .this also includes protection of unit from rain water." Execution
113	113	13.00	Numbers	21304.25	276955.25	AT Par	276955.25	<b>Description:-</b> "Installation, erection and wiring of CLS unit(including post, base, ladder etc.),LED unit including paying out of tail cable from location box and earthing of CLS [LED type]. This includes supply of CLS unit 3 aspect complete without lenses, lamps and signal transformer as per DRG. NO.SA 23001/A/ M/ADV.ALT-8 AND AS PER SPEC.NO.IRS/5-26/64. All drawings should be as per latest. Material to be procured from RDSO's approved firm only.Note :- signal unit should be compatible to 'LED' type. Note :- installation , erection & wiring of signalling unit includes led signal lightening unit including current regulator .this also includes protection of unit from rain water." "Supply. Inspection: (i)RDSO/RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board."
114	114	13.00	Numbers	2304.87	29963.31	AT Par	29963.31	<b>Description:-</b> "Installation, erection and wiring of CLS unit(including post, base, ladder etc.),LED unit including paying out of tail cable from location box and earthing of CLS [LED type]. This includes supply of CLS unit 3 aspect complete without lenses, lamps and signal transformer as per DRG. NO.SA 23001/A/ M/ADV.ALT-8 AND AS PER SPEC.NO.IRS/5-26/64. All drawings should be as per latest. Material to be procured from RDSO's approved firm only.Note :- signal unit should be compatible to 'LED' type. Note :- installation , erection & wiring of signalling unit includes led signal lightening unit including current regulator .this also includes protection of unit from rain water."Execution
115	115	10.00	Numbers	20597.64	205976.40	AT Par	205976.40	<b>Description:-</b> "Installation, erection and wiring of junction type route indicator [LED type]. This includes supply of junction type route indicator without lamp, lenses, signal transformer. All drawings should be as per latest. Material to be procured from RDSO's approved firm only. Note: - signal unit should be compatible to 'LED' type. Note :- installation , erection & wiring of signalling unit includes led signal lightening unit including current regulator .this also includes protection of unit from rain water." "Supply of 1 WAY AS PER RDSO DRG. NO. SA- 23401 (ADV)/ ALT.2 Inspection: (i)RDSO /RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board."
116	116	10.00	Numbers	860.21	8602.10	AT Par	8602.10	<b>Description:-</b> "Installation, erection and wiring of junction type route indicator [LED type]. This includes supply of junction type route indicator without lamp, lenses, signal transformer. All drawings should be as per latest. Material to be procured from RDSO's approved firm only. Note: - signal unit should be compatible to 'LED' type. Note :- installation , erection & wiring of signalling unit includes led signal lightening unit including current regulator .this also includes protection of unit from rain water." Execution of 1 WAY AS PER RDSO DRG. NO. SA- 23401 (ADV)/ ALT.2
117	117	5.00	Numbers	21277.18	106385.90	AT Par	106385.90	<b>Description:-</b> "Supply of 2 WAY AS PER RDSO DRG. NO. SA- 23402 (ADV)/ ALT.2 Inspection: (i)RDSO/RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board."
118	118	5.00	Numbers	1352.04	6760.20	AT Par	6760.20	<b>Description:-</b> "Installation, erection and wiring of junction type route indicator [LED type]. This includes supply of junction type route indicator without lamp, lenses, signal transformer. All drawings should be as per latest. Material to be procured from RDSO's approved firm only. Note: - signal unit should be compatible to 'LED' type. Note :- installation , erection & wiring of signalling unit includes led signal lightening unit including current regulator .this also includes protection of unit from rain water."Execution of 2 WAY AS PER RDSO DRG. NO. SA- 23402 (ADV)/ ALT.2
	119	10.00	Numbers	5854.34	58543.40	AT Par	58543.40	

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119	<b>Description:-</b> "Installation, erection and paying out of tail cable from location box and wiring of shunt signal, LED unit on the same post below the main signal as per technical specification. This includes supply of position light shunt signal unit without lenses, lamps, base, post and without signal transformer as per RDSO DRG NO. SA-23840/ADV/ALT-2. All drawings should be as per latest. Material to be procured from RDSO's approved firm only. Note- Signal unit should be compatible to 'LED' type." "Supply. Inspection: (i)RDSO/RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board."						
120	120	10.00	Numbers	533.36	5333.60	AT Par	5333.60
120	<b>Description:-</b> "Installation, erection and paying out of tail cable from location box and wiring of shunt signal, LED unit on the same post below the main signal as per technical specification. This includes supply of position light shunt signal unit without lenses, lamps, base, post and without signal transformer as per RDSO DRG NO. SA-23840/ADV/ALT-2. All drawings should be as per latest. Material to be procured from RDSO's approved firm only. Note- Signal unit should be compatible to 'LED' type." "Execution						
121	121	6.00	Numbers	7092.09	42552.54	AT Par	42552.54
121	<b>Description:-</b> Installation, erection and paying out of tail cable from location box and wiring of shunt signal, LED unit as per technical specification. This includes supply of position light shunt signal unit (without lenses, lamps) with Base Post and without signal transformer as per RDSO DRG NO. SA- 23840/ADV/ALT-2. All drawings should be as per latest. Material to be procured from RDSO's approved firm only. Note- Signal unit should be compatible to 'LED' type. "Supply. Inspection: (i)RDSO/RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board."						
122	122	6.00	Numbers	526.07	3156.42	AT Par	3156.42
122	<b>Description:-</b> Installation, erection and paying out of tail cable from location box and wiring of shunt signal, LED unit as per technical specification. This includes supply of position light shunt signal unit (without lenses, lamps) with Base Post and without signal transformer as per RDSO DRG NO. SA- 23840/ADV/ALT-2. All drawings should be as per latest. Material to be procured from RDSO's approved firm only. Note- Signal unit should be compatible to 'LED' type. Execution						
123	123	6.00	Numbers	4273.51	25641.06	AT Par	25641.06
123	<b>Description:-</b> Casting, concreting and curing of foundation for Shunt signal including cost of all materials required for casting and concreting. All materials required for execution will be supplied by the contractor, including holding down galvanised bolts & nuts with washers, cement, sand, stone chips, etc. As per DRG. NO SK/5/95/NKG.						
124	124	6.00	Numbers	2648.42	15890.52	AT Par	15890.52
124	<b>Description:-</b> "Supply of Calling ON/ Guard Repeater Signal Unit with Brackets & Fixing accessories. Calling ON/ Guard Repeater Signal Unit shall conform to RDSO Drg no 24351(Adv) A111 suitable to LED Signal Lighting Unit. Inspection: (i)RDSO /RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board."						
125	125	6.00	Numbers	2628.33	15769.98	AT Par	15769.98
125	<b>Description:-</b> Supply of A -sign / AG - LED Signal Lighting Unit retrofittable in existing CLS housing and compatible with AC LED ECR (As per spec. RDSO/SPN/199/2010 Rev 1.1 or Latest with Brackets & Fixing accessories. Inspection: Consignee						
126	126	6.00	Numbers	2414.43	14486.58	AT Par	14486.58
126	<b>Description:-</b> Fixing of Calling-on Signal/A-Sign/AG-Sign unit on signal post including Guard Repeater Signal. The item includes fixing of Co- On signal /'A' sign/ 'AG' sign unit on signal post with bracket, hood etc. Item includes supply of bracket & fixing materials etc. by the contractor. The item also includes termination of cables & wiring inside Co- On signal /'A' sign/ 'AG' sign unit as per standard practice. Inspection: Consignee.						
127	127	38.00	Numbers	3648.44	138640.72	AT Par	138640.72
127	<b>Description:-</b> Supply and fixing of protective screen of expanded metal 12 SWG of size 1200 x 1500 mm on signals as per std. practice in RE Area. Inspection: Consignee.						
128	128	18.00	Numbers	569.45	10250.10	AT Par	10250.10
128	<b>Description:-</b> Supply and installation of P/ C / G/ A/ AG marker (size 250mm dia circle) high intensity prismatic(TYPE-IV) retro reflective sheet over 2 mm thick aluminium sheet & letter will be screen printing (250 mm dia circle) as per drg. S&T/SDAH /SK-1383 and technical specification attached. This will include cost of all materials including fixing clamp required for this work. Inspection: - inspection by rites [for value of material above Rs. 5.0 lakhs.]. Inspection by consignee [for value of material below than Rs 5.0 lakh]						
129	129	38.00	Numbers	399.78	15191.64	AT Par	15191.64
129							

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			<b>Description:-</b> "Supply, Fabrication and Fixing of Retro reflective Nomenclature Board of size 254 mm x 358 mm made of 2mm thick aluminium sheet & high intensity prismatic (hip) grade retro reflective sheet (TYPE -IV) including fixing arrangement for fixing them on existing post per DRG. NO. S&T/SDAH /SK-1386 and as per standard practice. Inspection: (i)RDSO/RITES if value of item in work more than 5 lakhs (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs as per extant instructions by Railway Board."				
130	130	10.00	Numbers	2075.67	20756.70	AT Par	20756.70
			<b>Description:-</b> Supply of offset bracket for position light shunt signal (90mm outside Dia.) post with U clamps, nuts, washers complete as per RDSO DRG. NO.SA-23080/ADV/ALT-1 all drawings should be as per latest. Inspection: by consignee				
131	131	20.00	Numbers	2603.15	52063.00	AT Par	52063.00
			<b>Description:-</b> "Supply of cast iron offset bracket for Main Signal with U clamps, nuts, washers complete DRG. NO. SA-23080/ADV/ALT-1. RDSO SPEC. NO. IRS-5- 10/78. Inspection: consignee. Note : Offset bracket has to be connected wherever necessary as per site engineer."				
132	132	38.00	Numbers	8352.98	317413.24	AT Par	317413.24
			<b>Description:-</b> Casting, concreting & curing of foundation for Main signal including cost of all materials required for casting and concreting. All materials required for execution will be supplied by the contractor including cement, sand & stone chips as per DRG. NO. S&T/C-42(NKG).				
133	133	22.00	Numbers	3180.43	69969.46	AT Par	69969.46
			<b>Description:-</b> Releasing of existing tail cables and drawl of new tail cables for colour light signals up to four aspects with or without route indicator, post type shunt signal and calling signals. Termination of new tail cables and wiring using wire PVC 3/0.75 mm copper as per latest RDSO spec. This work includes drawl of new tail cables into the signal post duly releasing the existing tail cables from the relevant signals [Wire PVC 3/0.75 mm copper, paints and all other miscellaneous materials shall be supplied by the contractor. Wire to be procured from RDSO's approved source only]. Inspection- consignee.				
134	134	22.00	Numbers	1273.98	28027.56	AT Par	28027.56
			<b>Description:-</b> Dismantling of existing main signal including dependent shunt signal, calling on signal if any, fitted on the same post along with signal post, signal unit, ci base without damaging any part.				
135	135	22.00	Numbers	2257.48	49664.56	AT Par	49664.56
			<b>Description:-</b> Dismantling of existing Signal Foundation (upto ground level by hydraulic breaker).				
136	136	3.00	Numbers	65115.92	195347.76	AT Par	195347.76
			<b>Description:-</b> Supply, Installation, Testing & Commissioning of Microprocessor based Networkable Analogue Addressable up to 64 nodes 1 Loop Fire Alarm Control panel with LCD display, the panel should be equipped with sufficient No. of loop as per RDSO Specification No. RDSO/SPN/217/2018 ver 2.0 or latest. Each loop shall have capacity of 127 analogue addressable devices in 1 loop, the panel shall have sufficient No. of programmable relay control for controlling AHU's, pressurisation fans, ventilation fans at fire pump room, monitoring of fire sprinkler & sealed lead acid batteries sufficient for 24 Hours normal working & then capable of operating the system for 24 Hours during Emergency conditions as required. The panel shall have provision of connectivity of BACNET/ MODBUS / LONWOK/TCP- IP. The panel shall have dedicated RS232 serial port for direct PC or MODEM connection, optional remote printer as per RDSO Specification No. RDSO/SPN/217/2018 ver 2.0 or latest Inspection: RDSO				
137	137	6.00	Numbers	6966.74	41800.44	AT Par	41800.44
			<b>Description:-</b> Supply, Installation, Testing & Commissioning of Probe type bimetallic Heat Sensor/ Fixed cum ROR 90 degree with required module to be communicated with main fire Alarm Panel as per RDSO Specification No. RDSO/ SPN/ 217/ 2021 ver 3.0 or latest Inspection: RDSO				
138	138	48.00	Numbers	3253.82	156183.36	AT Par	156183.36
			<b>Description:-</b> Supply, Installation, Testing & Commissioning of intelligent Analogue Addressable Multi-Sensor type smoke detector with inbuilt fault isolator and integral response indicator with 360 degree viewing angle. Detector shall communicate 3 danger levels for differentiated alarm activation and high tolerance to dust, dirt, temperature fluctuations and air current. Detector should have unique address for communication and assigned through panel with mounting base as required with the protection category of IP 40. All items as per RDSO Specification No. RDSO/ SPN/ 217/ 2021 ver 3.0 or latest. Inspection: RDSO				
139	139	9.00	Numbers	3719.34	33474.06	AT Par	33474.06
			<b>Description:-</b> Supply, Installation, Testing & Commissioning of Analogue Addressable Manual Call Point with integral short circuit isolator, Analogue addressable protocol having status LED for alarming & standby mode, electronically addressed) as per RDSO Specification No. RDSO/ SPN/ 217/ 2021 ver 3.0 or latest. Inspection: RDSO				
140	140	3.00	Numbers	69579.71	208739.13	AT Par	208739.13
			<b>Description:-</b> Supply, Installation, Testing & Commissioning of UV/IR Type Flame detector with required module to communicate on main fire alarm panel as per RDSO Specification No. RDSO/ SPN/ 217/ 2021 ver 3.0 or latest. Inspection: RDSO				

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141	141	700.00	Metre	777.84	544488.00	AT Par	544488.00	<b>Description:-</b> Supply, Installation, Testing & Commissioning of Linear Heat Sensing (LHS) cable as per RDSO Specification No. RDSO/ SPN/ 217/ 2021 ver 3.0 or latest. Inspection: RDSO
142	142	3.00	Numbers	32696.41	98089.23	AT Par	98089.23	<b>Description:-</b> Supply, Installation, Testing & Commissioning of LHS interface module as per RDSO Specification No. RDSO/ SPN/ 217/ 2021 ver. 3.0 or latest. Inspection: RDSO
143	143	3.00	Set	149576.07	448728.21	AT Par	448728.21	<b>Description:-</b> Supply, Installation, Testing & Commissioning of Air Sampling Type detector shall use LASER type. This type of detector shall use piping or tubing distribution network that shall run from the detector to the area as to be protected. It should be supplied with required module & Power supply unit complete as a system with all accessories like pipes, Sampling points etc. as per RDSO Specification No. RDSO/ SPN/ 217/ 2021 ver 3.0 or latest Inspection: RDSO
144	144	6.00	Numbers	8717.79	52306.74	AT Par	52306.74	<b>Description:-</b> Supply, Installation, Testing & Commissioning of intelligent Addressable Loop Powered Sounder cum beacon with base inbuilt fault isolator with protection category of IP42 and duly approved as per RDSO Specification No. RDSO/ SPN/ 217/ 2021 ver 3.0 or latest. Inspection: RDSO
145	145	700.00	Metre	117.74	82418.00	AT Par	82418.00	<b>Description:-</b> Supply, Installation, Testing & Commissioning of FRLS unarmoured/ armoured cable(2Cx1.5 sq.mm) with all accessories for connection of all Fire Alarm devices as per RDSO Specification No. RDSO/ SPN/ 217/ 2021 ver 3.0 or latest Inspection: RDSO
146	146	9.00	Numbers	5358.57	48227.13	AT Par	48227.13	<b>Description:-</b> "Supply of CO2 type fire extinguisher capacity 4.5 Kg capacity ISI Mark IS: 15683 operating temperature (- 30)° to (50)° for class 13 B type of fire with 1 mtr. Hose pipe fitted with PVC bend horn complete in all respect. Inspection: (i) RITES if value of item in work more than 5 lakhs or as per extant policy (ii) Consignee if value of whole item in work less than 5 lakhs or as per extant policy"
147	147	1.00	Numbers	112080.89	112080.89	AT Par	112080.89	<b>Description:-</b> Supply and installation of housing cabinet of suitable dimensions to house VDU control terminal along with CPU, one set of input device (keyboard and mouse etc.), monitor and power supply arrangement. The detailed drawing of the cabinet along with placement of various equipments inside the cabinet shall be submitted by the tenderer and got approved by the Railway before supply. Technical requirement are attached herewith. Inspection: Consignee
148	148	60.00	Numbers	14417.65	865059.00	AT Par	865059.00	<b>Description:-</b> Supply of full size apparatus case (GKP type) (as per DRAWING NO. SW SK NO. 4/90 & & other applicable GKP SW Drawing). This includes supply of location box (GKP type) with 'E' type lock & key, fitted on location door on both side, E Type lock (ward No will be specified by Engineer-in Charge) as per RDSO Drg. No. SA 3376 and Key to Drg. No. 3377 as per RDSO drawing No. RDSO/S-11500. Inspection: (i) RITES if value of item in work more than 5 lakhs or as per extant policy (ii) Consignee subject to procurement from RECOMMENDED LIST OF FIRMS FOR MECHANICAL SIGNALLING ITEMS if value of whole item in work less than 5 lakhs or as per extant policy
149	149	60.00	Numbers	3689.19	221351.40	AT Par	221351.40	<b>Description:-</b> Casting, concreting and curing of concrete foundation ((in ratio 1:3:6), erection and installation of full size apparatus case (GKP type)/Stainless Steel (SS) Apparatus Case as per DRG.NO. S&T/C-6/98(NKG) with 'E' type lock on CC foundation. This includes cost of all materials required for fixing holding down bolts, casting, concreting. Note: - bolts, nuts and washers, bitumen compound to be supplied by contractor and bitumen compound to be used in between apparatus case and foundation as per site engineer. This also includes bottom of apparatus cases filled with sand and the outside covered with masonry work and neat cement plastering. Note: - Location boxes to painted with anti- corrosive paints as per IS:- 9862-1981, one and half feet from the bottom, on all surfaces- both inside and outside. Inspection: Consignee
150	150	60.00	Numbers	5002.71	300162.60	AT Par	300162.60	<b>Description:-</b> Fixing by slotted angle, wiring of terminal strips, hylam strip, relays, fuses with base, fixing of hard wood shelves for full size apparatus case with termination & Earthing of cables and wiring with lettering as required including supply of slotted angles, wires, ferrules for marking and miscellaneous materials per location to be supplied by contractor. (all materials except relay, terminal strips, Bakelite strip, fuses with base and hard wood shelves to be supplied by the contractor). Wires to be used for this purpose should be procured from RDSO'S approved firm and to be inspected by RDSO. [Quantity of wires to be specified by contractor]. NB- power cable to be terminated with proper lugs and required buss bar and other terminals to be supplied by the contractor. Inspection: Consignee
	151	20.00	Numbers	8054.87	161097.40	AT Par	161097.40	

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151									<b>Description:-</b> "Supply of half size apparatus case (GKP type) (As per GKP TYPE DRAWING NO.SE/FE/2004/ 21 & other applicable GKP SW Drawing). This includes supply of location box (GKP type) with 'E' type lock & key, fitted on location door on both side, E Type lock (ward No will be specified by Engineer-in Charge) as per RDSO Drg. No. SA 3376 and Key to Drg. No. 3377 as per RDSO drawing No. RDSO/S-11500. Inspection: (i) RITES if value of item in work more than 5 lakhs or as per extant policy (ii) Consignee subject to procurement from RECOMMENDED LIST OF FIRMS FOR MECHANICAL SIGNALLING ITEMS if value of whole item in work less than 5 lakhs or as per extant policy."
152	152	20.00	Numbers	3181.72	63634.40	AT Par	63634.40		<b>Description:-</b> Casting, concreting and curing of concrete foundation (in ratio 1:3:6), erection and installation of half size apparatus case (GKP type) Apparatus Case as per DRG.NO. RE/S&T/SIG/TENDER/ SK/8/85 with 'E' type lock on CC foundation. This includes cost of all materials required for fixing holding down bolts, casting, concreting. Note: - bolts, nuts and washers, bitumen compound to be supplied by contractor and bitumen compound to be used in between apparatus case and foundation as per site engineer. This also includes bottom of apparatus cases filled with sand and the outside covered with masonry work and neat cement plastering. Note: - Location boxes to painted with anti- corrosive paints as per IS:- 9862-1981, one and half feet from the bottom, on all surfaces- both inside and outside. Inspection: Consignee.
153	153	20.00	Numbers	3623.93	72478.60	AT Par	72478.60		<b>Description:-</b> Fixing, wiring of terminal strips, hylam strip, relays, fuses with base and supply and fixing of shelves for half apparatus case with termination earthing of cables and wiring with lettering as required including supply of slotted angles, wires, ferrules for marking and miscellaneous materials per location to be supplied by contractor. (all materials except relay, terminal strips, Bakelite strip, fuses with base and hard wood shelves to be supplied by the contractor). Wires to be used for this purpose should be procured from RDSO's approved firm and to be inspected by RDSO. [quantity of wires to be specified by contractor]. NB- power cable to be terminated with proper lugs and required buss bar and other terminals to be supplied by the contractor. Inspection: Consignee
154	154	80.00	Numbers	564.27	45141.60	AT Par	45141.60		<b>Description:-</b> Supply of hard wood shelves thickness 25 mm for keeping equipment's and batteries in the location box (FULL or HALF GKP /other type) with suitable varnish and anti-termite chemicals fitted on angles with nuts & bolts. Inspection: -Consignee (note-balance quantity may be taken from rly store if available) . 950 x 400 x 25 MM for full size location box .
155	155	20.00	Numbers	451.59	9031.80	AT Par	9031.80		<b>Description:-</b> Supply of hard wood shelves thickness 25 mm for keeping equipment's and batteries in the location box (FULL or HALF GKP /other type) with suitable varnish and anti-termite chemicals fitted on angles with nuts & bolts. Inspection: -Consignee (note-balance quantity may be taken from rly store if available) .450 x 400 x 25 MM for half size location box .
156	156	25.00	Sqm	5360.41	134010.25	AT Par	134010.25		<b>Description:-</b> Supply of paper base hylam sheet 12 mm thick. Inspection: consignee.
157	157	15.00	Numbers	2790.86	41862.90	AT Par	41862.90		<b>Description:-</b> Alteration/modification in the existing location boxes (full size), fixing of equipment's, cable insertion, termination, wiring, testing & commissioning, two coat painting, lettering to suit the circuits as per approved wiring diagrams. This includes filling with sand and plastering the same.
158	158	15.00	Numbers	1667.81	25017.15	AT Par	25017.15		<b>Description:-</b> Alteration/modification in the existing location boxes (Half size), fixing of equipment's, cable insertion, termination, wiring, testing & commissioning, two coat painting, lettering to suit the circuits as per approved wiring diagrams. This includes filling with sand and plastering the same.
159	159	40.00	Numbers	694.10	27764.00	AT Par	27764.00		<b>Description:-</b> Dismantling of location box / RCC Goomty including all its accessories & concrete foundation.
160	160	10.00	Numbers	2003.82	20038.20	AT Par	20038.20		<b>Description:-</b> Shifting/lifting of location box to facilitate earthwork of Engg/Con.This includes filling with sand and plastering inside location box.
161	161	80.00	Numbers	263.55	21084.00	AT Par	21084.00		<b>Description:-</b> Painting of two coats of synthetic enamel paint over one coat of primer on the following after scraping & cleaning surface wherever necessary with contractor's own supply of paints. Wherever required contractor shall apply coating of epoxy paint also as per instructions of site-in-charge. Epoxy paint will be supplied by Railways. NOTE: - The paint and primer should be from Asian Paints/ Nerolac / Dulux / Berger. The primer / enamel paints (Aluminum synthetic, black enamel, brilliant white and yellow) will be as per (IS 5660 of 1970) / (IS 2932 of 1974) of Apparatus Case Full Size. (Outside & inside)
	162	20.00	Numbers	238.73	4774.60	AT Par	4774.60		

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162	<b>Description:-</b> Painting of two coats of synthetic enamel paint over one coat of primer on the following after scraping & cleaning surface wherever necessary with contractor's own supply of paints. Wherever required contractor shall apply coating of epoxy paint also as per instructions of site-in-charge. Epoxy paint will be supplied by Railways. NOTE: - The paint and primer should be from Asian Paints/ Nerolac / Dulux / Berger. The primer / enamel paints (Aluminum synthetic, black enamel, brilliant white and yellow) will be as per (IS 5660 of 1970) / (IS 2932 of 1974) of Apparatus Case Half Size. (Outside & inside)						
163	163	500.00	Metre	789.87	394935.00	AT Par	394935.00
	<b>Description:-</b> Supply of Medium class GI pipes 100 mm dia {4.5 mm thickneee} as per IS 1239 (Part 1): 2004 or Latest with socket & coupling on culverts bridges or at any other locations as decided by Site Engineer. It includes supply of all material required for fixing arrangement. Contractor will also supply flexible/corrugated HDPE pipe at the end of GI pipe to protect the cables from sharp edges and sudden bends.						
164	164	500.00	Metre	101.76	50880.00	AT Par	50880.00
	<b>Description:-</b> Laying 4s Firing of Medium clae GI pipee 50/ 100 mm dia {4.5 mm thickness} as per IS 1239 {Part 1}: 2004 with socket & coupling on culverts bridges or at any other locations as decided by Site Engineer. It includes installation of all material required for fixing arrangement. Contractor will install flexible/corrugated HDPE pipe at the end of GI pipe along with any masonry work(if required) to protect the cables from sharp edges and sudden bends.						
165	165	10000.00	Numbers	704.36	7043600.00	AT Par	7043600.00
	<b>Description:-</b> Supply of Half Round RCC pipes & collars of 300 mm outer dia & 250 mm internal dia (2 meter long) along with collars as per IS No. 458/2003 of NP type.						
166	166	10000.00	Numbers	346.26	3462600.00	AT Par	3462600.00
	<b>Description:-</b> Supply of Half Round RCC pipes & collars of 150 mm internal dia (2 meter long) along with collars as per IS No. 458/2003 of NP type.						
167	167	20000.00	RM	22.45	449000.00	AT Par	449000.00
	<b>Description:-</b> Laying of half round RCC pipe after laying the cables in the trenches. (Cable laying is covered separately).						
168	168	30.00	Numbers	2231.24	66937.20	AT Par	66937.20
	<b>Description:-</b> Supply of Thermo shrink Universal Jointing kit for Quad Cable (for straight joints) as per RDSO spec IRS/TC-77/ 2012 revision 3 With latest Amdt.						
169	169	30.00	Numbers	990.30	29709.00	AT Par	29709.00
	<b>Description:-</b> Jointing of 4 / 6 quad /Signaling cable with Heat Shrinkable straight through Jointing Kit. All the material required for the work are to be arranged by contractor himself at his own cost except Thermo shrinkable Joint Kit/Rapid Joint kit. After joining the cable through test such as insulation test, continuity cable losses etc. to be carried out jointly with Railway Engineer. If any defect or any damage is observed during jointing, the contactor has to redo the joint free of cost.						
170	170	800.00	Metre	1813.30	1450640.00	AT Par	1450640.00
	<b>Description:-</b> Transportation of HDT machine with accessories including handling of stores materials, preparation of sites and boring for placing of 110 mm dia HDPE PIPE for crossing of S&T cables together a bridges/ culvers, pucca road/crossing, boring trench shall be minimum 3 (three) meter below the river bed and 1(one) meter below the track/road/pucca road crossing area. This includes supply of accessories for HDPE pipes, including, cost of fuel and all other items etc. which will be required for laying of cable through it.the work shall be executed as per instruction of f site engineer.HDPE PIPE T O BE SUPPLIED AS PER RDSO SPEC. Contactor shall provide all material required for boring and adequate nos. of labours for proper laying of cables into the bore. Cable shall be laid cautiously so that it should not get damage due to rough handling & pressure on cable. Boring up to the length of 150 meters. Preparation of site for Horizontal Boring shall be carried out in presence of Railway Representative.						
171	171	800.00	Metre	2419.95	1935960.00	AT Par	1935960.00
	<b>Description:-</b> Transportation of HDT machine with accessories including handling of stores materials, preparation of sites and boring for placing of 110 mm dia HDPE PIPE for crossing of S&T cables together a bridges/ culvers, pucca road/crossing, boring trench shall be minimum 3 (three) meter below the river bed and 1(one) meter below the track/road/pucca road crossing area. This includes supply of accessories for HDPE pipes, including, cost of fuel and all other items etc. which will be required for laying of cable through it.the work shall be executed as per instruction of f site engineer.HDPE PIPE T O BE SUPPLIED AS PER RDSO SPEC. Contactor shall provide all material required for boring and adequate nos. of labours for proper laying of cables into the bore. Cable shall be laid cautiously so that it should not get damage due to rough handling & pressure on cable.Boring above the length of 150 meters. Preparation of site for Horizontal Boring shall be carried out in presence of Railway Representative.						
172	172	1600.00	Metre	8.05	12880.00	AT Par	12880.00
	<b>Description:-</b> Laying of 6 quad/Signalling cable/ Power Cable with nylon rope through 110 mm HDPE pipe and back filling of boring pit.						
	173	20.00	Numbers	375.82	7516.40	AT Par	7516.40

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173	<p><b>Description:-</b> Transferring of Signaling/Telecom cables from existing Location box to New Location box . The work include breaking/ Dismantling of Existing foundation of locations, excavating and removing / segregating coils of 2C/6C/12C/19C/24C/30C/Quad cables which may be about 10 mtrs. in length. These cables are to be disconnected and removed from the existing location one by one as per the instruction and under the supervision of Railway staff present at site. The cable is then to be inserted and terminated in new location box. The item includes neatly dressing of cable, making wiring tree etc. The material required to dressing /lacing will be arranged by contactor. The work is required to be done systematically and with due precaution during the block or disconnection within the time that may be allowed. The excavation work to be done carefully without damaging the cable to avoid undue failure. (Termination charges will be given separately). Note: Proportionate payment will be made if cable of other length. One No unit One cable of 10 m length}.</p>						
174	174	400.00	cum	152.91	61164.00	AT Par	61164.00
	<p><b>Description:-</b> Earthwork in filling in embankment, guide bunds, around buried type abutments, bridge gaps, trolley refuges, rain bunds if provided, platforms etc. with earth excavated from outside railway boundary entirely arranged by the contractor at his own cost as per RDSO's latest guidelines and specifications and special condition of contract including all leads, royalty, lifts, ascents, descents, crossing of nallahs or any other obstructions. The rates shall include all dressing of bank to final profile, demarcation and setting out of profile, site clearance, removing of shrubs, roots of vegetations growth, heavy grass, benching o f existing slope o f old bank, all handling/re-handling. Taxes, Octroi and royalty etc. as a complete job. Cut trees shall be property of railways and to be deposited in the railway godown unless specified otherwise in the Special conditions of contract.(here cum means cu-mtr.)</p>						
175	175	400.00	cum	15.72	6288.00	AT Par	6288.00
	<p><b>Description:-</b> Extra for mechanical compaction of earth/blanketing material filled in embankment with contractor's rollers of suitable capacity, type and size to achieve specified density as per specification, testing as per IS codes incl. cost of water, T&amp;P consumable material and all labour as a complete job. The work is to be executed as per Latest edition of "Guidelines for Earthwork in Railway Projects" issued by RDSO, Lucknow.(here cum means cu-mtr.)</p>						
176	176	400.00	cum	143.44	57376.00	AT Par	57376.00
	<p><b>Description:-</b> Removal of excavated/ slip earth/ debris/ malba from the site of works to any other place outside Railway land/premises, including all excavations, handling, re-handling, loading, unloading and leading, etc. all labour and material as a complete job. Removal of Earth (all kinds of soils)/ ROCKS, BOULDERS including mud/slush, slipped earth in catch water drains, side drains, over berms in cutting, water way o f bridges, over coping of toe/breast /retaining walls etc. including crossing of nallah, railway tracks, making/repairing approach roads if required, all lead, lift, ascent, descents, or any other obstruction. Earth spoils to be dumped outside the cutting or railway embankments as per direction of Engineer in charge. (here cum means cu-mtr.)</p>						
177	177	27000.00	cum	605.73	16354710.00	AT Par	16354710.00
	<p><b>Description:-</b> Excavation of cable trench as per cable route plan, 1 Mtr. deep and of 0.3 Mtr. to 0.6 Mtr. wide at bottom as per RDSO sketch No. SDO/CABLE LAYING/ 003 or latest alongside the track in hard soil, conforming to distances as per cable route plan and refilling. This work includes clearing of route from bushes etc., covering of cable laid in trench by loose soil for a layer of 50mm thickness approximately before covering by bricks. The work shall be done as per the extant practice on Eastern Railway and instructions of Railway Engineer at site. Note:- (a)for all trenches from distant signal to home signal and to relay room, the minimum headway above the uppermost cable in the trench should be 600mm. If due to a large no. of cables headway is not available, 4" of 1:2:4 concreting should be done. Note:-(b-1) payment wifi be made as per actual work done on pro-rata basis, if required depth is not available at site. (b-2) if the depth of trench is not uniform in a span of 100 mtr. Or shorter lengths if site condition demands along the cable run, minimum depth will be taken for that particular stretch for payment.((HERE CUM MEANS CU-MTR.)</p>						
178	178	2000.00	Numbers	681.80	1363600.00	AT Par	1363600.00
	<p><b>Description:-</b> Supply of Double Walled Corrugated (DWC) HDPE Pipe/duct with associated collars etc. as per RDSO Specification No. RDSO/SPN/204/2011 or latest anti-rodent &amp; anti-oxidant and non-flame propagating type in 6 meters straight length and of size 120 mm outer dia IN 103.5 mm inner dia. (The manufacturers, suppliers must produce valid IS license and should be certified under ISO 9000 and shall submit copy of certificate). One of the following coupling arrangements should also be supplied with each pipe a s per the site requirement. 1) Suitable snap fit coupler with rubber O-Ring 2) Spacers, 3)Tees, 4)Bend, 5)End-cap (The total quantity of above items is equal to no. of pipes supplied.) DWC pipe shall be marked at every 1 mtr. length in such a way that manufacturer's name, vendor name and year of manufacture can be easily identified. Inspection : Rites</p>						
179	179	3000.00	RM	30.73	92190.00	AT Par	92190.00
	<p><b>Description:-</b> Placing of DWC HDPE /RCC/GI pipes along with collars in trenches at places near track and road, crossings, platform cuttings etc.</p>						
180	180	25000.00	RM	15.37	384250.00	AT Par	384250.00
	<p><b>Description:-</b> Supplying and placing of one layer of standard size of 'B' grade quality bricke of the local make spreading on cables laid.(minimum size of brick 200mm X 100mm X 70mm). Lengthwise (up to 2 cables).</p>						
181	181	30000.00	RM	33.09	992700.00	AT Par	992700.00

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			<b>Description:-</b> Supplying and placing of one layer of standard size of 'B' grade quality bricks of the local make spreading on cables laid.(minimum size of brick 200mm X 100mm X 70mm).Width wise ( more than 2 cables)				
182	182	400.00	Metre	265.15	106060.00	AT Par	106060.00
			<b>Description:-</b> Repair of pucca roads to original state in level crossing area after cable laying.				
183	183	146022.00	RM	5.40	788518.80	AT Par	788518.80
			<b>Description:-</b> Laying of S&T Cables of various cores/ pairs/ quads in trenches/ GI pipes/ RCC pipes/ DWC pipes/ Trunking. This also includes laying of cables in track crossings & road crossings. Item includes provision of labels of coloured plastic adhesive tapes or any other identifiable material on each cable to give the cable number at each Gantry Post/hectometre post.(Cables will be meggered before and after its laying by contractor under supervision of Railway Representative and he will submit the meggering report of each testing). Length of the cable laid includes the length of the cable coiled for termination purposes.				
184	185	2.00	Numbers	170786.69	341573.38	AT Par	341573.38
			<b>Description:-</b> Supply Wiring, installation, testing and commissioning of Earth Leakage Detector (12 nos. channel) as per RDSO specification no. RDSO/SPN/256/2002 or latest having 6-digit counter, 12 Channel bus bar voltage of 110V AC/DC and/or 60V/24V/12V DC measurement in 19" sub rack along with insulation resistance meter, remote indication & buzzer in ASM room at station. The tenderer should submit three years' warranty certificate along with supply of material. This includes supply of fuse terminal strip for incoming power supply wires. On job training at site will be given by OEM engineer for installation and maintenance of ELD. Inspection by RDSO.				
185	185	30.00	Lot	18203.91	546117.30	AT Par	546117.30
			<b>Description:-</b> "Supply of basic material to construct unit maintenance free earth as per RDSO Specs. No RDSO/SPN/197 Ver.1.0 or latest and conforming to RDSO Drg. No. SDO / RDSO/ E&B/001 or Latest. Necessary testing certificate of UL, IEC to be produced. It consist of following: (a) Copper bonded steel electrode of 3.0 m long, 17.2 mm dia with copper bonding thickness of minimum macrons and UL listed and marked = 1 no. (b) Earth enhancement material supplied in sealed bags of minimum 10 kg = 3 nos. (c) Copper strip of 150x25x6 mm, to terminate earth rod - 1 no. (d) Copper strip of 300x25x6 mm (MEEB) = 1 no. (e) Copper strip of 150x25x6mm (SEEB) = 1 no. (ii) Supply of 35 sq. mm multi strand single core PVC insulated copper cable as per IS: 694 for connecting main earth electrode to MEEB in the equipment room in duplicate.(minimum 10 meter) (iii) Supply of 16 sq. mm multi strand single core PVC insulated copper cable as per IS: 694 for connecting MEEB to SEEB and SPD to MEEB (minimum 10 meter ) (iv) Supply of 10 sq. mm multi strand single core PVC insulated copper cable as per IS: 694 for connecting various equipments to SEEB (v) Supply of copper lug sleeve for 3/16 cable Inspection: RDSO"				
186	186	30.00	Set	6107.87	183236.10	AT Par	183236.10
			<b>Description:-</b> "Installation of Unit Maintenance Free Earth as supplied in above item. It includes ( i ) Digging the earth to the required depth. (ii) Insertion of electrode. (iii) Filling of earth enhancing compound (Approx.30 Kg) (iv) Provision of exothermic weld connections to copper tape of 25 mm x 6 mm x 150 mm to the earth electrodes. All material tools and features required for weld will be arranged by contractor. (v) This also includes CC cover 1.5 ft x 1.5 ft. 1 ft wall thickness 2 inch with cover 3 inch thickness. Cables 35 Sq mm/ 16 Sq mm/10 sq mm for connecting earth to busbar, busbar to busbar and bus bars to various equipments. Earth electrode of 17.20 mm dia and 3.00 meter long high tensile low carbon steel circular rods molecularly bonded with copper and outer surface (minimum copper bonding thickness of 250 microns to made requirement of under writer's laboratories (UL) 467-2007 or latest. Copper strips of 150 mm x 25 mm x 6 mm to be welded with each earth electrode, copper strips of 300 mm x 25 mm x 6 mm for main equip- potential bus bar, copper strips of 150 mm x 25 mm x 6 mm sub equip-potential bus bar in relay room, power room and panel room. GI strip 25 mm x 2 mm for ring formation of earth pits Earth enhancement material in bags for each Earth Electrode. Inspection chamber of site 300 mm x 300 mm x 300 mm (Inside dimension) of approximate 50 mm thick with pulling hooks to cover the earth pits. Note: The installation of this item shall be carried out by the contractor as per RDSO Specs. No RDSO/SPN/197 Ver.1.0 or latest and conforming to RDSO Drg. No. SDO / RDSO/ E&B/001 or Latest.Inspection: Consignee"				
187	187	50.00	Numbers	1522.81	76140.50	AT Par	76140.50
			<b>Description:-</b> "Supply of earth electrode mild steel galvanized, light class, IS:1239(PART-I) -1979.earth electrode pipe should be with 3 mm thick, 50 mm dia and perforated(staggered),5 mm dia holes, 2 nos per 305 mm length with clamp of MS FLAT(galvanised) of size 35 mm x 6 mm (SPEC. NO.226 STD). Earth pipe should include CI threaded cap. Materials to be procured and designed as per CSTE /ER'S DRG.NO.S&T-1/2007. Inspection: - BY RITES [for value of material above Rs. 5.0 lakhs.]. Inspection by consignee [for value of material below than Rs 5.0 lakh]"				
188	188	100.00	Numbers	874.83	87483.00	AT Par	87483.00
			<b>Description:-</b> Supply of MS FLAT (SPEC. NO. 226 STD or latest) of size 35 mm x 6 mm with length 5 mtr with holes of 12 mm dia at both ends as per CSTE/ER'S DRG. NO. S&T-1/2007 (or latest). Inspection : by consignee.				
189	189	100.00	Numbers	1203.31	120331.00	AT Par	120331.00

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	<b>Description:-</b> Fixing of earth electrode including laying and installation of MS flat of size 35 mm x 6 mm with length 5 mtr or as per extant practice of Eastern Railway. As per CSTE/ ER'S DRG. NO. S&T 1/2007 for apparatus cases, signal post & other equipment as per instruction of site engineer. Provision for fixing MS flat at apparatus cases/ signal post/other equipment should be made by the firm at site. Full threaded bolts of 10 mm dia and length 40 mm should be welded in the apparatus cases in such way that the MS flat at apparatus case end can be fixed from outside or from inside. Welding arrangement with accessories and welding materials should be arranged by the contractor for fixing of bolts at equipment end where required as per instruction of site engineer. All hardware and other miscellaneous materials required for installation to be supplied by the contractor except earth electrodes and MS flat. Note:-all materials required to be arranged by the contractor except 2 core cable will be supplied by the railway.							
190	190	80.00	Numbers	591.93	47354.40	AT Par	47354.40	
	<b>Description:-</b> Provision of cement concrete enclosure for earth electrodes as per DRG. NO. S&T/C-36(NKG). This includes supply of all materials by the contractor duly inspected by consignee.							
191	191	3.00	Set	484745.69	1454237.07	AT Par	1454237.07	
	<b>Description:-</b> "Supply of Electrically Operated Lifting Barrier complete set suitable for 24V DC, supply with hand generator back up & motorized boom locking arrangements as per RDSO Spec. SPN/208/2012 with latest amendment. One set consisting of 2 nos. of lifting barrier pedestals, each with 8 contact circuit controller with top roller type limit switches, hand crank, 2 electric motors, 24vdc of capacity suitable to operate barriers upto 32' long booms, 2 nos. of steel octagonal booms of 32 feet length with 2 nos. Stop boards, boom light boxes, MS counter weights and 2 nos. of boom support with motorised boom locking but without fringes along with control panel with buttons and indicating lamps, motor connectors and MCB and hand generator (24VDC) to operate 2 barriers of 1 set. This includes supply and installation of gate hooter - 1 no and Dual Tone Bell /Buzzer with Flasher arrangement and 20 Watt horn working on 24 V DC/ 110 V AC- 1 no with all fixing arrangements. All of the above items including supply of nuts & bolts, foundation as required & supply of cement, civil work materials and etc. Shall be done by the contractor for commissioning. Only 230VAC supply shall be arranged by the railway in nearby relay room. The complete electric lifting barrier set shall confirm to RDSO SPEC NO. RDSO/SPN/208/2012 with latest amendment. Inspection - RDSO. along with Spares & tool kit mentioned in RDSO Spec. SPN/208/2012 clause 10.1 & 10.2 as below - Following spares shall be supplied alongwith each set (02 nos.) of Electric lifting barrier as per requirement of the purchaser i) Steel boom - 1 no. complete. ii) Belt - 1 no. iii) Crank handle 1 no. iv) Motor Contactor - 1 no. v) Motor protection MCB- 1 no. vi) Push button complete- 2 nos. vii) Limit switch - 3 nos. (1 lever type and 2 top roller type) viii) Fuses used - 2 sets Tool kit consisting of standard sizes of wrench / spanner and Allen keys should also be supplied with each set (02 nos.) of Electric Lifting barrier. Inspection: RDSO"							
192	192	3.00	IBH/LC Gate/Auto Hut	48534.29	145602.87	AT Par	145602.87	
	<b>Description:-</b> Installation, testing and commissioning of electrically operated lifting barrier, complete with Casting of cement concrete foundation (including supply of sand, stone, cement, bolt, plate etc.) for pedestal and boom rest post, cabling, power supply connection & wiring with complete outdoor work as per approved drawing, wiring etc. Inspection: Consignee(HERE LC-GATE MEANS PER LC)							
193	193	6.00	Set	1772.70	10636.20	AT Par	10636.20	
	<b>Description:-</b> Supply of Yellow Retro reflective sheet for LC Boom prismatic grade reflective sheets of size 305 x 290 mm one set consist 18 pieces. Inspection: Consignee							
194	194	3.00	Numbers	21965.30	65895.90	AT Par	65895.90	
	<b>Description:-</b> "Supply, installation and commissioning of ELB opening ,closing and emergency key operation system as per CSTE/ ER'S Typical circuit diagram No-S.I./TYP/ 0062 Which requires i) Rugged 'NO' press switch(Green) - INo ii) Rugged 'NO' press switch (Red)- INo iii) Robust type rotary switch similar to P.I. SM'S key-1 No. iv) Veeder counter to record the count of emergency key operation- INo v)Superior quality 24VDC pizo buzzer- 1 No vi)Good quality 10 mm LED Green- INo vii)Good quality 10mm LED Red-1 No viii)Good quality 10mm LED yellow-4 No ix)Robust Indication Board with white hylam sheet top (approx dimension 8"x12"x2")- INo. x)good quality 6"x6" box with transparent cover with locking and sealing arrangement to accomodate emergency rotary switch and veeder counter. Note -contactor has to provide all other items require like flexible wire 16/0.2sq mm for wiring ,casing, capping etc require for installation with one spare for each item from item number -i to viii).Inspection -Consignee."							
195	195	3.00	Numbers	16041.40	48124.20	AT Par	48124.20	
	<b>Description:-</b> Supply and installation of LED type table mounting gate control-cum-indication panel of required size as per site engineer and as per signalling plan including supply of wooden table (hard wood) of standard height for mounting of panel, cable entry in panel with 50 mm dia gallant. Note- gate panel should have button operation for gate close & open instead of switch. The switch for signal operation preferably should have 2NC/2RC contact. Make-Deltron or similar. Inspection- Consignee.							
	196	5.00	Lot	6785.45	33927.25	AT Par	33927.25	

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196	<b>Description:-</b> Painting two coats of enamel paint over one coat of Red Oxide primer on the following items after scrapping and cleaning of the surface wherever necessary. Primer and Paints both of any reputed make are to be supplied by Contractor. The work shall be done as per instructions of rly engineer at site and extant practice on E Rly on location boxes, signal posts, TLJB. This includes lettering/ Numbering of signals, TLJB & Block joints if any, apparatus Cases, gate booms , etc , Description writing , legibly and neatly inside location boxes , relay hut, gate lodge etc. - for LC Gate. Inspection: by Consignee.(HERE LOT/GAT)						
197	197	3.00	Numbers	3012.91	9038.73	AT Par	9038.73
	<b>Description:-</b> Dismantling of level crossing gates with all accessories as per site engineers.						
198	198	10.00	Numbers	5050.82	50508.20	AT Par	50508.20
	<b>Description:-</b> C.I. foundation 'A' type with hole SPEC.IRS-5- 10/78 (LATEST). Inspection - Consignee.						
199	199	10.00	Numbers	1766.82	17668.20	AT Par	17668.20
	<b>Description:-</b> C.I. foundation 'B' type with hole SPEC.IRS-5- 10/78 (LATEST). Inspection - Consignee.						
200	200	20.00	Numbers	2800.86	56017.20	AT Par	56017.20
	<b>Description:-</b> Casting of A/B type foundation for fixing adjustment arc lever, accommodating crank etc. With supply of cement, sand and ballast.						
201	201	1.00	Numbers	232683.45	232683.45	AT Par	232683.45
	<b>Description:-</b> Supply of sliding boom gate as per eastern railway signal workshop / Howrah's drawing no. BSA/29/730, BSA/29/731 & BSA/29/737 or Latest. This includes supply of 8 nos. E-type lock with key as per IRS SPEC. NO. IRS-5-30/64 with latest amendment. Key lock 'e' type as per drawing no. SA-3376/ M, 3377/M with latest amendment or Latest. Ward no. To be decided by the site engineer. 'E' type lock to be on MS plate as mentioned in the drawing. Inspection: by rites [for value of material above Rs. 5.0 lakhs.]. Inspection by consignee [for value of material below than Rs 5.0 lakh]						
202	202	1.00	Numbers	61164.78	61164.78	AT Par	61164.78
	<b>Description:-</b> Casting, concreting & curing of foundation (1:3:6) for sliding boom gate as per drawing no. SGW-SDAH /SLIDING GATE FOUNDATION/ 2012 or Latest including supply & fixing of holding down bolts with washers and nuts, MS plates of size 350x350x8 mm, cement, sand, stone chips etc. For foundations required in each set of gate.						
203	203	1.00	Numbers	4224.53	4224.53	AT Par	4224.53
	<b>Description:-</b> Installation & commissioning of sliding boom gate. This includes levelling, fixing of sliding boom with fixing of E-type lock, etc. Note : all materials to be supplied by the contractor except sliding boom gate and E-type lock.						
204	204	3.00	Numbers	7072.95	21218.85	AT Par	21218.85
	<b>Description:-</b> Installation, wiring and testing of electrical key transmitter for LC gate control as per yard diagram, approved circuit diagram. Installation portion shall include supply of necessary angles, wooden shelf, nuts & bolts as required for the work. The ward no. Of key shall be advised by the site engineer. This includes supply of electrical key transmitter with key for LC gate control as per yard diagram, approved circuit diagram and specn.no. IRS-S-21/01(LATEST) AND IRS-5- 23(LATEST), DRG.NO.SA-22601 (ADV)ALT.2. [key combination will be intimated by site engineer] Supply. Inspection : RDSO.						
205	205	3.00	Numbers	6699.49	20098.47	AT Par	20098.47
	<b>Description:-</b> Installation, wiring and testing of electrical key transmitter for LC gate control as per yard diagram, approved circuit diagram. Installation portion shall include supply of necessary angles, wooden shelf, nuts & bolts as required for the work. The ward no. Of key shall be advised by the site engineer. This includes supply of electrical key transmitter with key for LC gate control as per yard diagram, approved circuit diagram and specn.no. IRS-S-21/01(LATEST) AND IRS-5- 23(LATEST), DRG.NO.SA-22601 (ADV)ALT.2. [key combination will be intimated by site engineer]Execution.						
206	206	6.00	Numbers	203.55	1221.30	AT Par	1221.30
	<b>Description:-</b> Installation of magneto / control telephone, annunciator with all accessories and dry cells (2 nos.) For each phone with wooden battery box. This includes supply of magneto telephones with all accessories including supply of 2 nos. Dry cell for each telephone with wooden battery box. (i) SPEC.FOR magneto telephone IRS-TC- 79/2000.AMD-1 OR LATEST. Execution.						
207	207	6.00	Numbers	3664.64	21987.84	AT Par	21987.84
	<b>Description:-</b> Installation of magneto / control telephone, annunciator with all accessories and dry cells (2 nos.) For each phone with wooden battery box. This includes supply of magneto telephones with all accessories including supply of 2 nos. Dry cell for each telephone with wooden battery box. (i) SPEC.FOR magneto telephone IRS-TC- 79/2000.AMD-1 OR LATEST. Supply of magneto telephone, desk type, spec. No IRS-TC-79/ 2000 AMDT. 1 or latest. Inspection: by consignee						
	208	6.00	Numbers	1148.60	6891.60	AT Par	6891.60

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208	<b>Description:-</b> Installation of magneto / control telephone, annunciator with all accessories and dry cells (2 nos.) For each phone with wooden battery box. This includes supply of magneto telephones with all accessories including supply of 2 nos. Dry cell for each telephone with wooden battery box. (i) SPEC.FOR magneto telephone IRS-TC- 79/2000.AMD-1 OR LATEST.Supply of KEY LOCK 'E' type to Drg. No. SA- 3376/M (IRS) Alt.-2 (with latest Alt if any) and KEY to Drg. No. 5-3377/ M (IRS) to ward No. 23 and RDSO specification No. IRS: S- 30/64 (with Amdt. up to date if any).Inspection:RDSO.						
209	209	2.00	Numbers	5399.31	10798.62	AT Par	10798.62
209	<b>Description:-</b> Supply of Universal 2/4 wire way side DTMF control telephone as per RDSO spec. no. IRS: TC:82: 2005 (with Amdt. 3) or latest. Inspection: Consignee						
210	210	2.00	Numbers	4020.95	8041.90	AT Par	8041.90
210	<b>Description:-</b> Supply of power supply unit for telecom installation at way side station suitable to operate max 6 equipments of DTMF type (12V/7AH) battery with suitable battery charger) as per RDSO spec. No. IRS: TC-72-97 or latest. Inspection: consignee.						
211	211	2.00	Numbers	7213.98	14427.96	AT Par	14427.96
211	<b>Description:-</b> Supply of 4W way station DTMF equipment as per RDSO spec. no IRS- TC@47<47@93 or latest (with 4 wire telephone as per spec. No IRS- TC@45&47@97 or latest. Make- Bentrion, Epsilon or similar and supply of 12V/7AH power supply unit for control phone. Inspection by Consignee						
212	212	2.00	Numbers	1350.65	2701.30	AT Par	2701.30
212	<b>Description:-</b> Installation of 4W way station DTMF equipment as per RDSO spec. no IRS-TC@47<47@93 or latest( with 4 wire telephone as per spec. No IRS-TC- 38/97 or latest. Make-Bentrion, Epsilon or similar and supply of 12V/7AH power supply unit for control phone.						
213	213	10.00	Numbers	840.04	8400.40	AT Par	8400.40
213	<b>Description:-</b> Supply, Fixing and wiring of 10 Pairs Krone type D.P. box as per Tech spec, make Hensel or Similar. Inspection: Consignee						
214	214	10.00	Numbers	1208.70	12087.00	AT Par	12087.00
214	<b>Description:-</b> Supply, Fixing and wiring of 20 Pairs Krone type D.P. box as per Tech spec, make Hensel or Similar. Inspection: Consignee						
215	215	135.00	Metre	45.28	6112.80	AT Par	6112.80
215	<b>Description:-</b> Supply of PVC cable channel of 15 MM x 15 MM I as per specification. Inspection: consignee.						
216	216	135.00	Metre	18.48	2494.80	AT Par	2494.80
216	<b>Description:-</b> Execution/fixing of 15 MM x 15 MM PVC channel on wall including supply of all fixing materials & accessories by contractor. Returning the left over material to the railway store.						
217	217	138.00	Metre	66.54	9182.52	AT Par	9182.52
217	<b>Description:-</b> Supply of PVC cable channel of 25 MM x 25 MM as per specification. Inspection: consignee.						
218	218	138.00	Metre	20.33	2805.54	AT Par	2805.54
218	<b>Description:-</b> Execution/fixing of 25 MM x 25 MM PVC channel on wall including supply of all fixing materials & accessories by contractor. Returning the left over material to the railway store.						
219	219	1.00	Station	9254.45	9254.45	AT Par	9254.45
219	<b>Description:-</b> Shifting and installation of control and other telecom equipments like control phone, magneto phone, auto phone, VHF sets, V F Repeaters etc. from old station building to new station building as per instructions of site engineer. All the material required for fixing and installation will be supplied by the contractor. Inspection: Consignee						
220	220	12.00	Numbers	13714.26	164571.12	AT Par	164571.12
220	<b>Description:-</b> Supply of Digital Clock suitable for Office Complex with GPS Synchronisation in standalone mode as per Clause 6 of RDSO SPN TC 62 / 2008 , (Rev 3.0) Arndt. 2 or latest. Inspection: (i) RDSO / RITES if value of item in work more than 5 lakhs or as per extant policy. (ii) Consignee subject to procurement from RDSO approved vendors if value of whole item in work less than 5 lakhs or as per extant policy						
221	221	2.00	Numbers	290541.20	581082.40	AT Par	581082.40
221	<b>Description:-</b> "Supply of standard 19" rack mountable , -48V DC working, Add-Drop STM-4 SDH equipment conforming to GR No. TEC/GR/TX/SDH 010/03.Jan 2011 (with latest amendment) complete with redundant power supply, 2 no. STM 4 of aggregate L.4.2 Optical interface modules/ Cards one each for East and west side, TX/RX and 2 nos. of STM-1 S 1.1 optical interface modules complete with 5 mtrs long optical fibre cords, 21 E1s with DDFs and cable assembly for termination to DDF and minimum 8 nos. of 10/100 Base-T Ethernet ports, Fast Ethernet on SDH [EoS] 10/100 Base-I interface module/card supporting with LCAS and GEP, order wire subrack DDF installation material, manuals and other accessories. Complete Engineering order wire (EOW) arrangement. Necessary/ Firmware for local/remote monitoring/ configuration of the equipment through EMS and Software/ Firmware interface to work all Network elements as Gateway Network Element [GNE], 2 nos of MCBs of appropriate rating and necessary connecting cords and cables for power supply modules. "						
222	222	4.00	Numbers	24389.88	97559.52	AT Par	97559.52

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222				<b>Description:-</b> "Installation and commissioning of STM-4 in the existing rack with ready infrastructure or in new rack as desired by the site Engineer. "				
223	223	3.00	Numbers	23941.90	71825.70	AT Par	71825.70	
				<b>Description:-</b> "Supply of 25 Watt VHF synthesised trans receiver set, synthesised in frequency band 136 MHz to 174 MHz (full band), with DTMF microphone and cords, with GP antenna, 30 m of feeder cable and suitable BNC connectors, with 3m of power cord and 12V/13.5V 10Amp/ 15Amp power supply suitable for 25W VHF set, as per RDSO spec. RDSO/ SPN/TC/107/2018, Rev. 0.0 Amndt 1 or latest. "				
224	224	3.00	Numbers	21043.49	63130.47	AT Par	63130.47	
				<b>Description:-</b> "Supply of DC-DC converter. for emergency communication through V.H.F. as per specification - the DC DC converter shall be independent for each vhf base equipment (voice equipment) and shall allow to work from -48V nominal input (-48V to -60V variation) & output 12V DC. The power capacity to deliver 10A current with output short circuit protection & ripple voltage less than 5mv for telecom circuit. Short circuit current not more than 2 mA, input- output insulation by 2.5 KV, load & output regulation +/-1% with ERTL certification. Make: DACS, Pune or Webfil Kolkata or Machronics, Kolkata or similar. Inspection: consignee. "				
225	225	2.00	Numbers	14038.23	28076.46	AT Par	28076.46	
				<b>Description:-</b> "Supply of Buffer amplifier for emergency communication through V.H.F. As per voice frequency channel shall be 600 ohms balanced 4W (viz. 2W for transmit, 2W for receive) and 2W for E&M signalling. The nominal voice frequency signal shall be 0 dbm level the buffer amplifier should work of -48vdc or can from the DC-DC converter. Burn in of the complete equipment at 55 degree centigrade to avoid infancy failures. During the test the equipment shall be kept continuously on. Inspection :consignee. "				
226	226	5.00	Numbers	7248.91	36244.55	AT Par	36244.55	
				<b>Description:-</b> "Supply, fixing and wiring of surge protection device in attachment plug module with replaceable surge protection for coaxial signal, interfaces N-connector plug/socket installed as surge protection between antenna and 25 W VHF sets, make- Phoenix Contact model CN-UB- 280DC-SB-28 18148 or similar as per specifications. this includes mounting plate and reserve gas filled surge arrestor (one no.) with all required connectors /clamp for commissioning of SPD at site. Inspection: Consignee "				
227	227	3.00	Numbers	6423.95	19271.85	AT Par	19271.85	
				<b>Description:-</b> "Installation, testing and mounting of G.P. antenna on a GI pipe which is to be fitted on the roof of equipment room and lightning arrestors also to be mounted on a GI pipe. All fixing materials to be supplied by the tenderer and left over material to be returned to the railway store. N.B.G.P. Antenna, GI pipe(50 mm dia) and lightning arrestor will be supplied by the railway. "				
228	228	10.00	Numbers	116903.87	1169038.70	AT Par	1169038.70	
				<b>Description:-</b> Supply of Failure Analysis System (FAS) with Fault Analysis Software (Datalogger Analyser) consisting of a PC (Make- Dell /HP or Equivalent) as per Technical Specifications. The specification of FAS should be got approved from the Engineer in charge before supply. Note: The minimum specification should be as given core i7 or higher version processor (speed 3.2 GHZ, 4 MB cache memory), 8 GB RAM,2TB HDD or Higher, Two front and four rear USB port,1 Serial & 1 Parallel Port,1VGA Port,21" LED Colour Monitor (HP/DELL or equivalent) or Bigger Size, Sound Card with Speaker,1000 MBPS Network Card, Keyboard, Optical Mouse,10/100 T Lan Card, Combo Drive, Microsoft Windows 10 Licensed OS with Licensed (Antivirus, MS Office etc.),UPS 750 VA with 30 Minutes minimum backup(APC/ Microtek or Equivalent) , Laserjet Printer(H P Pro 1108 or superior). Inspection: Consignee				
229	229	5.00	Numbers	2181.98	10909.90	AT Par	10909.90	
				<b>Description:-</b> "Installation, testing & commissioning of operating panel room VHF/SIMPLEX VHF base equipment, DC-DC simplex VHF base equipment, DC-DC converter, buffer amplifier and laying of co-axial cable simplex VHF base equipment, DC-DC converter, buffer amplifier should be mounted on rack of suitable size and other fixing arrangement "				
230	230	4.00	Numbers	27538.37	110153.48	AT Par	110153.48	
				<b>Description:-</b> "Supply , installation commissioning of 500 watt Amplifier Make Ahuja model SSA 5000EM.or Similar. Inspection : Consignee "				
231	231	10.00	Numbers	6344.42	63444.20	AT Par	63444.20	
				<b>Description:-</b> Supply of high fidelity PA horn speaker IP-65 rated model AMH-402T, make Ahuja or similar.				
232	232	100.00	cum	3767.59	376759.00	AT Par	376759.00	
				<b>Description:-</b> Cement concrete work for miscellaneous items in the ratio 1: 3: 6. Item includes excavation, ramming, curing and plastering with cement & sand mixture (aggregate not exceeding 3.8 cm.) (Aggregate cement & sand to be supplied by the contractor). Wherever depth of 0.5 m cable trench is not feasible, cable shall be protected as :- Preparation of cement mixture 1:3:6 with contractor's own materials and spreading cement concrete mixture layer of 100 mm thick over the already laid cables in the excavated trench.(HERE CUM MEANS cumtr)				

S.No.	Item Code	Item Qty	Qty Unit	Unit Rate	Basic Value	Escl.(%)	Amount	Bidding Unit
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**HOWRAH DIVISION-GATI SHAKTI/EASTERN RLY  
TENDER DOCUMENT**

Tender No: GSU-DCSTE\_2\_23-24

Closing Date/Time: 09/05/2023 15:00

Schedule B-(NON-SOR ITEMS)							32736401.40	Above/ Below/Par
001	001	80.00	Kilometre	223867.32	17909385.60	AT Par	17909385.60	
	<b>Description:-</b> Underground, Armoured, Unscreened Railway signaling cable (Heavy Duty) with high conductivity copper conductor of size 12 Core X 1.5 sq mm as per Specn. No.IRS: S-63/2014 (Rev.4.0) with latest Amdt.if any.							
002	002	34.00	Kilometre	282270.00	9597180.00	AT Par	9597180.00	
	<b>Description:-</b> UNDERGROUND RAILWAY JELLY FILLED TELECOM 6 QUAD CABLE 0.9 MM DIA FOR SIGNALLING AND TELECOM INSTALLATION CONFORMING TO SPECN.NO.IRS-TC-30/2005 VER-I WITH AMDT.- 5 OR LATEST.							
003	003	28.00	Kilometre	71908.77	2013445.56	AT Par	2013445.56	
	<b>Description:-</b> Cable OFC, 24 Fibre Armoured Underground to SPEC. No. IRS-TC-55/2006 (REV-1) with Amdt 1.1 or Latest.							
004	004	1000.00	Metre	723.59	723590.00	AT Par	723590.00	
	<b>Description:-</b> Supply of Split DWC Pipe in the cable Trench parallel to track or as per Site and approved cable route plan. Split DWC pipes having non flame propagation and Anti Roddent properties (minimum outer dia 250 mm & minimum Inner Dia 217 mm) with out socket /coupler as per IS:14930, Pt-II(ISI Marked). Inspection : Rites							
005	005	6.00	Numbers	60227.20	361363.20	AT Par	361363.20	
	<b>Description:-</b> SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF PROTOCOL CONVERTER UNIT SUITABLE FOR INTERFACING DATALOGGER WITH ELECTRONIC INTERLOCKING EQUIPMENT. INSPECTION : RDSO							
006	006	1.00	Pair	1010058.80	1010058.80	AT Par	1010058.80	
	<b>Description:-</b> Supply of Block Panel BPAC (Block Proving with digital axle counter) using UFSBI as per specification IRS: S-105/2012Ver.0 with latest amendment for single line operation. NOTE: One set will include equipments required for one complete Single Line Block Section except DAC. This includes Relay, Relay Base, Retaining clip & connectors to be supplied by the contractor along with the UFSBI. Inspection: RDSO							
007	007	1.00	Pair	36230.44	36230.44	AT Par	36230.44	
	<b>Description:-</b> "Supply of Automatic Media changeover system of Modem working on redundant channel for data transmission on OFC/Quad/ microwave radio, for seamless operation of UFSBI over multiple media. Inspection: Consignee."							
008	008	1.00	Pair	19934.88	19934.88	AT Par	19934.88	
	<b>Description:-</b> Installation and commissioning of modem & media change over as above. Note: all required materials for execution to be supplied by the contractor.							
009	009	1.00	Pair	55980.22	55980.22	AT Par	55980.22	
	<b>Description:-</b> Installation, Testing & commissioning of Block proving by Axle Counter (BPAC) including UFSBI equipment as per standard practice & directive of engineer in charge and as per OEM guidelines. Inspection: Consignee.							
010	010	1.00	Numbers	776.55	776.55	AT Par	776.55	
	<b>Description:-</b> "Supply of V.F. transformer 1220:600/470 /:1220 as per IRS:TC-22/ 76 or latest. Inspection - consignee "							
011	011	1.00	Numbers	456.15	456.15	AT Par	456.15	
	<b>Description:-</b> "Installation of V.F. transformer 1220:600/470 /:1220 as per IRS:TC-22/ 76 or latest. Inspection:- consignee "							
012	012	24.00	Numbers	42000.00	1008000.00	AT Par	1008000.00	
	<b>Description:-</b> Hiring of Vehicle non AC Monthly Basis Cab & Taxi Hiring Services - SUV; 24x7; Local 24*7 on Km 1500 per month							

**3. ITEM BREAKUP**

No item break up added
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**4. ELIGIBILITY CONDITIONS**

<b>Important :</b> All documents uploaded and remarks / confirmation entered by the bidders against any eligibility condition shall be opened as part of technical bid only
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**Special Financial Criteria**

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading

**HOWRAH DIVISION-GATI SHAKTI/EASTERN RLY  
TENDER DOCUMENT**

Tender No: GSU-DCSTE\_2\_23-24

Closing Date/Time: 09/05/2023 15:00

1	<p>Financial Eligibility Criteria: Advance Correction Slip No. 1) Ref: 2022/cei/ct/gcc2022/policy dated- 14.07.2022) A. Para 10.2., Part I of GCC shall be read as under: The tenderer must have minimum average annual contractual turnover of V/N or 'V' whichever is less; where V= Advertised value of the tender in crores of Rupees N= Number of years prescribed for completion of work for which bids have been invited. The average annual contractual turnover shall be calculated as an average of "total contractual payments" in the previous three financial years, as per the audited balance sheet. However, in case balance sheet of the previous year is yet to be prepared/ audited, the audited balance sheet of the fourth previous year shall be considered for calculating average annual contractual turnover under: Financial Eligibility Criteria: Advance Correction Slip No. 1) Ref: 2022/ce-i/ct/gcc-2022/policy dated- 14.07.2022) A. Para 10.2., Part I of GCC shall be read as under: The tenderer must have minimum average annual contractual turnover of V/N or 'V' whichever is less; where V= Advertised value of the tender in crores of Rupees N= Number of years prescribed for completion of work for which bids have been invited. The average annual contractual turnover shall be calculated as an average of "total contractual payments" in the previous three financial years, as per the audited balance sheet. However, in case balance sheet of the previous year is yet to be prepared/ audited, the audited balance sheet of the fourth previous year shall be considered for calculating average annual contractual turnover under: The tenderers shall submit requisite information as per Annexure-XIV (as per tender document &amp; NIT), along with copies of Audited Balance Sheets duly certified by the Chartered Accountant/ Certificate from Chartered Accountant duly supported by Audited Balance Sheet</p>	No	No	Allowed (Mandatory)
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**Special Technical Criteria**

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	<p>ELIGIBILITY CRITERIA (FOR TENDERS OF VALUE ABOVE RS. 50 LAKHS) : (a)The tenderer must have successfully completed or substantially completed any of the following during last 07 (seven) years, ending last day of month previous to the one in which tender is invited: Three similar works each costing not less than the amount equal to 30% of advertised value of the tender, or Two similar works each costing not less than the amount equal to 40% of advertised value of the tender, or One similar work each costing not less than the amount equal to 60% of advertised value of the tender. (b)(i) In case of tenders for composite works (e.g. works involving more than one distinct component, such as Civil Engineering works, S&amp;T works, Electrical works, OHE works etc. and in the case of major bridges - substructure, superstructure etc.), tenderer must have successfully completed or substantially completed any of the following during last 07 (seven) years, ending last day of month previous to the one in which tender is invited: Three similar works each costing not less than the amount equal to 30% of advertised value of each component of tender, or Two similar works each costing not less than the amount equal to 40% of advertised value of each component of tender, or One similar work each costing not less than the amount equal to 60% of advertised value of each component of tender. Note for (b) (i): Separate completed works of minimum required values shall also be considered for fulfillment of technical eligibility criteria for different components (b) (ii) In such cases, what constitutes a component in a composite work shall be clearly pre-defined with estimated tender cost of it, as part of the tender documents without any ambiguity. (b) (iii) To evaluate the technical eligibility of tenderer, only components of work as stipulated in tender documents for evaluation of technical eligibility, shall be considered. The scope of work covered in other remaining components shall be either executed by tenderer himself if he has work experience as mentioned in clause 7 the Standard General Conditions of Contract or through subcontractor fulfilling the requirements as per clause 7 of the Standard General Conditions of Contract or jointly i.e., partly himself and remaining through subcontractor, with prior approval of Chief Engineer in writing. However, if required in tender documents by way of Special Conditions, a formal agreement duly notarised, legally enforceable in the court of law, shall be executed by the main contractor with the subcontractor for the component(s) of work proposed to be executed by the subcontractor(s), and shall be submitted along with the offer for considering subletting of that scope of work towards fulfillment of technical eligibility. Such subcontractor must fulfill technical eligibility criteria as follows: The subcontractor shall have successfully completed at least one work similar to work proposed for subcontract, costing not less than 35% value of work to be subletted, in last 5 years, ending last day of month previous to the one in which tender is invited through a works contract.</p>	No	No	Allowed (Mandatory)

**Special Financial Criteria**

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
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**HOWRAH DIVISION-GATI SHAKTI/EASTERN RLY  
TENDER DOCUMENT**

Tender No: GSU-DCSTE\_2\_23-24

Closing Date/Time: 09/05/2023 15:00

1	Advance Correction Slip No. 1) Ref: 2022/cei/ct/gcc2022/policy dated- 14.07.2022) A. Para 10.2., Part I of GCC shall be read as under: The tenderer must have minimum average annual contractual turnover of V/N or 'V' whichever is less; where V= Advertised value of the tender in crores of Rupees N= Number of years prescribed for completion of work for which bids have been invited. The average annual contractual turnover shall be calculated as an average of "total contractual payments" in the previous three financial years, as per the audited balance sheet. However, in case balance sheet of the previous year is yet to be prepared/ audited, the audited balance sheet of the fourth previous year shall be considered for calculating average annual contractual turnover under: Financial Eligibility Criteria: Advance Correction Slip No. 1) Ref: 2022/ce-i/ct/gcc-2022/policy dated- 14.07.2022) A. Para 10.2., Part I of GCC shall be read as under: The tenderer must have minimum average annual contractual turnover of V/N or 'V' whichever is less; where V= Advertised value of the tender in crores of Rupees N= Number of years prescribed for completion of work for which bids have been invited. The average annual contractual turnover shall be calculated as an average of "total contractual payments" in the previous three financial years, as per the audited balance sheet. However, in case balance sheet of the previous year is yet to be prepared/ audited, the audited balance sheet of the fourth previous year shall be considered for calculating average annual contractual turnover under: The tenderers shall submit requisite information as per Annexure-XIV (as per tender document & NIT), along with copies of Audited Balance Sheets duly certified by the Chartered Accountant/ Certificate from Chartered Accountant duly supported by Audited Balance Sheet	No	No	Allowed (Mandatory)
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**Special Technical Criteria**

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	Any Relay Interlocking or Electronic Interlocking or Automatic Block Signalling or Intermediate Block Signalling/Intermediate Block Hut work involving indoor & outdoor work (Cable lying & termination). Note:1-Tenderer may be required to submit the schedule of those works, Completion/Performance Certificates of which have been submitted by him/her in support of 30/40@ 47<37@ (as the case may be) criterion of similar nature of work. Note: 2-a).Submission of 'Undertaking by the renderer' that the equipment for EI or Axle Counter or UFSBI shall be procured from RDSO approved sources and installation, testing and commissioning of EI or Axle Counter or UFSBI shall also be got done from the same source including after sales support required during the warranty period. AND b).After the award of the contract, MOU with RDSO approved source covering supply of equipment for EI or Axle Counter or UFSBI. Installation, testing & commissioning of EI or Axle Counter or UFSBI by the same RDSO approved source including after sales support required during the warranty period before supply of equipment is undertaken	No	No	Allowed (Mandatory)

**Special Technical Criteria**

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	Note: for subletting of work costing up to Rs 50 lakh, no previous work experience of subcontractor shall be asked for by the Railway. In case after award of contract or during execution of work it becomes necessary for contractor to change subcontractor, the same shall be done with subcontractor(s) fulfilling the requirement as per clause 7 of the Standard GCC with prior approval of Chief Engg. in writing Note for Item 10.1 of GCC 2022: Work experience certificate from private individual shall not be considered. However, in addition to work experience certificates issued by any Govt. Organisation, work experience certificate issued by Public listed company having average annual turnover of Rs 500 crore and above in last 3 financial years excluding the current financial year, listed on National Stock Exchange or Bombay Stock Exchange, incorporated/registered at least 5 years prior to the date of closing of tender, shall also be considered provided the work experience certificate has been issued by a person authorized by the Public listed company to issue such certificates. In case tenderer submits work experience certificate issued by public listed company, the tenderer shall also submit along with work experience certificate, the relevant copy of work order, bill of quantities, bill wise details of payment received duly certified by Chartered Accountant, TDS certificates for all payments received and copy of final/last bill paid by company in support of above work experience certificate	No	No	Allowed (Mandatory)

**Submission of Document Verification Certificate**

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
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**HOWRAH DIVISION-GATI SHAKTI/EASTERN RLY  
TENDER DOCUMENT**

Tender No: GSU-DCSTE\_2\_23-24

Closing Date/Time: 09/05/2023 15:00

1	Please submit a certificate in the prescribed format (please download the format from the link given below) for verification / confirmation of the documents submitted for compliance of eligibility / qualifying criteria. Non submission of the certificate, or submission of certificate either not properly filled in, or in a format other than the prescribed format shall lead to summary rejection of your offer. ( <a href="#">Click here</a> to download the Format of Self Certificatio)	No	No	Allowed (Mandatory)
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**5. COMPLIANCE**

**Important :** All documents uploaded and remarks / confirmation entered by the bidders against any compliance condition shall be opened as part of technical bid only.

**Check Lst**

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	A. Documents to be uploaded only in the website by the Tenderer Following Annexures duly filled and signed are to be uploaded online only prior to Closing of Tender. Original copy of all the documents to be submitted to office within 7 days whenever demanded by the Railway. Annexures are available at Upload/View Document menu in Home Page of IREPS portal for works tender. 1. The details of the works completed by the tenderer during the last Seven years to be filled in Annexure-I. 2. The details of Plants and Machinery with the tenderer to be filled in Annexure- II. 3. Details of Personnel and Organization of the Tenderer to be filled in Annexure-III. 4. Details of Works presently on hand of the Tenderer to be filled in Annexure- IV.5.Format for Certificate to be uploaded by Tenderer Along with the tender documents Annexure-V.6.Bid Capacity Declaration Annexure-VI.6A.Bid Security declaration AnnexureVIA.6B.Annual Contractual Turnover Data Declaration AnnexureVIB.7. The details regarding Association of Railway Officer s with the tenderer to be filled in Annexure- VII.8.List of the Arbitration cases of the Tenderer during last Five years to be filled in Annexure-VIII.9.List of the Court cases of the Tenderer during last Five years to be filled in AnnexureIX.10.NEFT MANDATE FORM. All Payments to the agency including the refund of the Earnest Money of the unsuccessful bidder preferably will be remitted through NEFT. The Tenderer is required to submit Bank details and Account No. etc. in AnnexureX.11.Document of Authoriztion Annexure XI.12. GST COMPLAINT INVOICE Annexure-XII	No	No	Not Allowed
2	The tender offer complete in all respect and with all documents is to be submitted online by e-tendering process through the website www.ireps.gov.in before the closing time/date of this tender as mentioned in the NIT (Notice Inviting Tender). Tenderer can revise the bids any number of times till the closing time/date of the tender. No manual offers shall be accepted.	No	No	Not Allowed
3	Demand for the Financial Criteria, Association of Railway Officers, List of Arbitration cases, Court cases and Mandate for NEFT are to be uploaded with a scanned copy duly filled in and signed as per annexure no. IV, IX, XII, V, VI respectively. These Annexures are available in View Document menu at Home page and is downloadable. The details of the uploaded documents should be produced whenever demanded for verification on written request at any point of time of the tender and contract within 7 days	No	No	Not Allowed
4	Please enter the percentage of local content in the material being offered. Please enter 0 for fully imported items, and 100 for fully indigenous items. The definition and calculation of local content shall be in accordance with the Make in India policy as incorporated in the tender conditions	No	No	Not Allowed
5	Please enter the percentage of local content in the material being offered. Please enter 0 for fully imported items, and 100 for fully indigenous items. The definition and calculation of local content shall be in accordance with the Make in India policy as incorporated in the tender conditions.	No	No	Not Allowed

**Commercial-Compliance**

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	: All documents uploaded and remarks / confirmation entered by the bidders against any compliance condition shall be opened as part of technical bid only.	No	No	Allowed (Mandatory)

**HOWRAH DIVISION-GATI SHAKTI/EASTERN RLY  
TENDER DOCUMENT**

Tender No: GSU-DCSTE\_2\_23-24

Closing Date/Time: 09/05/2023 15:00

2	Scanned copy of valid Trade license or Propitorship Certificate.	Yes	Yes	Allowed (Optional)
3	List of the Works completed in the last three financial years giving description of work. Organization for whom executed, approximate value of contract at the time of award, date of award and date of scheduled completion of work. Date of actual start, actual completion and date of payment and final value of contract should also be given. (Supportive documents/ certificates from the organization with whom worked/are working should be enclosed) (Please attach scanned copy of Annexure-I duly filled up).	No	Yes	Allowed (Mandatory)
4	List of works in hand indicating Supportive documents/certificates from the organization with whom worked/are working should be enclosed) description of work, contract value, approximate value of balance work yet to be done and date of award. (Supportive documents/certificates form the organization with whom worked/are working should be enclosed).(Please attach scanned copy of Annexure-IV duly filled up)	No	Yes	Allowed (Mandatory)
5	Partnership deeds, power of Attorney etc. (if any) : The tender shall clearly specify whether the tender is submitted on his own or on behalf of a partnership concern. If the tender is submitted on behalf of partnership concern he should submit the certified copy of the partnership deed alongwith the tender authorisation to sign the documents on behalf of the partnership firm. If these documents are not enclosed alongwith the tender document, the tender will be treated as hearing lease submitted by the individual signing the tender documents. The Railway will not consider any power of Attorney granted by the tender or any changes in the composition of the firm made subsequent to the execution of the contract. It may however recognize such power of Attorney and change after obtaining proper legal advice, the cost of which will be chargeable to the contract.(Scanned copy to be uploaded ).	Yes	Yes	Allowed (Mandatory)
6	Railway Officers Associated with tenderer:RAILWAY OFFICERS ASSOCIATED WITH TENDERER 1. ExRailway Officer as tenderer: Should tenderer be a retired Gazetted Officer working before his retirement on any of the Railways owned and administered by the President of India, or should the tenderer being partnership firm have as one of its partners a retired Gazetted Officer as aforesaid, or should the tenderer being an incorporated company have any such retired Officer as one of its Directors, or should the tenderer have in his employment any retired Gazetted Officer as aforesaid, full information of such person shall be submitted along with his tender in the format given in annexure-V to this chapter of this tender document. (Authority: ACS No.3 to GCC July,2014vide Boards letter No.2014/CEI/CT/O/9/RET dt.22.01.2015) (please attach scanned copy of Annexure-v duly filled up by the firm).	No	Yes	Allowed (Mandatory)
7	Option for receiving payment through Letter of Credit . (Please attach scannedcopy of ANNEXURE 1 LC & ANNEXURE 2 LC duly filled up by the firm if optedfor)	No	Yes	Allowed (Optional)
8	Please submit a certificate in the prescribed format for verification / confirmation of the documents submitted for compliance of eligibility / qualifying criteria. Non submission of the certificate, or submission of certificate either not properly filled in, or in a format other than the prescribed format shall lead to summarily rejection of your offer.(Circular and format related with document verification certificate is attached in document section)	Yes	Yes	Allowed (Mandatory)
9	The follwing documents should be attached with the tender: (i)Scanned copy of Pan Card. (ii)Scanned Copy of EFTMANDATE FORM (Annexure -VIII).Duly filled up by the bidder(iii)Tender Document (duly digitallysigned by the bidder)	No	Yes	Allowed (Optional)
10	Scanned copy of valid GST (Goods & Service Tax)Registration Certificate.	Yes	Yes	Allowed (Mandatory)
11	Please enter the percentage of local content in the material being offered. Please enter 0 for fully imported items, and 100 for fully indigenous items. The definition and calculation of local content shall be in accordance with the Make in India policy as incorporated in the tender conditions.	No	Yes	Allowed (Optional)

**General Instructions**

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
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**HOWRAH DIVISION-GATI SHAKTI/EASTERN RLY  
TENDER DOCUMENT**

Tender No: GSU-DCSTE\_2\_23-24

Closing Date/Time: 09/05/2023 15:00

1	Submission of Documents in support of Eligibility Criteria : All documents in support of fulfillment of eligibility criteria with respect to completion of 'Similar Nature of work for technical Eligibility criteria 'and 'Total Contract value for Financial Eligibility Criteria' should be uploaded online in the website with scanned copy at the time of tender bidding with the details. No post - tender communication , in any form will be made or entertained , after opening of tenders in this regard .Railways may however call for the originals of the credentials for verification or any clarifications/Confirmations on the contents of the documents submitted . Eligibility of tenderers shall be decided solely on the basis of the documents submitted alongwith the tender offers and any subsequent document whatsoever submitted in this connection would not be given any cognizance on any account.	No	No	Not Allowed
2	The Contractor/(firm) must go through the entire tender document along with all attachment for any kind of guidance regarding execution of the job & payment there after. In case any thing is left out or not clear then they should consult the General Condition of Contract & standard Specification as attached (uploaded ).The bidders are also advised to preserve a copy of entire tender document/ (Set) for their convenience.	No	No	Not Allowed

**Undertakings**

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	Demand for the credential criteria both Technical and Similar nature of work and other technical details are to be uploaded with a scanned copy duly filled in and signed as per annexure no. I, II, III. These Annexures are available in View Document menu at Home page and are downloadable. The details of the uploaded documents should be produced whenever demanded for verification on written request at any point of time of the tender and contract within 7 days	No	No	Not Allowed
2	1 . 0 WHEREAS the President of India acting through the Eastern Railway administration and their authorised officers has invited e-tenders for the above-mentioned work vide tender notice mentioned in the NIT Notice Inviting Tender published in the website. 2.0 AND WHEREAS I/We, have read the above NIT Notice Inviting Tender for e-tender, General instructions, Special Conditions-General, all special conditions and have purchased this e-tender document, have carefully read and understood the same, have visited the site and have satisfied myself/ourselves as to the nature of the work and site conditions before filling this e-tender. 3.0 AND WHEREAS my/our address for all communications hereinafter shall be considered as official and shall be made in the address, email Id and Mobile phone and other phone nos. given in the portal of IREPS while registering as tenderer for e-tender. In case of any change in this concerned officer of railway will be informed. 4 . 0 AND WHEREAS I/We state that in the event of this e-tender being unsuccessful, the aforesaid earnest money deposited by me/us may be refunded to me/us through NEFT. 5.0 AND WHEREAS I/We hereby sign this e-tender document digitally by virtue of the legal authorities vested with me/us to enter into commitment on behalf of the tenderer, documentary support whereof is enclosed herewith. 6.0 AND WHEREAS I/We have read and understood this etender document and agree to abide by the various terms and conditions contained therein. I/We also agree to keep the offer open for acceptance for a period of 45 days from the date fixed for closing of the same and in default hereof, I/We will be liable for forfeiture of my/our earnest money.	No	No	Not Allowed

**HOWRAH DIVISION-GATI SHAKTI/EASTERN RLY  
TENDER DOCUMENT**

Tender No: GSU-DCSTE\_2\_23-24

Closing Date/Time: 09/05/2023 15:00

3	7.0 Now, therefore I/We hereby submit this e-tender and offer to do the work for the Eastern Railway at the rates quoted in the schedule through online and hereby bind myself/ourselves to complete the work in all respects within the stipulated period of completion from the date of issue of the letter of acceptance of this tender. 8 . 0 And I/We agree to abide by the General Conditions of Contract 2022 editions and the Unified Standard Schedule of Rates Labour Materials of 2011 edition issued by the Eastern Railway, read with all correction slips issued thereto from time to time, and to carry out the works according to the special conditions and specifications of materials and works as laid hereunder in various chapters of this e-tender document. 9.0 And I/We have understood and accept the stipulation that full value of the earnest money shall stand forfeited without prejudice to any other right or remedies if: 1 . I/We do not execute the contract documents, in case my/our tender is accepted, within seven days after receipt of notice issued by the Railway that such documents are ready, or 2. I/we do not commence the work, in case my/our e-tender is accepted, within fifteen days after receipt of orders to that effect. 10.0 And until a formal agreement is executed, acceptance of this tender shall constitute a binding contract between us subject to modifications as may be mutually agreed between us and indicated in the letter of acceptance of my/our offer for this work. 11.0 And I/We agree to produce the details of the uploaded documents whenever demanded for verification on written request at any point of time of the tender and contract within 7 days.	No	No	Not Allowed
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**Custom**

S.No.	Description	Confirmation Required	Remarks Allowed	Documents Uploading
1	Any Relay Interlocking or Electronic Interlocking or Automatic Block Signalling or Intermediate Block Signalling/Intermediate Block Hut work involving indoor & outdoor work (Cable lying & termination).	Yes	Yes	Allowed (Mandatory)
2	Format for certificate to be uploaded by Tenderer Along with the tender documents Annexure-V& V(A).	Yes	Yes	Allowed (Mandatory)
3	Scanned copy of any other letters/documents etc. If agency intends to submit.	Yes	Yes	Allowed (Mandatory)
4	Format for certificate of Bid Capacity Declaration to be uploaded by Tenderer Along with the tender documents (Annexure-X)	Yes	Yes	Allowed (Mandatory)
5	Standard format of the Annual Contractual Turnover Data for the Previous 3/4 Years (Contractual Payment only) Declaration to be submitted mandatorily by the bidder is enclosed as Annexure 'VI B'. ( In case of tender value above 50 lakhs.)	Yes	Yes	Allowed (Mandatory)
6	Any Relay Interlocking or Electronic Interlocking or Automatic Block Signalling or Intermediate Block Signalling/Intermediate Block Hut work involving indoor & outdoor work (Cable lying & termination). Note:1-Tenderer may be required to submit the schedule of those works, Completion/Performance Certificates of which have been submitted by him/her in support of 30/40@ 47<37@ (as the case may be) criterion of similar nature of work. Note: 2-a).Submission of 'Undertaking by the renderer' that the equipment for EI or Axle Counter or UFSBI shall be procured from RDSO approved sources and installation, testing and commissioning of EI or Axle Counter or UFSBI shall also be got done from the same source including after sales support required during the warranty period. AND b).After the award of the contract, MOU with RDSO approved source covering supply of equipment for EI or Axle Counter or UFSBI. Installation, testing & commissioning of EI or Axle Counter or UFSBI by the same RDSO approved source including after sales support required during the warranty period before supply of equipment is undertaken.	No	Yes	Allowed (Mandatory)

**6. Documents attached with tender**

S.No.	Document Name	Document Description
1	Annexure-I-III_1.pdf	Annexure I to III
2	Annexure-IVVIIVIIIIXX_1.pdf	Annexure IVVIIVIIIIXX
3	AnnexureV.pdf	Annexure V
4	Annexure_VA.pdf	Annexure V A

**HOWRAH DIVISION-GATI SHAKTI/EASTERN RLY  
TENDER DOCUMENT**

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5	Annexure-VI.pdf	Annexure VI
6	Annexure-VIA.pdf	Annexure VI A
7	Annexure-VIB.pdf	Annexure VI B
8	Annexure-XI_1.pdf	Annexure XI
9	Annexure-XII.pdf	Annexure XII
10	ColouredFinal_GCC_April-22_pdf_27.04.22.pdf	GCC April 2022
11	ACS-2toGCC-2022_2022-CE-1-CT-GCC-2022-POLICY_13.12.2022.pdf	GCC 2022 ACS
12	CHECKLIST2.pdf	Check list
13	TenderdocumentST.pdf	Tender document

This tender complies with Public Procurement Policy (Make in India) Order 2017, dated 15/06/2017, issued by Department of Industrial Promotion and Policy, Ministry of Commerce, circulated vide Railway Board letter no. 2015/RS(G)/779/5 dated 03/08/2017 and 27/12/2017 and amendments/ revisions thereof.

As a Tender Inviting Authority, the undersigned has ensured that the issue of this tender does not violate provisions of GFR regarding procurement through GeM.

**Signed By:** RABINDRANATH MONDAL

**Designation :** Dy.CSTE/GSU/Works/HWH